

The Data Collection Survey and Situation Analysis on Industrial Human Resource Development in Vietnam

FINAL REPORT - MAY 2022

THE DATA COLLECTION SURVEY AND SITUATION ANALYSIS on Industrial Human Resource Development in Vietnam

FINAL REPORT

May 2022

JAPAN INTERNATIONAL COOPERATION AGENCY

B&COMPANY VIETNAM CO., LTD.

TABLE OF CONTENTS

Abbreviations and Acronyms	8
ACKNOWLEDGEMENT.....	10
PART A: INTRODUCTION AND EXECUTIVE SUMMARY	11
PART B: MAIN REPORT CONTENT	24
CHAPTER 1. THE MACRO CONTEXT OF HUMAN RESOURCE DEVELOPMENT IN VIETNAM.....	24
1.1 Major related global socio-economic development trends.....	24
1.1.1 Automation, Industry 4.0 & Digitalization	24
1.1.2 Climate change, environmental degradation, and resource scarcity	27
1.1.3 Global value chain integration, US – China trade tension.....	30
1.1.4 Population aging	33
1.2 Vietnam human resource development issues toward long-term global competitiveness.....	37
1.2.1 Labor force growth.....	37
1.2.2 Labor force structure	38
1.2.3 Labor Productivity and Innovation capacity.....	40
1.2.4 HRD aspects towards implementing SDGs commitment of Vietnam	44
1.3 Government’s strategy and policy framework for human resource development	46
1.3.1 Review the HRD strategy 2011 – 2020, existing issues	46
1.3.2 The direction for HRD in SEDS 2021 – 2030	48
1.3.3 Key policies, master plans that influence HRD in Vietnam in the next decade	49
CHAPTER 2. THE SUPPLY OF HUMAN RESOURCE IN VIETNAM	58
2.1 Overview of education system in Vietnam regarding HE and TVET sector	58
2.1.1 Overview of the education system	58
2.1.2 Governmental bodies managing HE and TVET	59
2.1.3 The state’s investment in education and training.....	64
2.2 Higher education (HE) system: status, challenges and development direction	68
2.2.1 The network of higher education institutions (HEIs)	68
2.2.2 The HE reform agenda, overview and current progress	70
2.2.3 Existing system challenges & perspective of stakeholders	76
2.2.4 Support situation and existing challenges from perspective of HE Institutions	90
2.3 Vocational Education & Training (TVET): status, challenges and development direction	94
2.3.1 The network of vocational education & training institutions (TVETIs)	94
2.3.2 The VET reform agenda, overview and current progress	97
2.3.3 Status of key development aspects and existing challenges of TVET development	107
2.3.4 Support situation and existing challenges from perspective of TVET Institutions.....	120
2.4 The collaboration of HE and TVET institutions with enterprises.....	124
2.4.1 Collaboration of HE with enterprises & industries.....	124
2.4.2 Collaboration of TVET with enterprises	130
CHAPTER 3. THE DEMAND OF HUMAN RESOURCE FROM ENTERPRISE SECTOR	139

3.1 Background of requirement from enterprises in current context	141
3.2 Requirement of Skills and Skills Gaps	144
3.2.1 Current requirement of skills and capacity of laborers by HR Groups.....	144
3.2.2 Future requirement of skills and capacity of laborers	150
3.3 Requirement of Qualifications	153
3.4 Company Situation: Recruitment, HR Challenges, In-house training	158
3.4.1 Recruitment Practice.....	158
3.4.2 HR Challenges.....	159
3.4.3 In-house Training	170
CHAPTER 4. INTERNATIONAL DONORS SUPPORT SITUATION	176
4.1 International donors strategies and actions	176
4.1.1 Mapping of various donors’ strategies for HRD support in Vietnam	176
4.1.2 Brief introduction of major multilateral and bilateral donor directions and actions in HRD	180
4.2 Discussions and Lessons learnt from Donors’ perspectives	196
4.3 List of major on-going and future donors cooperation projects in HRD	202
CHAPTER 5. JAPAN – VIETNAM COOPERATION STATUS AND RELATED ISSUES	213
5.1 Japan Official Development Assistance to Vietnam	213
5.1.1 Overview of Japan ODA to Vietnam.....	213
5.1.2 Review of JICA’s cooperation in Human Resource Development in Vietnam period 2000 - 2020	215
5.1.3 Review of the major JICA’s HRD projects in Vietnam	222
5.2 Japanese Specific Factors	232
5.2.1 Japan FDI in Vietnam and the expansion trends of Japanese enterprises to Vietnam	232
5.2.2 Situation of returned Technical Intern Trainees	247
5.2.3 Situation of Japanese Language training.....	256
CHAPTER 6. FUTURE DIRECTION FOR JICA’S COOPERATION IN HRD SUPPORT TO VIETNAM	264
6.1 Broad directions for Japan’s cooperation in human resource development for Vietnam	264
6.1.1 Mapping of major HRD priorities and HE-TVET development challenges for future cooperation	264
6.1.2 IHRD Classification and define JICA’s role in HRD support for Vietnam	267
6.1.3 Target industries for JICA’s HRD support	269
6.1.4 Opportunities for JICA’s HRD support at province level, reviewing 6 target provinces.....	274
6.2 Recommendations of focus support directions in the future period	284
6.2.1 Matching the initiatives and recommendations of key actions	284
6.2.2 Recommendation of stakeholders engagement.....	299
APPENDIX 1. List of terminology in Chapter 2	304
APPENDIX 2. List of In-depth Interviews that contribute to the Study	306
APPENDIX 3. Map of 6 socio-economic regions of Vietnam	310
APPENDIX 4. About the KOSEN - MOIT project in Vietnam	311
APPENDIX 5. List of main legal documents on HE in Vietnam	315

APPENDIX 6. List of main legal documents on TVET in Vietnam	318
APPENDIX 7. List of strategy, implementation schemes, programs and projects attached to Decision 2239/QĐ-TTg.....	325
APPENDIX 8. List of Vietnam National Occupational Skills Standards (NOSS) as of July 2021	327
APPENDIX 9. Comparison of Vietnam Qualification Framework (VQF) with ASEAN Qualifications Reference Framework (AQRF), and European Qualifications Framework (EQF).....	332
APPENDIX 10. Accreditation criteria of HCERES, AUN-QA Assessment and Vietnam Accreditation Standards for TVET	333
APPENDIX 11. List of collaboration between Japanese and Vietnamese Universities	338
APPENDIX 12. Comparison of the three university models (FULBRIGHT - FPT – PHENIKAA)	340
APPENDIX 13. List of Universities and public TVET institutions in 6 target provinces	348

LIST OF FIGURES

Figure 1. Mapping of stakeholders in HRD support system for data collection and analysis.....	12
Figure 2. Overall research progress & Report structure	12
Figure 3. Potential rates of job automation by industry and education level across waves	25
Figure 4. Leading occupations by employment in categories of low and high risk	26
Figure 5. Sectors most affected by the transition to sustainability in the energy sector – globally	28
Figure 6. “Green” restructuring: Industries likely to be adversely affected	29
Figure 7. Foreign Investment in Vietnam as of 8M2021.....	33
Figure 8. Global population by age groups in 1980, 2017, 2030 and 2050 (Unit: billions).....	33
Figure 9. Vietnam Population Age Pyramid in 2015 & 2055.....	34
Figure 10. Old age dependency ratio in 2015 & 2055 among East Asian & Pacific countries	35
Figure 11. Vietnam’s health workforce per 10,000 population, 2011 - 2019.....	36
Figure 12. Vietnam Employment Structure by Ages.....	37
Figure 13. Labour force participation rate, by overall and rural/urban areas.....	37
Figure 14. Youth Unemployment Rate	38
Figure 15. Sector Reallocation by Number of Employees (2000 – 2020)	38
Figure 16. Forecasted demand on human resources of Vietnam by 2025.....	39
Figure 17. Vietnam Labor Productivity among South-Eastern Asia countries.....	40
Figure 18. Vietnam’s Labor Force by Education Level	41
Figure 19. Vietnam Global Competitive Index 4.0 in 2019- Performance Overview	42
Figure 20. Vietnam’s Global Innovation Index Ranking	43
Figure 21. Human Resources Development Strategy 2011 – 2020	46
Figure 22. Target of trained labor by education level	47
Figure 23. Shares of Labor Force over Total Labor Force by Economic Sector.....	47
Figure 24. Development of labor market to 2030	48
Figure 25. List of strategies, plans related to Human Resources and Industrialization in future period ...	49
Figure 26. Socio-economic development targets to 2025 – 2030	51
Figure 27. Implementing roadmap for Vietnam’s sustainable development goals until 2030	53
Figure 28. General Index on Industrial Development.....	54
Figure 29. Priority industries and industrial fields through 2025, with a vision to 2035.....	55
Figure 30. List of legal documents related to SMEs and Startups	56
Figure 31. Structure of education system in Vietnam, 2021	58
Figure 32. Government expenditure on education & training in Vietnam (2010 - 2020)	64
Figure 33. Government expenditure on tertiary education, as % of GDP (2016).....	65
Figure 34. Public expenditure on HE sector.....	65
Figure 35. Spending per student and GDP per capital (USD).....	66
Figure 36. State budget for VET projects under National Target Programs (Unit: VND billion).....	67
Figure 37. Number of public and private HEIs by region	68
Figure 38. Mapping of universities & colleges across Vietnam (as of September 2021)	69
Figure 39. Performance Indicators for HE Quality Development in 2019 - 2025	75
Figure 40. List of autonomous public universities in Vietnam (2020)	78
Figure 41. Teaching workforce in Vietnam HE sector by educational qualification (Unit: %)	83
Figure 42. Students enrolled in Bachelor Degree in Vietnam.....	88
Figure 43. Registration and Admission situation of training programs in HE in 2021	89
Figure 44. Support received since the last 5 years by the surveyed HE institutions	91
Figure 45. Perception of main challenges faced at HE institution level	92

Figure 46. Perception of HE institutions on Top 3 prioritized sector challenges.....	93
Figure 47. Mapping of TVET Institutions in Vietnam	94
Figure 48. Number of TVET Institutions in Vietnam by type of ownership	95
Figure 49. Number of TVET institutions by type (2018).....	96
Figure 50. Numbers of TVET institutions by type and by regions (2018)	96
Figure 51. Results of performance indicators of TVET development strategy 2011 - 2020	100
Figure 52. Admissions to TVET Institution	102
Figure 53. Number of Graduates from TVET Institutions	102
Figure 54. Objectives of TVET Development Strategy period 2021 - 2030.....	104
Figure 55. Performance Indicators for TVET Development Strategy period 2021 - 2030	105
Figure 56. Key solutions of TVET Development Strategy period 2021 – 2030, vision to 2045.....	106
Figure 57. Number of TVET Institutions by level of management.....	108
Figure 58. Number of public TVETIs assigned for training key occupations - by fields & by regions	109
Figure 59. Number of public TVETIs assigned for training key international level occupations -	109
Figure 60. Number of NOSS promulgated and updated as of July 2021	111
Figure 61. Expected model of High-Quality Training System	114
Figure 62. Number of TVET Instructors by Type of Ownership of Institution	115
Figure 63. Number of TVET Instructors by Education Qualifications.....	116
Figure 64. Comparison between public and non-public vocational institutions	120
Figure 65. Support received since the last 5 years by the surveyed TVET institutions	121
Figure 66. Perception of main challenges faced at TVET institution level.....	122
Figure 67. Perception of TVET institutions on Top 3 sector challenges.....	123
Figure 68. Current collaboration of enterprises with HEIs, by industry	124
Figure 69. Current collaboration activities between enterprises and HEIs	125
Figure 70. Intention for future collaboration with HEIs of enterprises, by industry	128
Figure 71. Expectation on future collaboration activities between HEIs and enterprises	128
Figure 72. Current collaboration of enterprises with TVET, by industry	130
Figure 73. Current collaboration activities between enterprises and TVET	131
Figure 74. Difficulties in cooperation between enterprises and TVETIs.....	132
Figure 75. Enterprises’ intention for future collaboration with TVET	133
Figure 76. Expectation for future collaboration activities between enterprises and TVET.....	134
Figure 77. Collaboration model at TVET school level: Quality Advisory Board	137
Figure 78. Collaboration model at industry level: Logistic vocational training advisory board.....	138
Figure 79. Top 10 business environment constraints in Vietnam 2015	141
Figure 80. Perception impact by global industrial trends by industries	142
Figure 81. The perception of HE/TVET and enterprises about skill requirement, manager level	144
Figure 82. Perception HE/TVET and enterprises about skill requirement, technical staff level.....	145
Figure 83. The perception of HE/TVET and enterprises about skill requirement, worker level.....	145
Figure 84. Perception of enterprises towards skills gap of HE graduates, by industries.....	146
Figure 85. The perception of JP enterprises towards skills gap with HE graduates	147
Figure 86. The perception of enterprises towards skills gap with TVET graduates by industries	148
Figure 87. The perception of enterprises towards skills gap with TVET graduates by industries	149
Figure 88. Future requirement of skills and capacity of laborers	150
Figure 89. Future requirement of skills and capacity of laborers from HE & TVET’s perspective	152
Figure 90. Popularity of level of education by employee levels.	153
Figure 91. Popularity of qualification of manager level, by industries	154
Figure 92. Popularity of qualification of worker by industries	154

Figure 93. Preference for qualification by employee levels at the moment and in the future	155
Figure 94. Preference for qualification of manager level, current and future	156
Figure 95. Popularity of HR qualification in Japanese enterprises by employee levels	156
Figure 96. Popularity of qualification of office worker in Japanese firms by industries.....	157
Figure 97. Japanese enterprises’ preference for qualifications, current and future	158
Figure 98. Overall HR challenges perceived by surveyed enterprises (by % agree)	160
Figure 99. 5-scale agreement on “Pressure on Increasing HR cost”, by industry.....	161
Figure 100. 5-scale agreement on “Insufficient supply of skilled worker for factories” by industry	162
Figure 101. 5-scale agreement on “The industry lacks high-skilled HR for advanced field/tasks” by industry	162
Figure 102. 5-scale agreement on “Insufficient/ Ineffective capacity building for middle-level”, by region	164
Figure 103. 5-scale agreement on “Lack of high-level/senior managers”, by region.....	164
Figure 104. 5-scale agreement on “HE qualification cannot reflect appropriately the capability of fresh HR”, by industry	164
Figure 105. 5-scale agreement on “TVET qualification is low relevant to practical working requirement”, by industry	165
Figure 106. 5-scale agreement on “Training from HE/TVET in Vietnam has not effectively adapted to industrial changes”, by new emerging industry	166
Figure 107. Overall HR challenges perceived by surveyed Japanese enterprises (by % agree)	166
Figure 108. 5-scale agreement on “Pressure on Increasing HR cost”, Japanese company by industry ...	167
Figure 109. 5-scale agreement on “Insufficient supply of skilled worker for factory’s area”, Japanese companies by industry	168
Figure 110. 5-scale agreement on “The industry lacks high-skilled HR for advanced field/tasks”, Japanese companies by industry	168
Figure 111. 5-scale agreement on “Insufficient/ Ineffective capacity building for middle-level”	169
Figure 112. 5-scale agreement on “Lack of high-level/senior managers”	169
Figure 113. In-house training activity	170
Figure 114. Source of in-house training activity, by industry	171
Figure 115. Source of in-house training activity, by origin	171
Figure 116. HR groups are using HE/TVET for in-house training, by industry	172
Figure 117. Prioritized knowledge & skills for in-house training activity	172
Figure 118. Prioritized knowledge & skills for in-house training activity	173
Figure 119. Soft-skill training	174
Figure 120. Specialty training.....	174
Figure 121. Advanced cognitive skill training	174
Figure 122. HR groups are using HE/TVET for in-house training, by industry	175
Figure 123. Prioritized knowledge & skills for in-house training activity	175
Figure 124. Mapping of key Donors’ actions in main HRD thematic issues	176
Figure 125. The active Donor support projects in higher education	203
Figure 126. Main scholarship programs offered by foreign government’s cooperation	207
Figure 127. The active Donor support projects in vocational training education sector	208
Figure 128. Donors’ projects in labor market issues.....	211
Figure 129. Priority targets of Japan’s ODA in Vietnam – JCAP 2017	214
Figure 130. List of JICA’s HRD project in HE sector	216
Figure 131. List of JICA’s HRD project in TVET sector	218
Figure 132. List of JICA’s project in other sectors having HRD aspects	219

Figure 133. List of recent JICA Partnership Program (JPP) projects related to HRD.....	222
Figure 134. Accumulative Total registered FDI capital to Vietnam in 2020 by countries (million USD) ..	233
Figure 135. New registered FDI inflow from Japan and other countries to Vietnam (million USD).....	233
Figure 136. New registered FDI capital in 2020 in total and from Japan by sector (USD).....	234
Figure 137. Total FDI and Japan FDI by region in 2019.....	235
Figure 138. Summary of Japan FDI projects by region	236
Figure 139. Number of foreign-invested enterprises	237
Figure 140. Number of employees working in foreign-invested enterprises.....	237
Figure 141. Number of Japan enterprises in Vietnam by region, during 2016-2020	238
Figure 142. Number of Japan enterprises in Vietnam by sector, during 2016-2020.....	238
Figure 143. Number of Japan enterprises in Vietnam, by TOP7 sectors and regions in 2020.....	239
Figure 144. Number of Japan enterprises in Vietnam by labor size, during 2016-2020	239
Figure 145. Number of Japan enterprises in Vietnam, by labor size and industry in 2020	240
Figure 146. Average monthly salary of employees at Japanese manufacturing companies (USD).....	241
Figure 147. Survey result about Top 10 Strong points and merits of Vietnam (%)	242
Figure 148. Risks of Japanese companies to invest in Vietnam (%).....	242
Figure 149. Top 3 countries Japan enterprise plan to expand overseas (% surveyed companies)	243
Figure 150. Top field that Japanese companies plan to expand business to Vietnam (%).....	243
Figure 151. Survey result about Purpose of Japanese enterprises to expand overseas	244
Figure 152. Vietnam organization having function to attract FDI to Vietnam	244
Figure 153. Japan organization supporting Japanese companies to expand business to Vietnam.....	245
Figure 154. Number of Technical Intern Trainees in Japan by Nationality.....	247
Figure 155. Number of Vietnam technical intern trainee plans accredited by sector	248
Figure 156. Technical intern trainees' working situation after returning to home country in 2019 (%)..	249
Figure 157. Technical intern trainees' job content after returning to home country in 2019	250
Figure 158. Companies' RTT recruitment (2021).....	250
Figure 159. Japanese enterprises' demand for recruiting RTTs in next 5 years (2021).....	251
Figure 160. Demand for recruiting RTTs in next 5 years (2021)	252
Figure 161. Advantages of using RTTs in Japanese enterprises (2021)	253
Figure 162. Barriers, difficulties or issues in using RTTs in Japanese enterprises (2021).....	253
Figure 163. Japanese learners by countries other than Japan (2006 - 2018).....	256
Figure 164. Number of Japanese language learners in Vietnam (2006-2018)	257
Figure 165. Japanese teachers by countries other than Japan (2006 - 2018)	257
Figure 166. Number of Japanese language teachers in Vietnam (2006-2018).....	258
Figure 167. Japanese training institutions by countries other than Japan (2006 - 2018)	258
Figure 168. Number of Japanese language training institutions in Vietnam (2006-2018).....	259
Figure 169. List of some HEs with Japanese degree program	260
Figure 170. List of some TVETIs with Japanese degree program.....	261
Figure 171. Mapping of IHRD priorities issues & HE-TVET main development issues for support	264
Figure 172. IHRD classification and JICA's role in support in IHRD in Vietnam	267
Figure 173. Evaluation of target industries for JICA's IHRD support	270
Figure 174. Development directions and opportunities for HRD support in main target provinces	274
Figure 175. Mapping of the HE-TVET development priorities recommended for JICA support.....	284
Figure 176. Mapping of initiatives for High quality HRD support.....	285
Figure 177. Mapping of initiatives for HRD support to "Practice Engineers" and Skilled laborers	286
Figure 178. Stakeholders' perception on challenges to develop KOSEN model in Vietnam	294

Abbreviations and Acronyms

ADB	Asian Development Bank
AFD	Agence Française de Développement (The French Development Agency)
ASEAN	Association of Southeast Asian Nations
CTU	Can Tho University
DANIDA	Danish International Development Agency
DFATD	Department of Foreign Affairs, Trade and Development Canada
DOLAB	Department of Overseas Labour
DOLISA	Department of Labour, Invalids and Social Affairs
DVET	Directorate of Vocational Education and Training
Edu.	Education
ETEP	Enhancing Teacher Education Program
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GIZ	The Deutsche Gesellschaft für Internationale Zusammenarbeit
GSO	General Statistics Office
GVCs	Global Value Chains
HCMC	Ho Chi Minh City
HE	Higher Education
HEI	Higher Education Institution
HR	Human Resources
HRD	Human Resources Development
KOICA	Korea International Cooperation Agency
ICT	Information and Communications Technology
IDC	Italian Agency for Development Cooperation
ILO	International Labor Organization
IHRD	Industrial Human Resources Development
ISCED	International Standard Classification of Education
IT	Information Technology
JCCI	The Japanese Chamber of Commerce and Industry in Vietnam
JCCH	The Japanese Chamber of Commerce and Industry in Ho Chi Minh City
JDS	Japan Human Resource Development Scholarship
JETRO	Japan External Trade Organization
JICA	Japan International Cooperation Agency
HEMIS	Higher Education Management Information System
MOET	Ministry of Education and Training
MOH	Ministry of Health
MOIT	The Ministry of Industry and Trade
MOLISA	The Ministry of Labour - Invalids and Social Affairs
MOST	Ministry of Science and Technology
MPI	Ministry of Planning and Investment

NOSS	National Occupational Skills Standards
ODA	Official Development Assistance
PPP	Public - Private Partnership
R&D	Research and Development
RTT	Returned Technical Trainee
QA	Quality Assurance
SAHEP	Support for Autonomous Higher Education Project
SEDS	Socio-Economic Development Strategy
SDGs	Sustainable Development Goals
SMEs	Small and Medium Enterprises
TIT	Technical Intern Trainees
TVET	Technical Vocational Education and Training
TVETIs	Vocational education & training institutions
USAID	United States Agency for International Development
VCCI	Vietnam Chamber of Commerce and Industry
VGU	Vietnamese-German University
VJU	Vietnam Japan University
VNU	Vietnam National University
WB	World Bank
WEF	World Economic Forum

ACKNOWLEDGEMENT

This report is the result of work by numerous specialists and researchers, together with the support from many organizations, institutions and associations, whose contribution is briefly acknowledged below. Despite the wish from the authors to mention all contributors here by name, it is particularly impossible. However, we would like to extend our appreciations to more than a thousand of education institutions and enterprises across Vietnam, who participated in the sharing of insight for the quantitative data collection of this research. This report would not have been possible without all of the mentioned support and contribution.

Project management, coordination and guidance

The project was initiated and funded by Japan International Cooperation Agency (JICA) in Vietnam. The project team from JICA was led by Naomichi Murooka and supervised by Yohei Ishiguro.

The project was coordinated by B&Company Vietnam as the executive research agency led by Shigemasa Ohta. The research project was managed by Hue-Chi T. Dao with a team of key research specialists from B&Company Vietnam consisting of Ngoc-Linh T. Dao, Quynh-Huong Hoang, Kieu-Trang Nguyen, Hoang-Viet Nguyen, Nhu-Quynh T. Tran and the assistance of Quynh-Trang Hoang and Ichiro Fujimori. The development of research framework, methodology and review of the report was led by Shigemasa Ohta and Hue-Chi T. Dao. Motonori Tsuno was the independent advisor for the research team.

Special thanks

For the support from the Government of Vietnam, we would like to address special acknowledgement to The Higher Education Department (DHE) – MOET, Directorate of Vocational Education and Training (DVET) – MOLISA, Department of Overseas Labour (DOLAB) – MOLISA, Ministry of Industry and Trade (MOIT), Hanoi Department of Labour, Invalids and Social Affairs (DOLISA Hanoi), Da Nang Department of Labour, Invalids and Social Affairs (DOLISA Da Nang), Hai Phong Department of Labour, Invalids and Social Affairs (DOLISA Hai Phong), Can Tho Department of Labour, Invalids and Social Affairs (DOLISA Can Tho), Dong Nai Department of Labour, Invalids and Social Affairs (DOLISA Dong Nai), Support for Autonomous Higher Education Project (SAHEP), Center of Forecasting Manpower Needs and Labor Market Information HCMC (FALMI), and Ho Chi Minh City Institute for Development Study (HIDS) for data provision for qualitative indicators. The names of the correspondents are presented in Appendix 2.

For the support from national and international organizations and donors, our sincere thanks go to respondents from the World Bank office in Vietnam, Asian Development Bank (ADB), International Labor Organization (ILO), Japan International Cooperation Agency (JICA), German Agency for International Cooperation (GIZ), Australian Embassy, Embassy of Canada, Korean International Cooperation Agency (KOICA), Embassy of Ireland, and British Council in Vietnam, Vietnam Chamber of Commerce & Industry (VCCI), Association of Vietnam Universities and Colleges, Vietnam Association for Supporting Industries (VASI), Vietnam E-commerce Association (VECOM), National Graduate Institute for Policy Studies (GRIPS), Osaka Prefectural Government, The Japanese Chamber of Commerce and Industry in Vietnam (JCCI, JCCH), The Japan External Trade Organization (JETRO), Vietnam - Japan Institute for Human Resources Development (VJCC), Keiejuku Club Vietnam, whose names are presented in Appendix 2, for sharing valuable insight for qualitative indicators for this report.

PART A: INTRODUCTION AND EXECUTIVE SUMMARY

1. Background and Objectives

It is obvious that, in the next decades, Vietnam will be deeply into the global disruptive changes in political, social and economic development, which will have great impact on the human capital and labor resources. Recent macro global trends such as the industrial 4.0 movement and digital economy, aggravated by the recent Covid-19 pandemic, the shifting of global production supply chain and the shifting trends of FDI investment flow from China to Vietnam, all of those have put pressure and impact on the requirements in terms of volume, structure and quality of the human resource in multi-sectors. The dynamic movements have triggered strategic questions to all related stakeholders at both national strategy level and institutional level as labor suppliers, higher education institutions, and vocational training institutions about long-term development directions for sustainable socioeconomic development within this global mechanism. Recently, besides the Socio-Economic Development Strategy (SEDS) for period 2021-2030, the Government has issued several other important strategies and development plans for the long-term industrial development and development of the labor market of the nation.

On the other hand, JICA's development cooperation in Vietnam has been providing strategic resources and support for critically empowering and enhancing the industrial human resource development in the country, via multiple actions from establishing and building the capacities of universities, strengthening networks among universities and institutions to assure the quality of education, promoting industry-academia collaboration, increasing access to technical education and vocational training, and preparing skillful industrial human resources that meet the needs of private sector, especially for the industrial fields that Japan has vast experience.

In order to enforce JICA's supports human resources development that contributes to enhance the foundation for socioeconomic development of Vietnam, and a strategic relationship between Japan and Vietnam in the next decade, JICA has decided to conduct this comprehensive "Data collection and situation analysis of industrial human resource development in Vietnam", with four key objectives: *(1) To grasp and analyze the current status of various strategies and development plans in the field of industrial human resource development, including higher education in Vietnam; (2) To evaluate the needs for industrial human resources of companies and universities as well as vocational training institutions, and so forth on industrial human resource development; (3) To confirm needs for medium and long term industrial human resource development support in Vietnam, together with identify issues in project implementation; (4) All information and analysis is for rolling out the future direction and plan of JICA's cooperation in this field.*

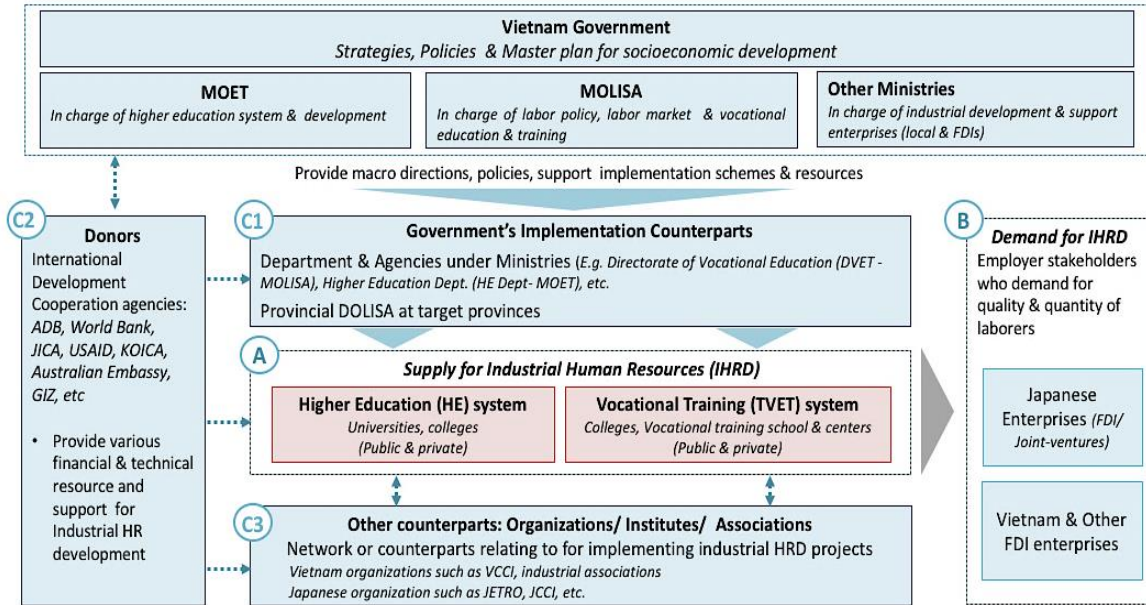
B&Company Vietnam, a Japanese research and consulting company established in Vietnam since 2009, was assigned by JICA Vietnam as the research and consulting partner to conduct the overall study.

2. Process and Methodology of the Study

The study was designed based on a mapping of main stakeholders related to human resource development in Vietnam, to understand different roles in demand and supply of human resource system,

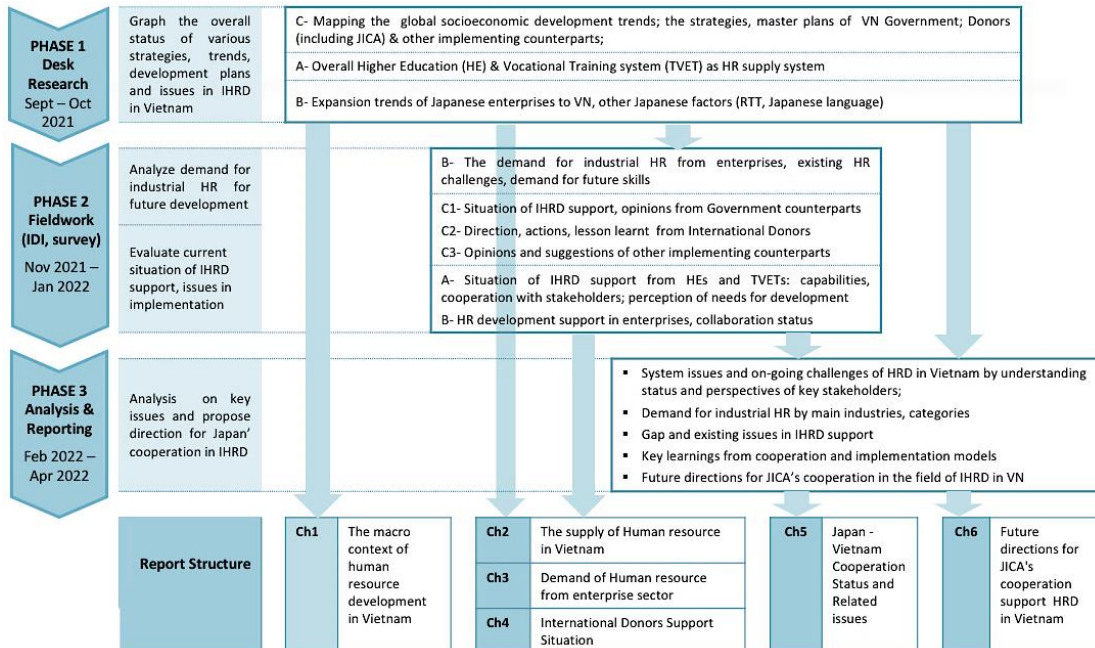
and to recognize different finding aspects that constitute to a comprehensive situation review. The mapping of stakeholders is briefly described as below:

Figure 1. Mapping of stakeholders in HRD support system for data collection and analysis



This research is conducted in 8 months from September 2021 to April 2022, including broad desk research (Phase 1), primary data collection via interviews and mass surveys with stakeholders (Phase 2), analysis and report writing (Phase 3). The overall research progress and the detail content being covered in each phase is presented as follows:

Figure 2. Overall research progress & Report structure



Phase 1 includes broad desk review to grasp the overall status of various strategies, trends, development plans and issues in IHRD in Vietnam, including reviewing previous HRD reports of JICA.

Phase 2 requires heavy primary data collection via questionnaire survey (mass survey) and in-depth interviews with stakeholders, in which 3 sub-teams for fieldwork study were carried out in parallel. The table below present the volume of fieldwork results, which were used for analysis:

Structure of Fieldwork research (Phase 2)			
Stakeholder groups		In-depth Interviews (IDIs)*1	Questionnaire surveys
A – HE & TVET	HEIs (Universities)	12 IDIs	43 surveys
	TVETIs	11 IDIs	49 surveys
B- Enterprises	Japanese Enterprises & Non-Japan (Vietnam & Other FDI enterprises)	77 IDIs <i>(41 with Japanese enterprises & 36 with non-Japan enterprises)</i>	1000 surveys <i>(390 Japanese enterprises, 610 non-Japan enterprises)</i>
C- Government, Donors, Other associations	C1 - Government counterparts	12 IDIs <i>DVET, DOLAB, MOIT, MOET-HE Dept; SAHEP project</i> <i>DOLISA Hanoi, Hai Phong, Da Nang, Can Tho, Dong Nai</i> <i>FALMI & HIDS in Ho Chi Minh city</i>	n/a
	C2- International Donors	10 IDIs <i>WB; ADB, ILO; GIZ, KOICA, Australian Embassy, Embassy of Canada, British Council; Irish Aid</i>	n/a
	C3 – Associations/ Others	10 IDIs <i>06 Japanese associations/ experts</i> <i>04 Vietnamese associations</i>	31 surveys <i>Quick surveys with Industry associations, institutes, Japanese language centers</i>
*1: Detail List of IDIs to be provided in Appendix 1			
*2: Detail quota of enterprises in mass survey to be explained in Chapter 3			

Phase 3 is to gather findings of all desk research and fieldwork activities to provide critical analysis of the gaps and to brainstorm the future direction and plan of JICA’s cooperation in industrial human resource development in Vietnam.

3. Report Composition

This report consists of six chapters, each chapter combines both desk review and fieldwork research findings for presenting the status and providing fact-based analysis.

Chapter 1 focuses on introduction of the macro context of HRD in Vietnam, explaining global trends which may have big impacts on the national IHRD in the future, current issues of HRD in Vietnam and recent government's strategies and related policies in human resource development.

Chapter 2 addresses the supply of human resource in Vietnam, providing an overview understanding about the education system in Vietnam, with a focus on Higher education system and TVET system in terms of current status, challenges, development directions and their collaboration with enterprises in education and training. This chapter also includes quantitative and qualitative insights from the survey and IDIs with educational institutions, thus illustrates clearer their points of view.

Chapter 3 is the analysis on the demand for human resource from enterprises' perspective, in which requirements regarding education qualifications, skills and capacity are presented through results from mass survey, together with perception of enterprises on skills gap and their challenges in HR.

Chapter 4 is a review of support in HRD sector from key international donors in Vietnam, their recent strategies and projects on HRD and lesson learnt from their experience operating in the field.

Chapter 5 presents an overview on cooperation status between Japan and Vietnam in the last two decades, with a focus on several specific support programs in HRD for Vietnam. This chapter also addresses Japanese related specific factors, including the situation of return technical trainees and Japanese language education.

Chapter 6 presents analysis and recommendations on future directions for Japan's cooperation and support in human resource development for Vietnam, specifically on JICA's role and potential areas to focus on.

4. Executive Summary

The macro context for human resource development in Vietnam

Human resource development has the mission to fuel sufficient resources for the country to thrive in global competitiveness pressures and to tackle with internal challenges to move forward. In this report, we discussed the four main global socioeconomic development trends that largely impact on socio-economic development and thus the requirements for human resource development of Vietnam. (1) Digitalization, Automation and the 4th Industrial Revolution will cause job losses in some industries and possibly force the laborers to switch occupations and acquire new skills; (2) Under the impact of Climate Change, environmental degradation, and resource scarcity, Vietnam will expect strong hit towards the workforce in agriculture and aquaculture sectors which may lead to the decrease needs of unskilled workers, and there emerge demand for new jobs towards green economy; (3) Global value chain shifting and US-China trade tension are opportunities for Vietnam to attract FDI but deeper integration in GVCs requires higher skilled workforce; (4) Aging population: Vietnam is forecasted to become an aged society by 2050, expecting to cause the slowing growth of the labor force which will tighten resources for economic growth. Meanwhile, there has been a significant shortage of healthcare human resource to prepare for the caring economy.

Vietnam has stable labor supply in medium term but needs to prepare to ensure the availability of HR in the long run. On the other hand, the country will soon lose its current comparative advantage of low-cost labor in industries that require low-skill and labor-intensive. The fact that Vietnam is among the lowest labor productivity countries emphasizes a critical requirement for the nation to build up competitive labor advantage based on higher labor skills and capabilities. Besides, low innovation capacity will limit the ability to foster growth in new context, putting Vietnam under the pressure of falling into the middle-income trap. In general, it will need to devote more resources to scientific research and education for increasing innovation capacity of the workforce and the whole economy.

With recognition of the competitive challenges, human resource development (HRD) has been always determined as one important strategic solution for sustainable socio-economic development of Vietnam in the next decades, and has been embedded in key objectives in national strategies and master plans such as Socio-Economic Development Strategy (SEDS) period 2021-2030; Resolution 136/ND-CP on sustainable development towards 2030, Decision 176/QD-TTg promulating the program to support labor market development until 2030. The SEDS 2021 – 2030 emphasizes the four focused demand for human resource for the country, including (i) Technical HR, (ii) Digitalization HR, (iii) Managerial HR in technical, business and public/social fields, and (iv) Human, social care HR.

The supply of human resource - The system of Higher Education (HE) and Vocational Education & Training (TVET) in Vietnam

The education system is managed mainly by Ministry of Education and Training (MOET) and the Ministry of Labor, Invalids and Social Affairs (MOLISA). Specifically, MOET performs the function of state management of education from preschool education to higher education (HE) and MOLISA performs the

function of state management with technical vocational education and training (TVET), with the central role of the Directorate of Vocational Education and Training (DVET).

The reform of higher education over the period 2011 – 2020 has witnessed positive results. The revised Law on Higher Education (2018) has created an important legal basis to promote university autonomy, effective use of resources, and innovated the governance of HE institutions. Much efforts were put in developing the HE sector towards improvement of education quality, institutional management capacity and international integration, transforming public HEIs towards automation. The network of HEIs has expanded and strongly contributed to the supply of high-skilled workforce.

Despite of notable progress in the HE reform, there remain critical system challenges, to mention briefly: (i) Governance & State management of HE, which still cause complexity and fragmentation in management of public HEIs, and confusion for the institutional autonomy process; (ii) Institutional Autonomy and Accountability, as there have been limitations caused by unclear implementation strategy, overlapping functions among different related authorities, and lacking sufficient financial support for the change process at institutional level; (iii) lacking of holistic national quality assurance framework to provide guidelines for HEIs; (iv) Insufficient teaching infrastructure and digitalization capacity of HEIs, and gaps between public and private sector; (v) low capability of academic research and technology transfer; and (vi) counseling and career orientation for students are still not well associated with socio-economic development plan, that can lead to the HR shortage in some future industries.

Besides, there are some other positive dynamic movements such as international collaboration among universities and the emerging of new university models in Vietnam, including research universities, applied science universities, and not-for-profit and liberal universities. In terms of direction, the draft of "HE Development Strategy 2021 – 2030 with vision to 2045" sets focus on improvement of sector's quality and efficiency, enhancing investment and adaptability on global development trends.

With regards to TVET reform progress, the new Law on Vocational Education (2014) covered many important and breakthrough content in order to strongly institutionalize as well as to comprehensively reform the TVET system. During the last 10 years, the number TVET institutions has remained stable with stronger emerging of non-public TVET institutions and restructuring of public ones. Admission to TVET institutions has increased positively.

From TVET system development perspective, besides positive results, there are important limitations and on-going development aspects. To mention briefly, the issues include: (i) Governance structure is still evaluated as fragmented and the capacity of state management agencies is still limited; (ii) TVET facilities and equipment still need synchronous investment for improving training quality in order to meet practical requirements of the labor market; (iii) Skills Standards, Quality Assurance & Accreditation need improvements, as the standards in the TVET system are not strongly synchronized and the national system of skills assessment and recognition haven't been effectively updated to catch up with international integration; (iv) Capacity of teaching and management workforce is considered as not sufficient and training for teachers have not yet met with the demand of practical occupations; (v) Digital transformation capabilities in the current TVET system have been very limited due to insufficient infrastructure and equipment, limited application in digitalizing management system and low readiness in teaching programs and methods.

Another salient issue is the development of the “9+ model” as a bridge education program, offering an education route that having faster track of TVET program for those who aim to join vocational trained work force after lower-secondary education. There has been initial positive perception of 9+ model from students and parents, but the current 9+ model also show some clear limitations, such as insufficient vocational orientation of students when entering the program, and the difficulties of TVET institutions in coordinating the delivery of upper-secondary education content together with the TVET training program.

Besides, in recent years, developing high quality TVET has been a focus strategy of system development, the expected high-quality TVET model in Vietnam is comprehensive and ambitious, showing the intention to systemically restructure the TVET institution network.

The TVET Development Strategy 2021 – 2030 sets a clearer matrix for TVET reform in the next decade, with strategic focus on improving quality and structure, and thriving towards global integration. Overall objectives for TVET development until 2030 emphasize that TVET need to be developed rapidly, and need to “meet the diverse needs of the labor market as well as general citizens”, and meet “higher requirements in terms of quantity, structure, and quality of skilled human resources for the development of the country in each period”.

Industry – Academia Collaboration

Between HEIs and enterprises: Collaboration activities between enterprises and HEIs are various, focus primarily on recruitment purpose, internship & field-practice opportunities for students and knowledge & experience sharing. In the future, there will be high intention for collaboration both from enterprises and HEIs, with expectation on more complex and customized collaboration activities such as training by orders and technology transfer.

Between TVET Institutions and enterprises: Almost all surveyed TVET institutions are active in collaboration with enterprises, but from the side of enterprises, collaboration with TVET is much less popular, especially among Japanese enterprises. Enterprises haven’t seen their benefit enough attractive for stronger commitment, meanwhile there has not been a clear legal framework that specify responsibilities as well as benefit for businesses to actively take part in vocational education. Some encouragement policies exist but are evaluated as not practical enough. Though, there is a clear trend that companies show stronger willingness in the future. Besides, the related government agencies and international donors are putting high effort to foster the collaboration of TVETIs and enterprises, with several good example of multi-stakeholder collaborating models at both institution level (e.g. Quality Advisory Board) and industry level (e.g. Vocational Training Advisory Board in logistics industry).

The demand of human resource from enterprise sector’s perspective

Currently, soft skills are top prioritized requirements for employees, regardless of positions. At manager level, management-related skills include leadership, organization management and negotiation are most required. While in recruitment of technical or specialized staff, industry knowledge & skills are more important, following by soft skill related to teamwork cooperation and problem-solving skill.

Meanwhile, the biggest weakness of HE graduates is lacking soft skills, advanced cognitive skill and technical skill. Most HE graduates usually have basic technical knowledge, language ability and ICT skill, which seem to help them to stand at starting line but are not enough for practical work requirement. TVET graduates are perceived as lack of problem-solving and lack of technical skills compared to enterprises' demand. Therefore, in most of the cases, employers need to put much effort in in-house training activities.

The global industrial development trends are perceived to affect the HR demand in all industries. Industry 4.0 revolution with digitalization have the greatest influence on the IT and Service industry, requiring future employees to improve ICT skills, adaptability and flexibility skills. HR requirement in industrial manufacturing industry is most likely to be affected by automation, thus there is demand for both up-skilling and re-skilling for laborers. Meanwhile, global value chain shifting will lead to increasing competition in recruiting low-skill laborers and middle-level HR.

In the future, top 5 future requirements are technical/specialized skill, problem solving skill, ICT knowledge & skill, language English, and active learning. Under the influence of global and industrial trends, technical specialized skills remain as top priority while cognitive skills remain highly importance. Besides, 'Creativity' emerges as one of the most important skill requirements for the future labor market.

In terms of education qualification, currently university degree is most popular requirement for levels of manager, technical/professional staff, and office workers; but TVET qualification is not well-perceived among the current employers as most of the surveyed companies don't require any vocational qualifications when recruiting workers. However, in the future, qualification requirement will become more important, since the surveyed enterprises show clearly higher requirement for eucation qualifications across all HR group, including requirement of TVET qualifications for worker group.

HR challenges of the enterprises mostly include the increase in HR cost, insufficient supply of qualified HR, and lack of skilled or experienced human resource. HR increasing cost ranks as the most popular challenges and being more intense in the IT industry. Besides, IT industry is facing with the big shortage of skilled HR, while manufacturing and construction industry companies mainly experience the insufficiency of workers, and the unsatisfaction of practical working skills of newly recruited staff, especially in low-skill laborers.

Following common trends, Japanese companies in Vietnam also face the challenges of increasing HR cost, insufficient HR supply, especially middle level managers. Big companies face more difficulties of recruiting workers due to the large recruitment quantity normally during peak time. According to some main Japanese associations in Vietnam, lacking local management level is forecasted to be more seriously for Japanese enterprises in near future.

International donors support situation

Many donors have committed their cooperation strategies to strengthen human resource development in Vietnam. From observation, there are three main approaches of international donors in designing HRD support, as (i) *Systemic sector approach* which priorities are given to solve the HE/TVET systemic sector issues, (ii) *Industry-led approach*, which priority actions are driven by a specific industry demand for HR,

and (iii) *Aid development approach* that the HRD projects give priority towards social development objectives, and target to support the disadvantaged beneficiaries.

Though only a few big donors commit comprehensive assistance towards systemic HE reform, almost all donors engage in higher education sector via supporting high-quality human resource and enhancing international cooperation of HE. Up-skilling the labor force by investing in TVET system has been a common priority of various multilateral and bilateral donors. While, regarding other labor force issues, there has been mainly effort from multilateral donors.

Donors' support for HE is more demand-based, leading by universities' role, meanwhile supports for TVET sector are more centralized via facilitation role of DVET. Digitalization, green economy, gender equality and other sustainable development issues could be embedded aspects in HRD projects. It is also observed that there is a tendency of bilateral donors to have stronger industry focus in HRD projects in the future.

JICA's cooperation in Human Resource Development in Vietnam

The most recent cooperation policy is Vietnam Country Assistance Policy - December 2017 (JCAP 2017), specifies the 03 focus areas: (A1) Promote economic growth and strengthen competitiveness; (A2) Response to fragility; and (A3) Good Governance. Following these 3 targets areas, there are 06 main development objectives (O) and 13 overall programs (P). In which, IHRD assistance is mainly defined in target program P2 "Industrial Development and Human Resource Development" under objective O2 "Enhance industrial competitiveness and human resource development" of the focus area A1 "Promoting economic growth and strengthening competitiveness".

In terms of supporting schemes, JICA's human resource development projects often go under technical cooperation scheme, financial support via ODA loans and grant. Citizens participation scheme such as Japanese Overseas Cooperation Volunteers (JOCVs) and JICA partnership program (JPP) also contribute to human resource development projects.

From angles of HRD system classification, JICA has been active in projects in HE system, TVET system, labor force development issues, as well as extended aspects in human resource development such as developing high-quality experienced human resources for public and private sectors, leadership development for start-ups and SMEs.

JICA' support in higher education – high quality human resources for Vietnam in the last two decades are marked by the five main efforts: (i) Strong commitment to develop the VJCC Institute to become one of the pioneering and leading institutes of training high-quality managerial human resources; (ii) Long-term commitment for developing high-quality HR in public sector via JDS scholarships; (iii) Developing human resources in technical engineering and ICT regarding projects supporting Hanoi University of Technologies; (iv) Contributing critically to develop human resource for the Mekong Delta region through financial and technical assistance to develop Can Tho University (CTU) to become an excellent institution of Education, Scientific Research, and Technology Transfer; and (v) Strategic investment to develop Vietnam- Japan University as an excellent university model, and fostering the significant expertise and technology transfer

between Japan and Vietnam, especially in the future interdisciplinary sciences for sustainable development of the country.

JICA's projects in Vocational Education & Training (TVET) in Vietnam included both support for system management at sector level and support at institutional level with specific TVET institutions. Projects that addressing system-level challenges of the TVET sector in Vietnam such as advising for the national skill test system and related national skill standards, and initial support to introducing the Japanese Kosen Model to Vietnam. Besides, JICA has been providing technical cooperation to strengthen vocational training institutes through curriculum development, training of trainers, and provision of training equipment at Japanese standard.

Consideration of Japanese specific factors

Japan FDI and the expansion trends of Japanese enterprises to Vietnam: Despite some fluctuation, Japan FDI has been in a gradual rising trend, ranked top 3 FDI inflow countries to Vietnam. The number of Japanese enterprises operating in Vietnam increased gradually during, concentrating mostly in Southeast and Red River Delta. It is estimated that 6.8 hundred thousands people are working in Japanese enterprises, manufacturing companies have the biggest labor size. From evaluation of Japanese companies, human resources in Vietnam still mostly compete on HR cost but not on quality. However, rising HR cost is an increasing pressure for many Japanese enterprises in Vietnam. Besides, under the effect of GVCs shifting and US-China trade tension, the demand of laborers working in Japanese companies will increase, along with requirement for higher skilled laborers.

Returned Technical Trainees (RTTs): In recent 5-10 years, the supply of Vietnamese Technical Intern Trainees has increased remarkably, ranking top among the countries dispatching technical intern trainees to Japan, especially in construction, food manufacturing and machinery. When returning home, however, the actual proportion of Vietnamese RTT who could utilize their experience in Japan for getting recruitment in Vietnam is relatively low (about 26.7%) compared to other countries. There are prominent barriers for RTT to integrate to Vietnam labor market, include: Trainees' irrelevant work experience and skills & mismatch of expectation for salary and position, Mismatch of skills recognition system between Japan and Vietnam cause the difficulties for RTT to effectively prove their skills level to Vietnamese employers, Lack of sufficient information and data management of RTTs group at level of local authorities, Lack of communication channels to support them connected to most demand enterprises.

The RTTs when returning to Vietnam could be an important skilled workforce to participate in the Vietnam labor force. Therefore, supporting this group to integrate effectively to the workforce in Vietnam is considered as one important contribution of JICA in HRD for Vietnam.

Japanese language education: Vietnam has been growing consistently in terms of Japanese learners, teachers and training institutions. Most popular purpose of training courses at language education centers is for Japanese Language Proficiency Test (JLPT) preparation. Kaiwa basic communication courses for adults will become more popular, with offer pocket-sized training courses that can support people with full-time job in learning Japanese in a more convenient method. Besides, companies in manufacturing and

IT industries have highest training demand for their staffs, apart from Japanese language, Japanese working mindset and culture are also introduced.

Future direction for JICA's cooperation in HRD support to vietnam

Addressing HE-TVET system challenges to contribute to HRD development priorities of Vietnam

Understanding key aspects the socioeconomic development goals as well as recognizing key development challenges, nine areas of priority for human resource development in Vietnam could be determined as directions for any cooperation support of JICA, including: (i) Enhance supply of high-quality human resources; (ii) Supply skilled HR for emerging jobs towards future economy and green development trends; (iii) Improve education quality towards international standard; (iv) Enhance skills match between supply and demand; (v) Cost-effective & quality relevance for learners; (vi) Increase quality and scale of skilled labor force align with market demand, and demand for industrialization; (vii) Re-train for adults & support for Life-long learning; (viii) Social security & labor rights; (ix) Ensure quality basic education.

Recognizing the national HRD priorities and the main challenges of the HE - TVET system is the basis to suggest directions for JICA's support, to contribute to the strategic development of HE and TVET, both system-level issues and institution level issues (as shown in Figure 171- *Mapping of IHRD priorities issues & HE-TVET main development issues for support*).

The framework of IHRD Classification and JICA's approach set common understanding to discuss JICA's strategy for HRD support. The framework (Figure 172) is develop to define JICA's role on HRD system for Vietnam, each of the efforts well contributes to the human resource development strategy of Vietnam in the next decade, including: (1) Develop high quality human resource, which is directly linked to higher education system; (2) To increase the quality supply of high-skilled technical human resource, and (3) increase the scale and quality of skilled labor force with better skill-match; Enhance cost-effective and quality relevance for learners & society.

Reviewing of Target industries for JICA's HRD support:

The five criteria are used to evaluate the relevancy and priority of an industry: (i) Relevance to JICA's assistance policy; (ii) Value contribution to Vietnam; (iii) Relevance to JICA experience in Vietnam; (iv) Potential to support Japanese companies in Vietnam; (v) Donor positioning.

The total evaluation are made for the 06 industries, as presented in Figure 173. To briefly mention: Mechanical & Supporting industry is recommended as High priority, IT & Digitalization industry is recommended as High priority, Environment/ Green tech is recommended as Medium- High priority, Healthcare is recommended as Medium - High priority, Civil Engineering is recommended as Medium priority while Agriculture is recommended overall as Low priority for JICA's HRD support.

Opportunities for JICA's HRD support at province level, reviewing 6 target provinces

The summary of province characteristics is presented in Figure 174, together with recommendations of key potential HRD programs in the alignment with province's prioritized needs. Noticeably, the industry

development direction of each target province is putting much focus on the application of high-technology application, digitalization, and the development of smart city, confirming the demand to develop high-quality and skilled human resource at provincial level. In brief, key suggestions are:

In Hanoi: continue current projects in higher education, expand the KOSEN model development, and new project to strengthen the collaboration of Japanese enterprises with TVETIs in support industry;

In Hai Phong: support to build capacity for the TVET sector, including management and teaching staff, management system, with a focus on supporting industry occupations. Support to develop labor market information platform for forecasting & matching supply-demand could also be considered;

In Da Nang: support to build high quality human resource for smart-city, green & renewable energy sector, and there could be programs that connect Japanese enterprises with key TVETIs in IT or supporting industry;

In Can Tho: continue strengthening CTU's development with focus on climate change & green technology for agriculture & fishery, and consider support to build capacity for TVET sector, together with strengthen Mekong Delta regional linkage in TVET;

In Ho Chi Minh City: expand support to the HE sector, fostering internationalization and aiming to supply to high-quality HR for HCMC in advance technology fields; consider to support for healthcare – nursing care HR in TVET sector, support to develop efficient labor market information system applying Japanese experience;

In Dong Nai: continue some support TVETIs with focus in quality assurance and skill-test system, strengthen connection of Japanese enterprises with TVETIs, and consider programs to develop high skilled workforce for future Aviation industry to serve the new largest airport in Vietnam (both in HCMC and Dong Nai)

Recommendations of focus support directions in the future period

We made a mapping that match the HRD direction in target industries with the on-going projects and new initiatives for HE sector and TVET sector. Overall, there are eight main priority direction being recommended:

(A) Foster the development of VJCC institute as the leading role model for developing high quality industrial human resource in Vietnam, including consideration to support and advice for the “Strategy to develop high quality HR for high technology development in Vietnam”, which is leading by MOET;

(B) Initiatives to enhance higher education training system for providing high quality HR for future green economy with the participation of current higher education projects but integrating improvements into each program such as VJU, VJCC institutes, JDS, CTU to cover activities and training programs for green economic resources and green technology;

- (C) Initiatives to enhance the quality and scale of skilled nursing & caring HR, with the basic idea is to expand JICA's current projects in nursing care (which belong to healthcare programs) in a way that could further touch to training supply system;
- (D) Support to strengthen the NOSS system, focus on fields & occupations that having major amount of RTT, in particular, construction/civil engineering, mechanical & supporting industry;
- (E) Comprehensive support for RTT in Vietnam via multiple solutions, such as enhancing the access to information and increase role of DOLISA, matching skills evaluation and skill standard system for RTTs, provide supplementary capacity building activities for and empower more innovative solutions from grass-root level;
- (F) Support for the expansion of KOSEN project in Vietnam in strong collaboration with DVET an existing partners;
- (G) Strengthen practical collaboration of Japanese enterprises with TVETIs via multi stakeholder intervention model;
- (H) Provide support to enhance capacity of training for key TVETIs in target industries and target provinces such as Support Industry occupations (in Hanoi, Hai Phong, Dong Nai, HCMC); Healthcare- Nursing (in HCMC); Environment & Green occupations for TVET (in Can Tho, HCMC); IT (in Da Nang, HCMC) and Civil Engineering (in Hanoi, HCMC, Da Nang)
- (I) Support for start-up and SMEs development in healthcare, environmental - green development and agri-tech.

PART B: MAIN REPORT CONTENT

CHAPTER 1. THE MACRO CONTEXT OF HUMAN RESOURCE DEVELOPMENT IN VIETNAM

1.1 Major related global socio-economic development trends

1.1.1 Automation, Industry 4.0 & Digitalization

Machines, robots, artificial intelligence, and information technology are rapidly entering the workplace worldwide, technological advances are transforming human experiences and capabilities while causing potential labor market disruptions and job losses.

Recently, automation is the driver for development progresses, which we have seen in many sectors such as automotive, healthcare, education, finance, and other industries. As a result, it may lead to a large number of humans no longer needed in the workplace¹.

Besides, the Corona pandemic is taking place worldwide with far-reaching impacts on all aspects of life in a short time. This pandemic itself is not a global trend, but it gives momentum for these shifts to rapidly accelerate. The crisis has been speeding up the adoption of advanced technology, automation, and digitalization in almost all industries and transforming businesses. During the crisis, advanced technologies like robotics, digital payment, remote work, distance learning, and telehealth are employed to support the society functions work during lockdown and quarantine. Automation and AI are deployed in warehouses, grocery stores, call centers, and manufacturing plants to replace workers and to reduce workplace density.

A recent report of PwC² indicates the impact of automation on jobs by industries across 3 waves of automation (Figure 3).

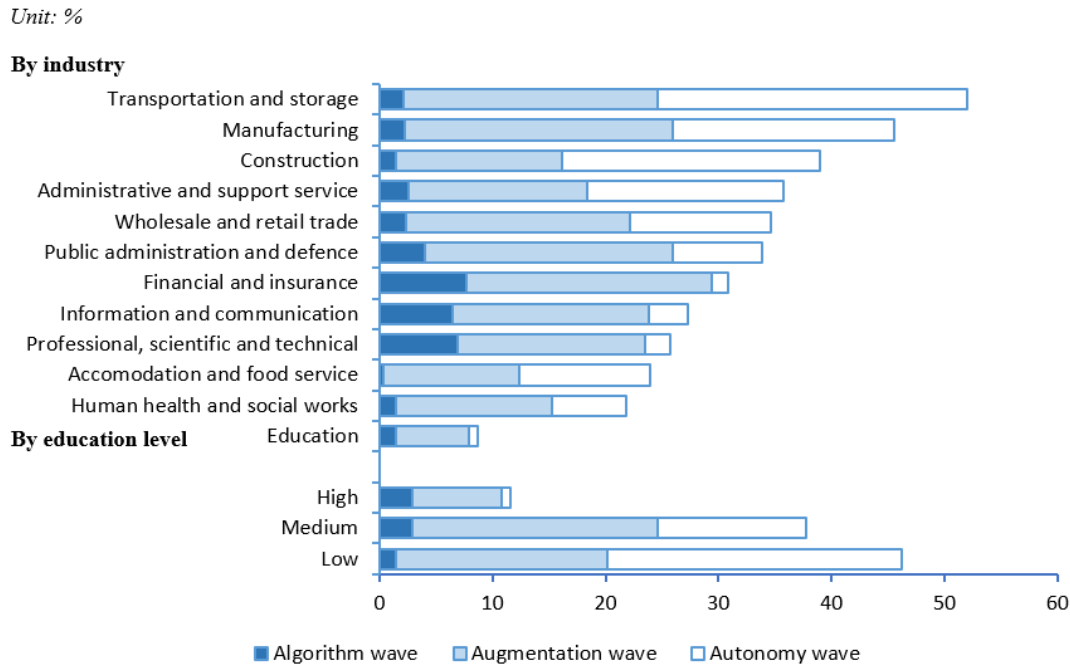
- The 1st wave – algorithm (to early 2020s) focuses on the automation of simple computational tasks and analysis of structured data. It impacts mostly on data-driven sectors such as financial and insurance, information and communication, and professional, scientific, and technical services.
- The 2nd wave – augmentation (to late 2020s), repeatable tasks in clerical support and decision making are automated. The financial and insurance sector will continue to be highly impacted, along with much broader, almost all sectors.
- The 3rd wave – autonomy (to 2030s) with the evolution of Artificial Intelligence (AI), autonomous vehicles and robots will further automate routine tasks, focusing on physical labor and manual dexterity, and problem-solving in dynamic real-world situations that require responsive actions, such as in transportation and storage, manufacturing and construction.

¹ Allianz Partners – Mega trends of the 21st century (Jun. 2019)

² PwC – Will robots really steal our jobs: An international analysis of the potential long-term impact of automation (2018)

It is forecasted that job losses are more in highly educated workers at 1st wave, but safer at later waves because of their greater adaptability to technology changes, or by their senior managerial roles. Finally, low and medium education level workers concentrated in jobs to be lost with high routine content.

Figure 3. Potential rates of job automation by industry and education level across waves



Source: PwC, *Will robots really steal our jobs: An international analysis of the potential long-term impact of automation, 2018*

As stated in a report of OECD³, in many G20 countries, it is forecasted that job losses are concentrated in jobs with high routine content. As the demand for jobs that require high-level cognitive and social skills is increasing over years, routine and manual work will be more automated.

Additionally, new technologies may have considerable impacts on how jobs are performed, thus relevant skills are required to change accordingly. It is necessary for employees to have basic literacy, numeracy, and reading comprehension to use technology, on the other hand, higher human skills such as teamwork and communications are considered important.

Vietnam does not stand out from this trend. The alleviation of manual work will lead to a structural shift in the production process, particularly among some occupations. However, at same time, Vietnam also need to face another wave that started half a century ago in developed countries, the basic level machinalization, that is mostly in agriculture sector (Figure 4). Together with among-industry shift (discussed in Sec. 1.1.3), the sector will need to surf on 3 big waves that are DX, basic machinalization, and workforce shift to other sectors.

³ OECD – Global skill trends: Training Needs and Lifelong Learning Strategies for the Future of Work (Jun. 2018)

In agriculture, the utilization of equipment for field preparation and harvesting will lead to a higher risk of automation. In terms of the garment industry, if the sewing process can be automated by the sewing machine operators, there will be a significant decrease in worker employment because sewing employees account for the largest proportion of the workforce in a garment factory (45–70%) especially on its manufacturing line (85–96%)⁴. Admittedly, jobs that are immune from automation, require non-routine and non-manual tasks.

Figure 4. Leading occupations by employment in categories of low and high risk of automation in Vietnam

Low-risk occupations	Number of Employees (000)	Risk of automation (%)	High-risk occupations	Number of Employees (000)	Risk of automation (%)
House builders	1,599.2	7.1	Crop farm labourers	12,770.4	87.0
Secondary school education teachers	338.0	0.8	Stall and market salespersons	3,892.6	94.0
Primary school teachers	249.7	8.7	Livestock farm labourers	2,558.0	87.0
Primary school teachers, medium-sized schools	207.0	8.7	Shop sales assistants	2,120.7	95.0
Handicraft workers in wood and basketry	195.5	3.5	Garden and horticultural labourers	1,005.6	95.0
Early childhood teachers	165.4	7.9	Subsistence crop farmers	933.9	87.0
High School education teachers	162.3	0.8	Building construction labourers	911.1	80.0
Handicraft workers n.e.c.	161.2	3.5	Fishery and aquaculture labourers	842.6	83.0
Nursing associate professionals	158.0	5.8	Sewing machine operators	769.2	89.0
Management and organization analysts	153.5	7.1	Livestock and dairy producers	693.6	76.0

Source: ILO, ASEAN in transformation: The future of jobs at risk of automation, 2016

To cope with the circumstances, a large number of agricultural employees in Vietnam will need to acquire a variety of skills to avoid being swept away by the wave of automation. On the other side, it will boost the digital literacy and human skills of the labor workforce. In countries with the acceleration in the use of machine, their agricultural laborers need to be able to conduct internet searches to follow manufacturer instructions and know how to operate programs on a computer. Therefore, Vietnamese laborers in all industries, including in agriculture, need to have basic knowledge including literacy, numeracy, and reading comprehension to use technology.

According to the Vietnam Digital Readiness Report⁵, most Vietnamese respondents (84%) denoted that they are willing to learn new skills in digital transformation, this rate is higher compared to global level

4 Lan, P.T.T (Oct. 2020), Automation and its impact on employment in the garment sector of Vietnam

5 PwC – Vietnam Digital Readiness Report (Mar. 2021)

(77%). That means Vietnamese are aware of concerns about automation putting jobs at risk, and they also express their readiness in adapting to ameliorate future employability.

Besides, although Vietnam's digital evolution index (DEI) is 46.79, which is low when compared to Malaysia's (69.03), Thailand's (53.04), Singapore's (98.82), and Indonesia's (47.72)⁶, some lower- and middle-skilled occupations are still projected to be lost. It is also anticipated that 20% to 30% of current employees would be transformed or eliminated in the next years, necessitating the training of the workforce for new jobs. To take advantage of digitization, Vietnamese laborers will be required the right skills. Besides digital skills, some soft skills that also need to be acquired are critical thinking and problem-solving, along with communication, teamwork, creativity, and management.

1.1.2 Climate change, environmental degradation, and resource scarcity

Climate change, environmental degradation, and resource scarcity are expected to have significant impacts all over the world including employment lost, disappearance of current jobs and emerging of new job as well as changing in requirements of skills of laborers.

According to Intergovernmental Panel on Climate Change (IPCC), if present greenhouse gas emissions continue, the atmosphere would warm by up to 1.5 degrees Celsius over pre-industrial levels by 2040. Climate change is becoming a real-time issue, with its main symptom is more frequent and severe weather phenomena. By 2040, the number of yearly extreme weather events will have doubled. Some foreseeable consequences are persistent droughts, inundating coasts, diseases, loss of human lives, and destruction of assets.

The crisis will definitely lead to economic downturns and job loss. In 1995, extreme heat levels caused an estimated 1.4% of total hours worked to be lost globally, equating to about 35 million full-time jobs. It is estimated that there is a 1.5°C rise in global temperature by the end of the 21 century and labor force trends imply by 2030, the percentage of total hours of work lost will have risen to 2.0%, equating to 72 million full-time jobs lost. The detrimental consequences of rising temperatures are dispersed unevenly between sub-regions. South-Eastern Asia area, including Vietnam, ranks the 3rd to be hardly hit, with productivity losses of 3.3% by 2030⁷, respectively, equating to 4.6 million full-time jobs.

Particularly, these changes lead to jobs loss in industries which rely on the environment including agriculture, fisheries, forestry, mining, fossil fuel-based energy rely on natural resources, and related sectors such as food manufacturing, related services and tourism industry.

The transition to greener, low-carbon economies will reshape the labor market; New jobs will be created, some current jobs will disappear

According to ILO, the energy sector is one of the main sources of greenhouse gas emissions. By 2030, the transition to sustainability in energy sector is expected to bring about net job creation of around 18 million jobs globally. Around 24 million jobs will be created, driven by the higher labor demand in renewable

6 Knoema Corporation website - <https://knoema.com/DEI2020/digital-evolution-index-dei>

7 ILO, World Employment and Social Outlook 2018: Greening with jobs (2018)

energy production and the entire value chain associated with renewable energy and electric vehicles and construction.

Furthermore, the increasing demand for inputs to produce electric vehicles and electrical machinery also bring additional jobs in the mining of copper, nickel, iron, and other non-ferrous and metal ores. In addition, due to the economic linkages between sectors, employment in services, waste management, and agriculture will also grow.

On the other hand, around 6 million jobs will disappear due to a reduction in the mining and extraction of coal, petroleum, and natural gas, sectors which closely links to the fossil fuel-based automotive industry, fossil-fuel based vehicles manufacturing, and the retail sale of automotive fuel⁸.

Figure 5. Sectors most affected by the transition to sustainability in the energy sector – globally

Industries set to experience the highest job demand growth (absolute)		Industries set to experience the strongest job demand decline (absolute)	
Sector	Jobs (millions)	Sector	Jobs (millions)
Construction	6.5	Petroleum refinery	-1.6
Manufacture of electrical machinery and apparatus	2.5	Extraction of crude petroleum & services related to crude oil extraction, excluding surveying	-1.4
Mining of copper ores and concentrates	1.2	Production of electricity by coal	-0.8
Production of electricity by hydropower	0.8	Mining of coal and lignite, peat extraction	-0.7
Cultivation of vegetables, fruits, nuts	0.8	Private households with employed persons	-0.5
Production of electricity by solar photovoltaics	0.8	Manufacture of gas, distribution of gaseous fuels through mains	-0.3
Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods	0.7	Extraction of natural gas and services related to natural gas extraction, excluding surveying	-0.2
Industries set to experience the highest job demand growth (%)		Industries set to experience the highest job demand decline (%)	
Sector	Jobs (%)	Sector	Jobs (%)
Production of electricity by solar thermal energy	3.0	Production of electricity by coal	-0.19
Production of electricity by geothermal energy	0.4	Extraction of crude petroleum and services related to crude oil extraction, excluding surveying	-0.11
Production of electricity by wind	0.4	Extraction, liquefaction, and regasification of other petroleum and gaseous materials	-0.11
Production of electricity by nuclear energy	0.3	Petroleum refinery	-0.8
Production of electricity by biomass and waste	0.3	Manufacture of gas, distribution of gaseous fuels through mains	-0.5
Production of electricity by solar photovoltaics	0.3	Mining of coals and lignite, peat extraction	-0.3
Production of electricity by hydropower	0.2	Extraction of natural gas and services related to natural gas extraction, excluding surveying	-0.3

Source: ILO, *World Employment and Social Outlook 2018 – Greening with jobs, 2018*

⁸ ILO – World Employment and Social Outlook 2018: Greening with jobs (2018)

Requirement of skills set of many jobs will change

Changes in a set of skills, especially in energy and emissions-intensive industries are necessary to adapt with new consumption and production patterns, resource efficiency, and emission targets. Retraining and skills upgrading are important to make production processes, goods and services greener.

Figure 6. “Green” restructuring: Industries likely to be adversely affected & the associated retraining needs

Industry	Training needs
Agriculture, forestry, including food/wood processing	<ul style="list-style-type: none"> • New farming practice, crop diversification and organic farming • Biofuel production and new technologies • Eco-tourism, rural and forest tourism • Retraining of farmers as forestry workers • Skills upgrading for farmers in sustainability, climatology, eco-counselling skills, entrepreneurial skills • Complex use of timber and new technologies in wood processing
Fisheries	<ul style="list-style-type: none"> • Retraining for jobs in marine natural parks • Retraining of agricultural workers • Skills upgrading (sustainable fish/seafood farming, aquaculture)
Extractive industries and fossil fuel energy generation	<ul style="list-style-type: none"> • Retraining (into e.g. renewable energies) • Skills upgrading (sustainable practices, energy and resource efficiency, new green technologies, clean coal, carbon capture and storage)
Emission-intensive manufacturing	<ul style="list-style-type: none"> • Skills upgrading: core/portable skills; training for specialized sustainability skills • Training for compliance with industries environmental regulations • Environmental impact assessment • Change in production processes (energy and resource efficiency, recycling, treatment of hazardous waste)
Automotive	<ul style="list-style-type: none"> • Skills upgrading for car: mechanics, technicians and engineers • Training on design, maintenance and recycling, fuel efficiency
Shipbuilding	<ul style="list-style-type: none"> • Retraining for other heavy industries, including installations for off-/onshore wind turbines and wave and tidal energy
Cement	<ul style="list-style-type: none"> • Retraining • Skills upgrading (energy efficiency)

Source: ILO, *Skills for green jobs: a global view: synthesis report based on 21 country studies, 2011*

Vietnam will expect strong hit towards the workforce in agriculture and aquaculture sectors

Vietnam is among five countries most heavily affected by climate change with a long coastal line and majority of population and economic assets locating in coastal lowlands and deltas. More than 50% of Vietnam’s workforce and income depends on climate-sensitive natural resources. Agriculture is predicted to be hit hard, especially rice production and the Mekong Delta, where majority of the land area is 2 meters or less above sea level (Wassmann et al. 2009)⁹. Aquaculture, which is particularly important for employment and rural income in Mekong Delta, will be suffered high risk of disease and increasing cost

in operations. As a consequence, related services and manufacturing sectors in the agro-food value chain is also affected.

For example, the coastal areas of Vietnam have a population of about 18 million people, of which 58% of the population mainly live on agriculture and fishing. There are around 480,000 people directly engaged in fishing, around 100,000 people work in the seafood processing industry and about 2,140,000 people are engaged in fisheries services¹⁰. Fishing and aquaculture, which depend heavily on water availability and the abundance of coastal resources, are among the most sensitive and vulnerable sectors to the effects of climate change.

According to a research on Ensuring decent work for workers in the Mekong Delta to adapt to climate change by the Institute of Labor science and Social affairs (MOLISA) and Hanns Seidel Foundation (2020), 33.3% of surveyed enterprises and production facilities had to suspend production from the end of 2019 to March 2020; 20% must change production models, change varieties and products; 26.7% had to change production techniques under the impact of drought and saltwater intrusion. Notably, for enterprises that cut or temporarily stop working, unskilled workers and self-employed workers are the first employees to be cut and usually do not receive severance allowance¹¹.

1.1.3 Global value chain integration, US – China trade tension

Deeper integration in GVCs requires countries to equip higher skilled workforce

Economic opportunities gained from GVCs participation go beyond the opportunity of increasing exports, but also include technology and knowledge transfer, rising FDI, and human capital upgrading. Low- and middle-income countries (LMICs) are particularly situated to benefit from GVCs with job creation, productivity and income improvement.

At the early stage of globalization, the world witnessed the shift of labor-intensive goods production from developed countries to developing countries to leverage the labor-cost arbitrage. However, with higher competition between more countries in GVCs as well as the acceleration of automation, trade based on low labor costs is no longer sustainable. As a consequence, GVCs are becoming more knowledge intensive. Within many industries, value creation is shifting to upstream activities such as R&D and design and downstream activities such as distribution, marketing, and after-sales services, proven by the growth of investment in intangible assets in all sectors. The share of value created by the actual production of a good is declining¹², at the same time, production of goods requires more sophisticated, higher quality inputs. Thus, demand for higher level skills of labor in GVCs increases accordingly. Countries that participate more deeply and move up the value chain will be in need of more skilled workforce. For countries that expand into more sophisticated and higher-technological sectors, the type of work in different sectors will shift.

10 Science, technology and environment Committee - Response to climate change in Vietnam (2017)

11 Online newspaper: <https://nld.com.vn/cong-doan/bien-doi-khi-hau-gay-anh-huong-den-viec-lam-20201217203115809.htm>

12 OECD - Interconnected economies: Benefiting from global value chains (2013)

Impact of COVID-19 pandemic further lessen the importance of low-cost labor advantage

Along with globalization and GVCs participation, most nations become interdependent and related to each other, but the critical hit of COVID-19 outbreak has raised much concerns on the risks of instability associated with the international fragmentation of production. To recover or to respond to the pandemic, developed countries are likely to readjust their supply chains shifting to nearshoring production places in order to shorten delivery time as well as to lower further risk of supply chain disruption. This shifting¹³ trend in developed countries is supported by automation & digitalization trends, which reduce the heavy dependence on labor. This means, developing countries like Vietnam should not mainly depend on low-cost labor strength because distance advantage and delivery effectiveness have been increasingly important factors in GVCs movements.

Situation of Vietnam: enhance the supply of skilled labor force in main manufacturing sectors is the key to advance the country's participation in GVCs

Vietnam has a lot of space to grow in GVCs with a large pool of young and unskilled labors who can be the source to enter the manufacturing sectors. However, it is still necessary to aware that the size of labor force of Vietnam is much smaller compared to China or India and labor size advantage is just a relative strength of the country. Improving labor productivity and high-skilled workers is a relatively prerequisite to enhance the competitiveness compared to other countries in the same region.

Vietnam currently has 4 key GVCs including agribusiness, textiles and apparel, transport equipment, and electronics/ICT equipment. The trade agreements, especially new FTAs are crucial to boost up Vietnam in moving up in GVCs. In textiles, garments, and clothing, as well as hi-tech sectors like electronics, Vietnam is projected to make a greater contribution to the global and regional manufacturing environment¹⁴. However, as a consequence, it also required to increase the sophistication of manufacturing processes, to necessitate extra capital expenditure, and increase the demand for high-skilled labor.

Besides human resource factors, key challenges for Vietnam to take more inclusive participation in GVCs include: (1) resolving the bottlenecks in logistics and infrastructure¹⁵; (2) advancing the development of supporting industry with a higher rate for localization of materials – components in the manufacturing sector, reducing the dependence on importing inputs; (3) enhance FDI effectiveness towards boosting local firms to participate in value chains of large foreign-invested enterprises.

Overall, it still emphasizes that there is a strong need for Vietnam to increase the supply of higher skilled labor, especially in sectors that deeply engaged in GVCs as well as support sectors such as logistics and supporting industries. In these sectors, there will be demand for the future workforce who can do complex tasks and be able to adapt to advanced industrial technology movement, such as automation and

13 United Nations Conference on Trade and Development – South-South Cooperation at the time of Covid-19: Building Solidarity among Developing Countries (May 2020)

14 KPMG – Investing in Vietnam (Mar.2021)

15 Online newspaper: <https://en.vietnamplus.vn/vietnam-looks-to-address-bottlenecks-in-logistics-infrastructure/198173.vnp>

digitalization. The quality of human resource in local small and medium enterprises (SMEs) are also important to leverage the effectiveness of FDI flow into the country.

USA-China trade tension may have positive impacts on FDI in Vietnam and create job opportunities

From 2018 through 2019, as the trade war between the USA and China intensified, Vietnam was considered one of the biggest beneficiaries of this fallout because many Chinese goods, which are affected by tariffs, are also produced and consumed in Vietnam¹⁶. Several companies, including those that manufacture furniture, refrigerators, and automobile tires have relocated their operations to Vietnam, and other Southeast Asian countries. Multinational corporations such as Foxconn, Samsung, and Daikin were opening new factories in Vietnam rather than in China due to the doubling of Chinese manufacturing salaries over the last seven years¹⁷. As for textile and garment sector, one of the key industries, USA-China trade war also accelerates apparel factories' shift from China, and Vietnam is the appropriate choice for footwear industries¹⁸. Many giant retailers in footwear, such as Nike, Adidas and Brooks Running, eye Vietnam to shift majority of shoes production due to trade-war tariffs.¹⁹ The CEO of Brooks Running said that this production shift will move more than 8000 jobs from China to Vietnam.²⁰

The relocation has created further job opportunities for Vietnamese laborers; but there were concerns about Vietnam's ability to fully absorb and take advantage of the relocation of foreign corporations due to a structural labor shortage as Vietnam had limited supply of human resource who earned vocational training or higher. On the other hand, this production shift can be seen mostly in labor-intensiveness sectors, such as in agriculture, footwear, textile and garment, etc. However labor intensiveness is another concern of local provinces as it leads to other social pressure and stakeholders need to take actions. For example, to decrease labor-intensiveness in labor-intensive industries, HCMC government has issued a plan to support enterprises in their innovation process with the aim of increase the competitiveness²¹.

On the other hand, USA-China trade tension was considered to positively impact to Vietnam from the aspect of increasing the ability to absorb foreign direct investment opportunities.

In the face of declining global economic growth, Vietnam was one of the few nations that have achieved extraordinary development, as seen by its registered capital reached 38 billion USD in 2019. However, in 2020 & 2021, the Covid-19 outbreak has had a tremendous impact on Vietnam, as it has on all countries around the world, limiting investor movement and reducing the attractiveness of the new foreign investment.

16 Financial Times: <https://www.ft.com/content/4bce1f3c-8dda-11e9-a1c1-51bf8f989972>

17 Vina Capital – US-China Trade Tensions and Vietnam (Jul. 2018)

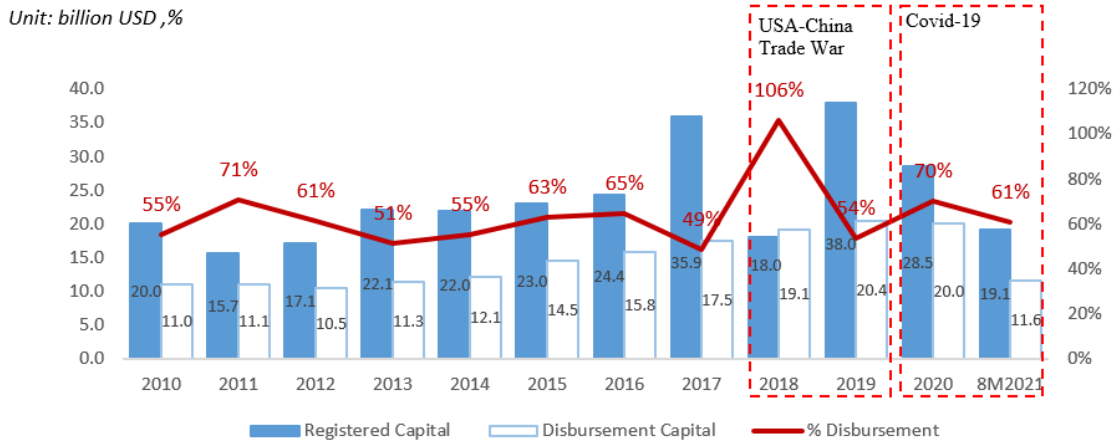
18 Online newspaper: <https://www.scmp.com/lifestyle/fashion-beauty/article/3035927/us-china-trade-war-accelerates-apparel-factories-shift>

19 Forbes: <https://www.forbes.com/sites/peterpham/2018/11/29/vietnams-trade-war-balancing-act/?sh=12937fbe7b36>

20 Online newspaper: <https://e.vnexpress.net/news/business/companies/us-footwear-maker-to-move-china-production-to-vietnam-this-year-3918368.html>

21 Online newspaper: <https://nhandan.vn/tin-chung1/giam-tham-dung-lao-dong-o-cac-nganh-san-xuat-cong-nghiep-649679/>

Figure 7. Foreign Investment in Vietnam as of 8M2021



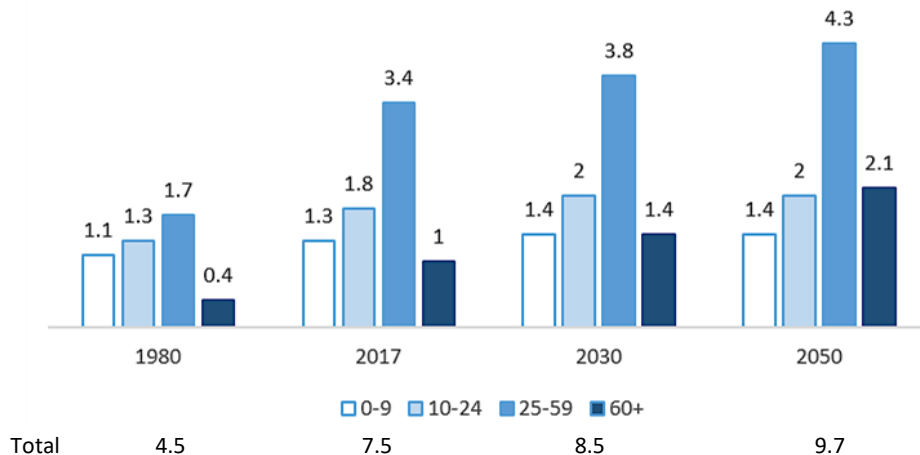
Source: MPI, KPMG, Investing in Vietnam, 2021

In 2020, the total FDI in Vietnam, down 25% from 2019 even though the country had some initial success of suppressing the virus for much of the pandemic in 2020. From early 2021, Vietnam has been dealing with a difficult breakout of the virus, with the majority of new infections occurring in the southern business hub of HCMC and adjacent regions. As a result, global trade has stalled and affected supply networks which would lead to risks of foreign enterprises moving out from Vietnam, which could lead to the threads of job loss in related sectors at a large scale.

1.1.4 Population aging

By 2030, the world population will be 8.5 billion and it will surpass 9 billion by 2050. There will be 11.2 billion people in the world by 2100²². The fastest-growing segment of the population will be the older people of 60 years old and above²³.

Figure 8. Global population by age groups in 1980, 2017, 2030 and 2050 (Unit: billions)



Source: United Nations, World Population Ageing 2017: Highlights, 2017

²² World Economic Forum: <https://www.weforum.org/agenda/2015/07/world-of-11-billion-population-growth/>

²³ United Nations – World Population Ageing 2017: Highlights (2017)

The worldwide population of older people is projected to have surpassed that of children under age 10 in 2030. In 2050 there will be 2.1 billion people age 60+ compared to 1.4 billion of those under age 10. An increasing share of the elder population combines with a declining share of working-age means an increase in the old-age dependency ratio. Asia-Pacific had 11.1 people of working age to support one elderly person on average in 2015. By 2055, this figure is expected to more than halve to 4.0²⁴. This scenario implies the downsizing of the workforce and potential labor shortage, which requires greater participation in the labor force from women and the elderly, and the need to increase labor productivity.

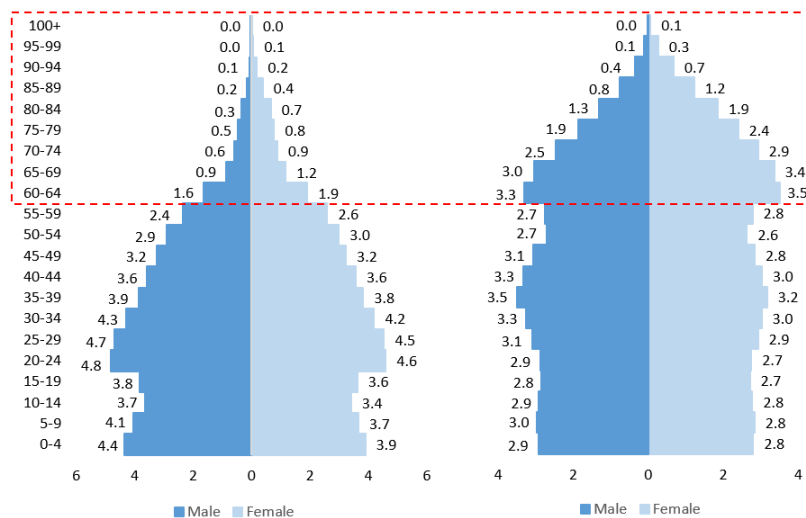
Vietnam will soon lose the golden population advantage and there will be structural-demographic transition toward an aging society in the next 30 years

By 2050, it is predicted that Vietnam will face a structural-demographic transition toward an aging society. The total population is forecasted to reach approximately 109 million people, increasing nearly 15% compared to 2015's. In 2015, Vietnam enjoyed what was known as the “Golden Age”, with 70% of the population was aged between 15 and 64 (legal working age)²⁵. However, Vietnam’s population will age extremely rapidly by 2050, with 60% of the population in the working age and a quarter of the population will be over 60. This statistic also implies a high old-age dependency ratio: there is one dependent elder for every two people of working age.

These trends will bring notable challenges, as the aging of Vietnam's population will soon slow labor force growth. Unless productivity growth and labor market participation improve, population aging is expected to lead to significantly slower growth in economic development and increase the possibility of labor shortages.

Figure 9. Vietnam Population Age Pyramid in 2015 & 2055

Unit: %, 100%= 92,677,082 (citizens) as of 2015, 100%= 109,783,121 (citizens) as of 2055



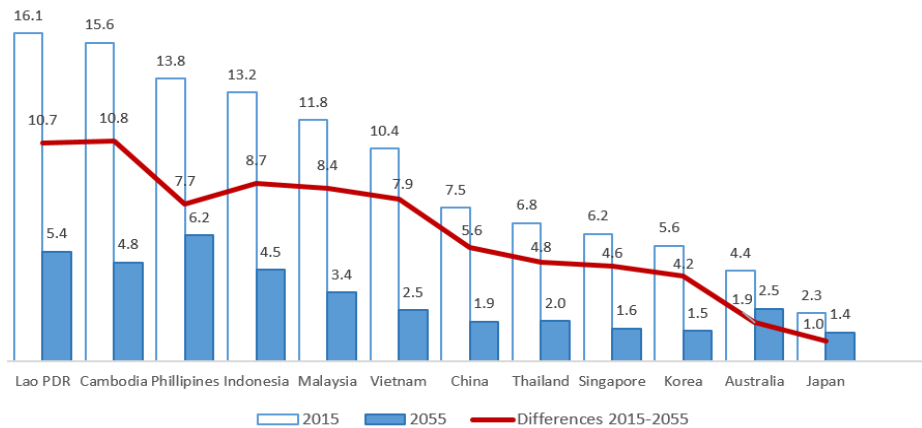
Source: PopulationPyramid.net, Research team’s analysis with forecasted data for 2055

24 OECD – Society at a glance: Asia Pacific 2019 (2019)

25 Online newspaper: <https://www.gov.uk/government/publications/vietnam-from-golden-age-to-golden-oldies/vietnam-from-golden-age-to-golden-oldies>

A high dependence ratio indicates that the entire economy bears a heavier burden in supporting and providing social services to children and elderly people who are often the economically dependent ones. Vietnam is predicted to rank 6th, both in 2015 and 2055, in the old age dependency ratio among among East Asian and Pacific countries.

Figure 10. Old age dependency ratio in 2015 & 2055 among East Asian & Pacific countries



Source: OECD (2019)

An important consequence of this trend is the structural decline in working age population, which leads to demand in raising labor productivity of the shrinking work force. In fiscal terms, the biggest and most urgent challenge will be financial sustainability of the pension system. With the current low coverage of social insurance at 33.5% of the labor force in 2020²⁶, older persons in the future will face more difficulties in their life and may also cause heavily burden for state budget.

Besides, there are also significant challenges for healthcare and the elder care systems. In 2019, Vietnam had more than 11 million elderly people (aged 60 and above), with about 1.9 million aged over 80. However, family plays a significant role in providing health care to older persons, only around 1% receives care and support from a paid healthcare worker, caregiver, or neighbor. This reveals a fact that Vietnam is lacking healthcare workforce that serve for elderly care services and the related healthcare issues. The proportion of disability is significant among the older persons and increases with age, especially over 50% among those 80 years old and above have at least one difficulty in activities of daily living. Common chronic diseases and non-communicable diseases are the main cause of disability. However, the geriatric system and social services system for the elder people in Vietnam are still far from meeting the current demand²⁷. Care for older persons is mainly provided by family members, mostly women in the families, leading to lower participation rate of female in the work force. In other cases, individual caregivers or domestic workers without training are often hired to take care of the older person at home or in the hospital, mostly with low quality.

26 Online newspaper: <http://www.congdoan.vn/tin-tuc/thoi-su-487/nam-dau-tien-so-nguoi-tham-gia-bao-hiem-xa-hoi-bat-buoc-giam-do-dich-599716.tld>

27 Viet Nam National Committee on Ageing (VNCA) - Towards a comprehensive national policy for an ageing Viet Nam (2020)

The shortage of healthcare staff has negative impacts on the provision of primary healthcare and health system sustainability. Although having slight increase over the last decade, Vietnam’s healthcare workforce is still far to catch up with that of Asian developed countries like Malaysia, Japan or South Korea.

Figure 11. Vietnam’s health workforce per 10,000 population, 2011 - 2019

Types of work force	2011	2012	2013	2014	2015	2016	2017	2018	2019
Nurses	10	10.4	10.7	10.8	11.1	11.3	11.3	11.4	n/a
Doctors	7.3	7.3	7.6	7.8	8.0	8.6	8.6	8.7	8.8
Pharmacists	1.9	2.0	2.1	2.4	2.4	3.0	2.9	2.9	n/a

Source: MOH Health statistics year book annually²⁸

In comparison to a country like Japan, which has been dealing with an elderly population for many years, the ratio of nurses and midwives in Vietnam is substantially lower, at around 1.4 compared to 12 in Japan (2016). Not only is there a human resource scarcity in Vietnam, but the country also lacks official system of nursing workers for the elderly. In reality, nurses in his hospital were responsible for both medical treatment and senior care at the same time, putting strains on nurses as they struggled to perform both tasks. Besides nursing, health workers in the rehabilitation also play a significant role as seniors usually need extra rehabilitation from accidents or health setbacks. However, this specialty has also experienced a scarcity of doctors, with the density of doctors was 7.6 per 10,000 population (2013). Moreover, in recent years, the training target for rehabilitation doctors has been quite low in comparison to other specialities within educational universities that offering rehabilitation training.

Furthermore, the distribution of human resource in healthcare is imbalanced between healthcare institutions of different levels and between different regions. The shift of many medical personnel from rural to urban areas has happened, resulting in a lack of qualified workforce at the grassroots level providing primary care²⁹. In general, 29% healthcare workforce of Red River Delta is working in Hanoi, while 59% workforce of the Southeast concentrates in HCMC.

In terms of specialized nursing training, Vietnam now lacks a specialization for the elderly, and has a low number of specialties. The country also has limitation in advanced training with only one intense training program in hemodialysis, far fewer than Japan, which is well-known for its aged care system due to an aging population, with 21 training programs. Thanks to its experience in the caring services regarding technology, system, and human resources training, cooperation in this specialty to convey experience to Vietnam will undoubtedly aid Vietnam in better preparing nurses for the elderly.

²⁸ <https://moh.gov.vn/thong-ke-y-te>

²⁹ Sustainability and Resilience in the Vietnamese Health System, Tran Thi Mai Oanh, Nguyen Khanh Phuong and Khuong Anh Tuan, Health Strategy and Policy Institute

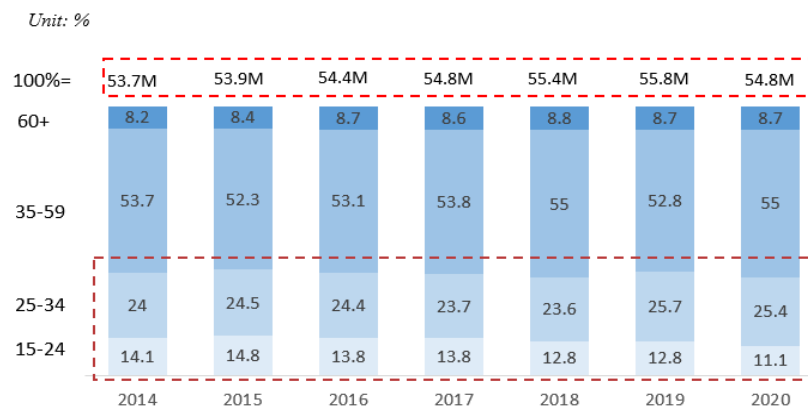
1.2 Vietnam human resource development issues toward long-term global competitiveness

1.2.1 Labor force growth

Vietnam has a stable labor supply in medium term but needs to prepare to ensure the availability of human resources in the long run

The labor force continued to grow slightly, reaching its highest of about 55.8 million in 2019. In which, the middle-age (35-59) made up half of the labor force. The proportion of the young labor force (15-34) maintained quite stable around 38%, while that of middle-aged people slightly increased. In 2020, the figure decreased slightly to 54.8 million. However, with the aging of the Vietnamese population, it is expected that the fraction of the labor force over 60 years old will rise in the future.

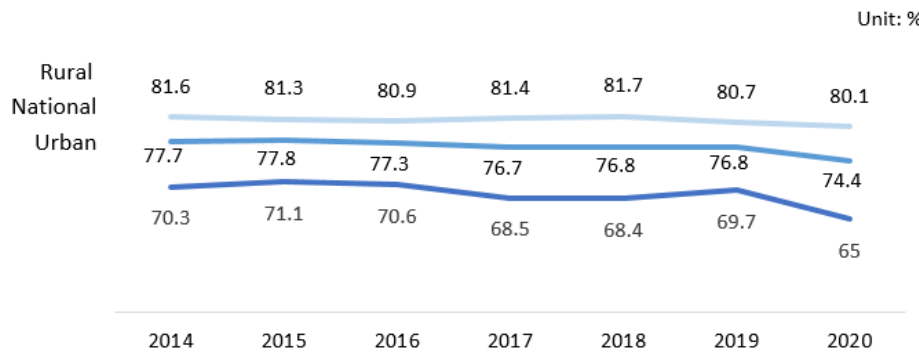
Figure 12. Vietnam Employment Structure by Ages



Source: GSO (2020)

At 74.4% in 2020, labor force participation in Vietnam is remarkably high, compared to 60.5% (world), 67.2% (South-East Asia and the Pacific). In which, working-age people who are not working account for only approximately 23% of the population, with many women shouldering the burden of caring for children and the elderly. Based on the aforementioned factors, it can be inferred that, in the future, notwithstanding the influence of the pandemic or economic restructuring, Vietnam's labor supply will remain stable in the short to medium term. However, in the long run, there would be challenge of limited reserve of the labor force to boost aggregate labor supply.

Figure 13. Labour force participation rate, by overall and rural/urban areas

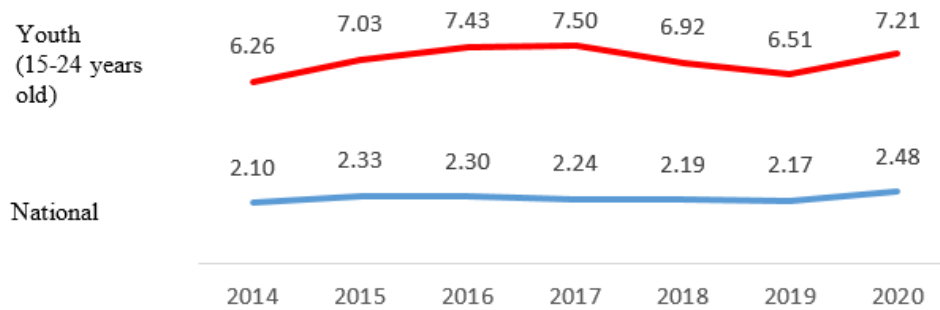


Source: GSO (2020)

The national unemployment rate has been low and stable in Vietnam, slightly increased from 2.1% in 2014 to 2.17% in 2019. However, it raised to 2.48% in 2020 under the impacts of the Covid-19 pandemic. The unemployment rate among the youth (15-24 years old) followed the same trend as the national average but it was much higher. To ensure the availability of human resources in the next 50 years, Vietnam will need to raise the education level of the 15-24 age group. As the population ages in the coming years, persons in this age bracket will become the backbone of Vietnam’s labor force.

Figure 14. Youth Unemployment Rate

Unit: %



Source: GSO (2020)

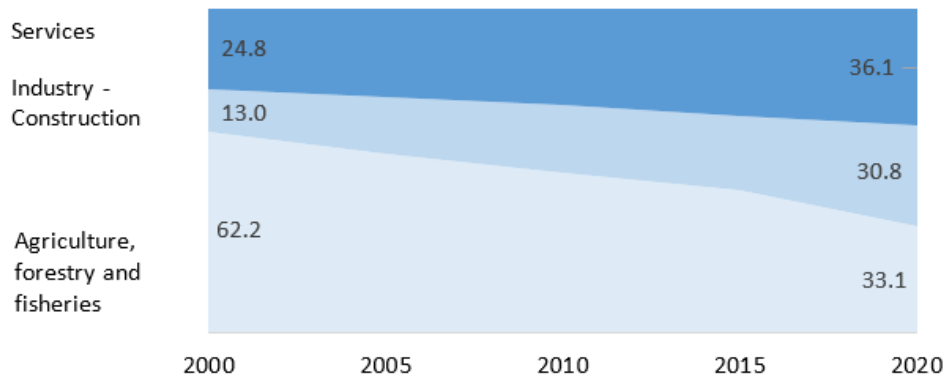
1.2.2 Labor force structure

Sector reallocation towards Industry and Services is a positive change in the national labor structure and needs to be promoted in the coming years

Employment shift by economic sectors has been occurring quite rapidly and following the global trend. The number of workers in agriculture, forestry, and fisheries fell significantly, together with the increased number of workers in the industry – construction and services. In which, the service industry grew from 24.8% to 36.1% between 2000 and 2020. This demonstrates the efficiency of government initiatives in altering the structure of industries to match the global economic trend.

Figure 15. Sector Reallocation by Number of Employees (2000 – 2020)

Unit: %



Source: GSO (2020)

However, as laborers in agriculture are mainly manual, untrained, or low-skilled, the relatively high portion of labor in agriculture will remain as an obstacle to improve the quality of the labor force in order to meet with demand of Industrialization 4.0. Thus, there is still a need to continuously decrease the portion of the labor population in the agriculture, forestry and fishery sector in the coming years.

According to the forecast of the General Statistics Office and the National Center for Employment Services (MOLISA), the national labor workforce will reach nearly 63 million persons by 2025, in which 28.3% works in Agriculture, 25.1% in Industry & construction, and 46.6% in Services. Demand on human resources in each sector is estimated as in the Table below.

Figure 16. Forecasted demand on human resources of Vietnam by 2025

Sector	Trained labor of all level (person)	In which (%)		
		Elementary level	Intermediate level	College level
Agriculture, Forestry & Fisheries	14.3 million	69.5	22.5	6.0
Industry & Construction	17.6 million	56.0	33.5	4.0
Services (Healthcare, Transportation included)	16.5 million	37.0	23.0	12.0

Source: Scheme on training and retraining to improve human resource skills to meet the requirements of the 4th industrial revolution (DVET)

By 2030, among 70 million persons in the national labor force, the ratio is forecasted to change to 25% - 40% - 35% for Agriculture – Industry & Construction – Services sector. The proportion of trained labor accounts for around 80% (56 million persons), in which 14.3% is trained in higher education system.

Unbalanced human resources from Higher Education and Technical & Vocational Education & Training

The unreasonable human resources structure is also captured in terms of education level. For example, according to Education statistics 2010-2011, 81.1% students graduated from Lower secondary school went to Upper secondary school while 9.86% participated in labor market³⁰. That means only 9% enrolled in VET schools, just one ninth of that of Upper secondary school. Additionally, while number of graduates from Upper secondary school annually is 0.8-1 million students, admission quota of Higher Education sector is set at around 500 – 550 thousand students and actual admission is even higher. This situation leads to the unbalanced human resource structure in Vietnam with a majority of low skilled labor and higher education graduates, while TVET trained labor only accounts for a small portion³¹. The lopsided structure has its roots in the lack of central coordination to implement HR strategy between Ministries in charge, as well as the perception of the society to prefer HE than TVET, especially those living in urban areas. This situation is illustrated by the competition between HE sector and TVET sector in admission and the gap of income between labor graduated from HE and TVET sector.

30 Online newspaper: <https://giaoduc.net.vn/giao-duc-24h/hoi-dap-3-hiep-hoi-ve-cau-truc-he-thong-giao-duc-viet-nam-moi-post163581.gd>

31 Department of Formal Vocational Training, DVET

1.2.3 Labor Productivity and Innovation capacity

Increasing labor productivity via education and training for the labor force is critical for progressing industrialization and overcoming the middle income trap

Productivity growth played a major driver in Vietnam's GDP growth in the early stage of transition, contributed two-thirds to the average GDP growth rate. However, it faced a downward trend in the past decade and has been stagnated. Besides, as wages certainly rise, Vietnam will lose its current comparative advantage of low-cost labor in industries that require low-skill and labor-intensive.

Another related aspect to discuss is the risk of Vietnam being entangled in the middle income trap³². Since the year 2008, Vietnam has achieved the low middle income level but there have been signs of Vietnam being fallen into middle income trap, including (i) slowing growth, (ii) low productivity, (iii) lacking of practical structural transformation, (iv) no sign of improvement in competitiveness ratio, and (v) many problems caused by economic growth. The country's competitiveness will be eroded as labor cost rise rapidly compared to the increase of labor productivity. Meanwhile, if industrial human resources are still not equipped with higher skills, knowledge and capacity, technology-intensive industries will not appear - the process of industrialization will possibly stop, or in other words, the problem known as deindustrialization will happen. This problem is at the heart of the middle-income trap. Besides renovating in industrial policies, policies to increase labor productivity should be one important focus for Vietnam to overcome the middle income trap³³.

Education and skill development are important prerequisites for economic growth and especially gains in labor productivity. As can be seen in the figure 17, although the labor productivity of Vietnam has improved, it is extremely low when compared to other countries in the region. In 2019, Vietnam labor productivity reached \$13.817, which was only equal to 8.7% of Singapore, 10.3% of Brunei, 23.2% of Malaysia, 41.2% of Thailand, 56.6% of Indonesia, and 63.3% of the Philippines.

Figure 17. Vietnam Labor Productivity among South-Eastern Asia countries

Unit: USD, by GDP PPP

Country	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Singapore	136.243	139.918	141.219	145.405	146.818	147.417	151.030	156.376	160.348	159.680
Brunei	147.354	150.119	149.045	143.778	138.331	136.813	133.030	134.309	129.057	133.209
Malaysia	48.813	49.061	49.750	49.865	51.467	52.986	54.641	56.625	57.841	59.364
Thailand	25.028	24.542	26.268	27.448	28.014	28.956	30.174	31.586	32.523	33.502
Indonesia	18.360	19.033	19.033	20.488	21.166	22.034	22.851	23.303	24.013	24.425
Philippines	14.955	15.016	15.805	16.582	17.102	17.877	18.690	20.379	21.202	21.832
Lao PDR	9.843	10.362	10.911	11.498	12.083	12.677	13.285	13.920	14.507	14.887
Viet Nam	8.833	9.214	9.547	9.851	10.299	10.933	11.559	12.216	12.859	13.817
Myanmar	6.689	6.997	7.446	8.007	8.572	9.091	9.774	10.584	11.036	11.548
Cambodia	4.818	4.999	5.393	5.847	6.160	6.475	6.656	6.959	7.368	7.774
Timor-Leste	7.831	8.094	8.393	8.361	8.524	8.560	8.632	8.018	7.704	7.741

Source: ILO (2019)

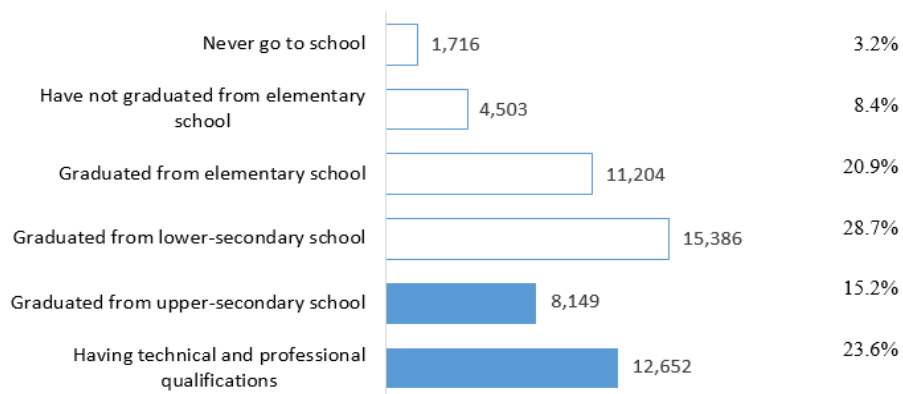
32 Prof. Kenichi Ohno (2009) states that a middle income trap is a situation in which a country is stuck at an income level determined by certain resources and initial advantages and cannot overcome it.

33 Ohno, Kenichi & Le, H Thanh. (2015). Bay thu nhap trung binh o Vietnam: Thuc trang va giai phap (The middle income trap in Vietnam: status and solution). Tap chi cac van de kinh te va chinh tri the gioi So 3 (227) 2015

There are several factors behind improvement in productivity. The shift of unproductive labor from agricultural activities to industry, construction and services is a major element that has contributed to productivity growth in Vietnam over the last 20 years; however, the marginal contribution to productivity growth from this transition was nearly depleted. In addition, the size of enterprises in Vietnam is also a barrier to productivity growth. The majority of enterprises in Vietnam are household enterprises of micro and small scale, thus they are lacking of substantial economic means to invest in and adopt improvement in technology, equipment, organization or production³⁴. The third factor is skill of workers which also plays an important role in improving productivity of enterprises. In 2020, the labor force graduating from lower-secondary school or lower accounts for 61.2% of the total labor force. The below figure for the labor force graduating from upper-secondary school or having technical and professional qualifications only accounts for the remaining 38.8% of the total labor force. It can be said that a lower education level is one of the factors that makes Vietnam to be identified recently as one of the countries having the lowest labor productivity in the region.

Figure 18. Vietnam’s Labor Force by Education Level

Unit: thousand persons



Source: GSO (2020)³⁵

Skill enhancement and develop innovation capacity is the key for increasing the country’s competitiveness for global integration

At the moment, Vietnamese employees' integration capability is low, and their skills are still relatively low in comparison to regional and global standards. According to the Global Competitiveness Report in the 4.0 Period (GCI 4.0) in 2019, Vietnam is currently rank at 67th out of 141 nations for GCI 4.0 index, but only rank at 93th in terms of skills, the lowest rank among 13 indicators. Therefore, low skills can be considered a barrier for Vietnamese workers in the 4.0 employment market, and a barrier for Vietnam towards global integration in the future.

34 Online newspaper: https://www.ilo.org/hanoi/informationresources/Publicinformation/comments-and-analysis/WCMS_694938/lang-en/index.htm

35 In 2020, there were 53.61 million people in the Vietnam’s labor force being employed

Figure 19. Vietnam Global Competitive Index 4.0 in 2019- Performance Overview



Source: WEF- the Global Competitiveness Report 2019³⁶

Besides, innovation capacity is also considered important for Vietnam to deal with changes under impact of automation and digitalization. In the Global Innovation Index (GII), Vietnam stands at rank 42 out of 131 countries and is ranked third in Southeast Asia, behind Singapore and Malaysia, with a score of 37.12 out of 100. This result is due to many factors such as supporting incentives for tech and green energy, Vietnam’s leading FDI attraction, and the development of foreign R&D centers as its proximity to manufacturers, etc. In terms of human resources, Vietnam also has a young workforce with education backgrounds in science and engineering. However, if Vietnam wants to be a leader in cutting-edge technical breakthroughs, it will need to devote more resources to scientific research and higher education.

36 WEF - https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf (Vietnam profile - Page 594)

Figure 20. Vietnam's Global Innovation Index Ranking

STT	Asean	2015	2016	2017	2018	2019	2020
1	Singapore	7	6	7	5	8	8
2	Malaysia	32	35	37	35	35	33
3	Vietnam	52	59	47	45	42	42
4	Thailand	55	52	51	44	43	44
5	Philippines	83	74	73	73	54	50
6	Brunei	N/A	N/A	71	67	71	71
7	Indonesia	97	88	87	85	85	85
8	Cambodia	91	95	101	98	98	110
9	Lao PDR	N/A	N/A	N/A	N/A	N/A	113
10	Myanmar	138	N/A	N/A	N/A	N/A	129
11	Papua New Guinea	N/A	N/A	N/A	N/A	N/A	N/A
12	Timor-Leste	N/A	N/A	N/A	N/A	N/A	N/A

Source: WIPO - Global Innovation Index Report, 2015, 2016, 2017, 2018, 2019, 2020

Take a comparison with Indonesia, even though it is well-known as one of the new industrial economies³⁷, Indonesia's GII in 2020 is only ranked 85th out a total of 127 countries, which is behind Vietnam and other regional peers. The Global Innovation Index points to number of factors constraining Indonesia's innovation system such as institutional strength, human capital and research quality, and business sophistication knowledge. The detail factors in ranking method show that the overall low level of education in Indonesia is a major impediment to innovation of this country. The low government's expenditure on research and development is another block; while Vietnam and Singapore spend about 2.5% of their GDP on research and development, the figure for Indonesia accounts for only 0.2%³⁸. Indonesia is currently attempting to improve its human capital as well as its business sophistication knowledge capabilities, but it would be more difficult for this country as both of which are dependent on the role of R&D and product development efforts.³⁹ The case of Indonesia also emphasizes the importance of investing in research capabilities and high quality human resources for a country like Vietnam in order not to stay behind global innovation movements.

To briefly conclude, Vietnam needs to improve the education and training for the labor workforce for the purpose of increasing labor productivity, and thus can lead to the improvement of industrial performance, and to increase the country's competitiveness for global integration. Improving worker skills and providing conditions for Vietnamese workers to engage in the global human resource supply chain is a pressing issue that will necessitate significant changes in the Vietnamese human resource system.

37 International Monetary Fund: <https://www.imf.org/external/pubs/ft/wp/2016/wp16207.pdf>

38 Online newspaper: <https://www.indonesia-investments.com/news/news-columns/difficult-for-indonesia-to-become-an-innovation-driven-economy/item7920>

39 Indonesia Development Forum: <https://indonesiadevelopmentforum.com/en/2021/article/detail/179826-technology-key-in-diversifying-economic-growth-across-indonesia>

1.2.4 HRD aspects towards implementing SDGs commitment of Vietnam

Seventeen global SDGs have been nationalized into 115 specific targets in the “National Action Plan for Implementation of the 2030 Agenda for Sustainable Development”, based on the national development context and priorities. In which, notable attention has been paid to vulnerable groups such as the poor, people with disabilities, women, children and ethnic minorities. Human resource development topic is also addressed in several SDGs as the 17 SDGs are interactive and the implementation of one SDG will have an influence on another.

Education is considered the top priority of Vietnam, receiving 20% of government budget dedicated to education and training. SDG 4 on Quality Education is realized through the issuance of a number of laws and policies, including the Law on Education, Education Development Strategy (2011-2020) and Vocational Training Development Strategy (2011-2020). Certain results related to SDG 4 have been achieved in the period 2010 - 2020. The trained laborer ratio increased annually, from 40% in 2010 to 64.5% in 2020, in which, those who have certificate grew from 14.6% in 2010 to 24.5% in 2020.⁴⁰ Furthermore, the country has also established high quality Vocational and Educational Training Institutions in order to provide high quality training and advanced training at the international level to overcome the labor shortage situation in high demand occupations.

Besides, the SDG 8 on Decent Work and Economic Growth targets to promote sustainable and decent employment. The improvement in employment quality is reflected by the improvement in income of paid employees, and the shift of labor from areas with low and unstable productivity and income to higher and stable income areas. Policies and programs to support labors are implemented by government at city and provincial level based on requirements of each locality, such as short training courses and vocational training programs targeting rural labors, disabilities, women and youth. By the end of 2016, about 17,000 persons with disabilities were supported to have vocational training and jobs⁴¹. In 2017 alone, 2,690,000 persons received vocational training, including 600,000 rural laborers⁴². Especially in the Covid-19 epidemic, retrain and upskill training programs are deployed to support labors in career change and re-integration into the labor market.

Those above-mentioned policies and programs not only contribute to fill the skilled-labor shortage, but also generate higher earnings to reduce inequality and spur economic growth. However, educational inequality is still a persistent issue with main subjects are the poor, ethnic minorities, people with disabilities, and women and girls. This issue is also addressed in SDG 10 - Reduce Inequality and concretized in policies and laws, such as Higher Education Strategy for 2021-2030. One out of five prioritized pillars of the strategy is to ensure sustainable financing for higher education, in which the challenge is to avoid the risk of shifting the sub-sector financing responsibility to students as this will

40 Online newspaper <https://daihoidang.vn/dai-hoi-dang-xiii-phat-trien-thi-truong-lao-dong-dong-bo-hien-dai/1234.vnp>

41 Viet Nam's Voluntary National Review On The Implementation Of The Sustainable Development Goals (2018): https://sustainabledevelopment.un.org/content/documents/19967VNR_of_Viet_Nam.pdf

42 Viet Nam's Voluntary National Review On The Implementation Of The Sustainable Development Goals (2018)

stretch the finances of poorer households/students.⁴³ Additionally, policies such as Resolution 30a/2008/NQ-CP or Program 135 were deployed to promote access to education, particularly vocational training, by stipulating exemptions from or reductions of tuition fees and granting other allowances for ethnic minority students living in remote areas, students from poor households and for other disadvantaged groups. To address disadvantages population who did not graduate yet from lower secondary school (which is a prerequisite for TVET entrance), nonformal short-term courses were organized. However, the relationship between the nonformal course with formal TVET system and the ability to connect the two types in the national qualification framework are not clear yet.⁴⁴

Gender equality is also being addressed in the country's policy framework, relating to SDG 5 (Gender Equality) and achieved certain results. More than 46% of female workers have been provided with vocational training in accordance with the rural vocational training scheme. However, this cross-cutting issue is not reflected clearly in policies and regulations yet. Policies on training, re-training, appointment and nomination of candidates remain general and not synchronized with the Law on Gender Equality.⁴⁵ Particularly in TVET sector, there are only a few gender policies or other strategies and mechanisms to improve female enrollment, participation, graduation, and school-to-work transitions of women. Women's enrollment in TVET is narrowed in certain occupational areas such as tourism and social services, their participation in male-dominated areas of training and employment is limited.

Besides education, health and social security are also addressed in government policies, targeting to a comprehensive human development. A number of policies have been implemented nationwide in this field, relating to the implementation of SDG 3 (Health) and SDG 1 (End Poverty), including the Law on Social Insurance, Law on Medical Examination and Treatment, National Strategy to Protect, Care, and Improve Public Health in 2011-2020 and Vision to 2030, Law on the Elderly, etc. Certain positive results have been achieved in the recent years. Health insurance coverage was as high as 90.85%, in which 58% received financial support from the government⁴⁶, including the poor, near poor, children under 6, the elderly, ethnic minorities in socio-economically disadvantaged regions and other disadvantaged groups. By the end of 2020, nearly 16.2 million people had social insurance, accounting for 33.5% of labor force.⁴⁷ However, the coverage of the social security system is still modest. There is still a lack of comprehensive policies for social security, expansion of social insurance schemes, unemployment insurance and health insurance for informal groups, especially for poor and vulnerable groups.

43 Improving the Performance of Higher Education in Vietnam: Strategic Priorities and Policy Options, World Bank (2020)

44 Vietnam technical and vocational education and training sector assessment, ADB (2020)

45 Viet Nam's Voluntary National Review On The Implementation Of The Sustainable Development Goals (2018):

https://sustainabledevelopment.un.org/content/documents/19967VNR_of_Viet_Nam.pdf

46 MOH website: https://moh.gov.vn/hoat-dong-cua-lanh-dao-bo/-/asset_publisher/TW6LTp1ZtwaN/content/het-nam-2020-co-87-96-trieu-nguoi-tham-gia-bhyt-bao-phu-90-85-dan-so#:~:text=B%E1%BB%99%20tr%C6%B0%E1%BB%9Fng%20Nguy%E1%BB%85n%20Thanh%20Long%20C4%91%C3%A3%20th%C3%B4ng%20ti

<n%20v%E1%BB%81%20k%E1%BA%BFt,tri%E1%BB%87u%20ng%C6%B0%E1%BB%9Di%2C%20chi%E1%BA%BFm%2058%25>.

47 Online newspaper <https://baohiemxahoi.gov.vn/tintuc/Pages/linh-vuc-bao-hiem-xa-hoi.aspx?ItemID=17357>

1.3 Government's strategy and policy framework for human resource development

1.3.1 Review the HRD strategy 2011 – 2020, existing issues

The Government issued Decision No. 579/QD-TTg on the Strategy on Development of Vietnamese Human Resources in period 2011-2020 as the main policy framework for human resource development other the last 10 years. Besides, Decision No.1216/QD-TTg was issued on July 2011 approving the master plan on development of Vietnam human resources during 2011 – 2020, but it has been expired in August 2019. By the end of 2020, Vietnam has gained some considerable results yet there are targets haven't been achieved, as well as targets that could not be evaluated due to insufficient public data. The following figure consolidates data from different public sources to show some main review of achievements.

Figure 21. Human Resources Development Strategy 2011 – 2020

No	Target Indicators ⁴⁸	2010	2015	2020	Achievement		Achievement level	
					2015	2020	2015	2020
A. Raising of intellectual power and working skills								
1	Rate of trained laborers (%)	40.0	55.0	70.0	51.6	64.5 ⁴⁹	△	△
2	Rate of vocationally trained laborers (%)	25.0	40.0	55.0	11.7 ⁵⁰	12.9 ⁵¹	×	×
3	Number of university and college students per 10,000 people (number of students)	200	300	400	257,7	N/A	△	N/A
4	Number of international-standard vocational schools (number of schools)	-	5	>10	N/A	N/A	N/A	N/A
5	Highly qualified human resources in breakthrough fields (number of persons)							
	• University and college lecturers	77,500	100,000	160,000	93,851	N/A	△	N/A
	• Science-technology	40,000	60,000	100,000	128,997	N/A	○	N/A
	• Medicine, health care	60,000	70,000	80,000	N/A	N/A	N/A	N/A
	• Finance-banking	70,000	100,000	120,000	113,600	N/A	○	N/A
	• Information technology	180,000	350,000	550,000	N/A	N/A	N/A	N/A
B. Raising of physical strength of human resources								
1	Average life expectancy (years)	73	74	75	73.2	73.7	△	△
2	Young people's average height (m)	>161	>163	>165	164.4	168.1	○	○
3	Malnutrition rate among under-5 children (%)	17.5	<10.0	<5.0	14.1	11.1%	×	×

Note: ○: fully completed, △: partly completed, ×: incomplete

Source: Target - Decision No. 579/QD-TTg on approving the Strategy on Development of Vietnamese Human Resources during 2011-2020, Achievement - GSO, MOET, MOST, SBV, NIN, B&Company synthesized articles

48 Only listed down some targets that might be related to the report's topic

49 Vietnam News Agency <https://daihoidang.vn/dai-hoi-dang-xiii-phat-trien-thi-truong-lao-dong-dong-bo-hien-dai/1234.vnp>

50 Labor & Employment survey 2015, GSO

51 Labor & Employment survey 2020, GSO

The rate of trained laborers, including those with professional qualification and certificates and those with other training without official certificates, nearly met the targets with 51.6% compared to the target of 55% in 2015, and 64.5% compared to the target with a target of 70% by 2020. However, the indicator of vocationally trained laborers who are trained with official certificates at elementary level or Intermediate level are far lower than targets. The ratio of labor force with college degree or university and post-graduate degree was partly achieved.

Figure 22. Target of trained labor by education level

Target Indicators by Education level	Target		Achievement		Achievement level	
	2015	2020	2015	2020	2015	2020
Trained labor (%)	55	70	51.6	64.5	△	△
Vocational Elementary (%)	32.5	37.8	5	4.7	x	x
Vocational Intermediate (%)	12.7	18.9	4	4.4	x	x
College (%)	3.3	4.9	2.7	3.8	△	△
University & Postgraduate (%)	9.9	12.6	8.6	11.1	△	△

Note: ○: fully completed, △: partly completed, x: incomplete

Source: Targets - Decision No. 579/QĐ-TTg; Decision No. 1216/QĐ-TTg, Achievement - GSO, Labor and Employment Survey Report 2015, 2020

In terms of high qualified human resources in breakthrough fields, the targets are set clearly for specific fields but there is a lack of published statistic information for understanding status of achievement for each field. Among available data, the number of human resource in science-technology and finance-banking field has met target by 2015.

From perspective of raising of physical strength of human resources, the indicators of Vietnam life expectancy almost meet target, and average height have exceeded the target in 2015 and 2020. Meanwhile, the rate of malnutrition rate among under-5 children have remained very high compared to targets. In the coming years, ensuring nutrition should still be one crucial objective for enhancing the human capital in Vietnam.

Distribution of employment by economic sector achieved positive results until 2020, labor force in agriculture sector strongly shifted to the other two sectors and satisfied targets.

Figure 23. Shares of Labor Force over Total Labor Force by Economic Sector

Economic Sector	Target			Achievement	
	2010	2015	2020	2015	2020
Agriculture, Forestry and Fishery Sector (%)	51	45 - 46	35 - 38	44	33.1
Industry & Construction Sector (%)	22	27	31	22.8	30.8
Service Sector (%)	26.8	27 - 29	27 - 29	33.2	36.1

Source: Decision No. 1216/QĐ-TTg⁵², GSO

52 Decision No. 1216/QĐ-TTg on approving the Master Plan on Development of Vietnam Human Resources during 2011 – 2020, dated on 22th July 2011

1.3.2 The direction for HRD in SEDS 2021 – 2030

As human resource development is determined as one strategic solution for the socio-economic development strategy during 2021- 2030 period, the Government has issued the Decision 176/QĐ-TTg promulgating the program to support labor market development until 2030.

The overall objective for human resource development in the next decade is to create a solid premise for the synchronous development of labor market factors that contributing to the effective mobilization, allocation and utilization of resources for socio-economic development; transforming the labor structure towards modern development and ensuring the connection of the domestic labor market with the regional and global labor markets. Regarding detail targets, many detail targets are similar with the stated ones in sustainable development roadmap to 2030 and the socio-economic development plan to 2025 and strategy 2021 -2030, as presented in the table below:

Figure 24. Development of labor market to 2030

No	Objectives	Status	Milestone	
		2020	2025	2030
Objective 1: Increase number of skilled workers in line with the labor market demand				
1.1	Trained workers with professional qualification and certificates	24%	30%	35-40%
1.2	Skilled Labor Index in the Global Innovation Index (GII)	Top 79 countries	Top 60 countries	Top 55 countries
1.3	Rate of employees with information technology skills	N/A	80%	90%
Objective 2: Creating better jobs for laborers				
2.1	Overall unemployment rate	2.52%	< 3%	< 3%
2.2	Proportion of employees working in the agricultural sector	33.1%	< 30%	< 20%
2.3	Average social labor productivity growth rate	5.8%	> 6.5%/year	> 6.5%/year
Objective 3: Reduce proportion of young people who are out of work, go to school or receive no training				
3.1	Proportion of young people without work, without school or training	12.9% (Q3/2020)	<8%	<8%
3.2	Urban youth unemployment rate	10.63%	<7%	<7%
3.3	Underemployment rate of the rural youth	N/A	<6%	<6%
Objective 4: Ensuring a safe working environment for employees				
4.1	Proportion of working age employees participating in social insurance	33.5%	45%	60%
Objective 5: Invest in and develop a modern job transaction and national labor market information system, synchronously, uniformly and interconnected between information systems				
5.1	Pupils and students graduating from upper secondary school will receive vocational guidance rate	N/A	80%	>90%
5.2	Laborers will be advised and recommended to have jobs by system of employment service centers rate	N/A	40%	45%

No	Objectives	Status	Milestone	
		2020	2025	2030
5.3	Technical infrastructure, software, data connection sharing and integration system; transformation and standardizing the national labor database	N/A	Complete till 2025	N/A
	Labor market information system	N/A	Till 2030, connected national labor market database, connecting to target regional countries	

Source: Decision No. 176/QĐ-TTg⁵³ on program to support labor market development

Compared to the strategy of the previous period (2011- 2020), this strategy program can show solution-based approach, presenting clear targets following objectives towards contributing to socioeconomic development and solving the major HRD challenges recognized from the last period. In particular, it specifies the objectives for supporting services for laborers, which is one of the biggest weaknesses in HRD system, such as setting target for vocational guidance for students graduated from upper secondary schools (at least 80% by 2025 and 90% by 2030), and indicator for job placement service for laborers.

1.3.3 Key policies, master plans that influence HRD in Vietnam in the next decade

Human resource development (HRD) has been determined as one of the most important strategic solutions for sustainable socio-economic development of Vietnam in the next decades, and has been embedded in key objectives in national strategies and master plans such as Socio-Economic Development Strategy 2021-2030; Resolution 136/ND-CP on sustainable development towards 2030. The following figure presents the major government's policies on long-term development strategies and plans, from which we can take a review of HRD related aspects.

Figure 25. List of strategies, plans related to Human Resources and Industrialization in future period

Theme	Policy document's name	Issuing time	Planning time	
			To 2025	To 2030
Socio-economic development	Vietnam Socio-economic Development Strategy for 10-year 2021 - 2030 ⁵⁴	02/2021	→	
	Resolution 50/NQ-CP on Government's action programs to implement the resolution of the 13th National Congress of the Communist Party of Viet Nam	20/05/2021	→ (with vision to 2050)	
	Resolution No. 16/2021/QH15 on five year socio-economic development	27/07/2021	→	

53 Decision No. 176/QĐ-TTg on Program to Support Labor Market Development, dated on 5th February 2021

54 Vietnam government website: <https://tulieuvankien.dangcongsan.vn/ban-chap-hanh-trung-uong-dang/dai-hoi-dang/lan-thu-xiii/chien-luoc-phan-trien-kinh-te-xa-hoi-10-nam-2021-2030-3735>

Theme	Policy document's name	Issuing time	Planning time	
			To 2025	To 2030
	plan during the 2021-2025 period			
Sustainable development	Decision 681/QD-TTg on roadmap for implementation of Vietnam's objectives for sustainable development until 2030	04/06/2019	→	
	Resolution 136/NQ-CP on sustainable development	25/09/2020	→	
	Decision 1658/QD-TTg on Approving the National Green Growth Strategy for 2021-2030 period, vision to 2050	01/10/2021	→ (with vision to 2050)	
Industrial development	Decision No. 879/QD- TTg on strategy on Vietnam industrial development until 2025, towards 2035	09/06/2014	→	(with vision to 2035)
	Resolution No. 23-NQ/TW on orientation of policies for building national industrial development until 2030, towards 2045	22/03/2018	→ (with vision to 2045)	
	Decision No. 749/QD-TTg on Introducing Program for National Digital Transformation by 2025 with orientation towards 2030	03/06/2020	→	(with orientation to 2030)
Human Resources	Decision No. 176/QD- TTg on program to support labor market development until 2030	05/02/2021	→	
	Decision No. 2239/QD- TTg on strategy to develop vocational education period 2021 -2030 with vision to 2045	30/12/2021	→ (with vision to 2045)	

Socio-economic Development goals to 2025 and 2030

In January 2021, the 13th National Congress of the Communist Party of Viet Nam approved the Socio-Economic Development Strategy 2021-2030. After that, Resolution No. 16/2021/QH15 on five year socio-economic development plan for period 2021-2025 specifies the targets until 2025. The following figure presents the major economic and social target towards 2025 and 2030⁵⁵, it also take a reference of the current status of each target in 2020.

55 By purpose of focusing on human resource related aspects, this part does not mention environmental specialized goals

Figure 26. Socio-economic development targets to 2025 – 2030

No	Target	Status 2020 As reference	Milestones	
			To 2025	To 2030
A. Economic Targets				
1	Average GDP growth rate	Average 2016-2020 5.9%	Average 2021-2025 6.5% - 7%	7%/year
2	GDP per capita	3,521 USD	4,700 – 5,000 USD	7,500 USD
3	Contribution of manufacturing & processing industry in GDP	16.9%	25%	30%
4	Contribution of the digital economy to GDP	N/A	20%	30%
5	Average social labor productivity growth rate	5.8%	> 6.5%/year	> 6.5%/year
6	Urbanization rate	37.3%	45%	>50%
7	The contribution of total factor productivity (TFP) to growth	45.2% (average 2016-2020)	45%	50%
B. Social Targets				
8	Human Development Index (HDI)	0.704 (at 2019)	N/A	> 0.7
9	Average life expectancy	73.7 years	74.5 years	75
10	Proportion of labor in agriculture sector in total labor force	33.1%	25%	< 20%
11	Proportion of trained labor force	64.5%	70%	75%
12	Proportion of trained labor force with professional qualification and certificates	24%	28 – 30%	35-40%

Source: Status 2020: GSO, Draft Summary of Implementation of the 10 year economic – social development strategy 2011 – 2020, building a 10-year economic – social development strategy 2021-2030⁵⁶, Milestone 2025-2030: Vietnam Socio-economic Development Strategy for 10-year 2021 – 2030, Resolution No. 16/2021/QH15⁵⁷, Resolution No. 23-NQ/TW⁵⁸, Decision No. 176/QD- TTg⁵⁹, Decision No. 749/QD-TTg⁶⁰

It can be seen that the Government still keep ambitious goals for GDP growth despite the fact that the global economy has been hit critically by the Covid-19 pandemic and the growth rate of GDP and GDP per capita of Vietnam in 2020 were only at 2.9% and 1.98% respectively. Besides, both the 10-year strategy and 5-year development plan have set the targets for proportion of manufacturing and processing industry as well as digital economy to GDP, which haven't existed in previous development plans. This emphasizes the determination to develop Vietnam towards an industrialization country adapting to the global movement of fourth industrial revolution.

Compared to previous period, SEDS 2021 - 2030 still emphasizes the importance of increasing quality of HR, but a clear target is set to meet the demand of High quality human resource for Industry 4.0 and international integration. Some important directions of HRD solutions are specified in SEDS 2021 - 2030:

56 Online newspaper: <https://nhandan.vn/tin-tuc-su-kien/bao-cao-tong-ket-thuc-hien-chien-luoc-phat-trien-kinh-te-xa-hoi-10-nam-2011-2020-xay-dung-chien-luoc-phat-trien-kinh-te-xa-hoi-10-nam-2021-2030-621156/>

57 Resolution No. 16/2021/QH15 on 5-year Socio-economic Development Plan during period 2021-2025, dated 27th July 2021

58 Resolution No. 23-NQ/TW on Orientation on Building National Industrial Development until 2030, towards 2045, dated 22th March 2018

59 Decision No. 176/QD- TTg on Program to Support Labor Market Development, dated 5th February 2021

60 Decision No. 749/QD-TTg on Introducing Program for National Digital Transformation by 2025 with orientation towards 2030, dated 3th June 2020

- Human Resource Development is approached in SEDS 2021 – 2030 as a comprehensive development theme, which not only focuses on skills or working capacity development, but also covers health, capacity, qualifications, conscientiousness, and responsibilities;
- There are four focused demand for HR in this decade: (i) Technical HR, (ii) Digitalization HR, (iii) Managerial HR: technical managers, business managers, public/social managers, and (iv) Human, social care HR. Despite the lack of definition of HR for industry 4.0, it can be seen that the HR demand is mentioned much clearer than in the previous period, which defining management skill is an important and cross-cutting need;
- Regarding TVET sector, the reform in this sector is prioritized towards openness & flexibility, with aims to (i) Improve national competitiveness by developing high-skilled trained labour force, (ii) Positive transition of labour force structure, and (iii) Support for reskilling, continuing education
- Regarding HE sector, the HE reform is continued in order to (i) Foster the implementation of HE autonomy, (ii) Transform ineffective public universities into PPP model, (iii) Restructure tertiary education network (colleges & universities), and (iv) Develop some key HE institutions towards high quality regional education hub
- Additionally, other general directions are addressed in the coming period, including: (i) assure inclusiveness in education, develop an open education system for lifelong learning and promote a learning society, (ii) a social/market demand-oriented education, (iii) balance public & private education, (iv) enhance vocational orientation after junior/upper high-school

Besides, target on proportion of labor in agriculture sector in total labor force until 2030 is set as below 20%, which means that the need for human resource in next 10 years will be more than 80% of the labor force working on industrial and service sector.

In terms of social development targets, there remains two important indicators on trained labor force, however, the target on proportion of trained labor force with professional qualification and certificates has been revised to considerably lower compared to Human resource development plan 2011- 2020, which seems to be more practical with the status in 2020.

Sustainable development goals and plan towards 2030

Resolution 136/ND-CP on sustainable development, emphasizes the 17 sustainable development goals of Vietnam (VSDG) and strengthens the Decision 681/QĐ-TTg on 04th June 2019 on promulgation of the roadmap for implementation of Vietnam sustainable development goals to 2030.

VSDGs are set showing commitments of Vietnam to develop the country towards the global common sustainable goals. Among 17 SDGs, human resource development is mainly reflected in “*Objective 4: Ensure quality, equitable, inclusive education and promote lifelong learning opportunities for all*”, and *Objective 8: Ensure sustainable, comprehensive and continuous economic growth; full employment, productivity and decent work for all*. The table below only select the targets under these 2 objectives, and those that relate to human resource development:

Figure 27. Implementing roadmap for Vietnam’s sustainable development goals until 2030

No ⁶¹	Target	Milestones		
		To 2020	To 2025	To 2030
Objective 4: Ensure quality, equitable, inclusive education and promote lifelong learning opportunities for all				
29	Percentage of students graduating			
	- Primary school	95%	97%	99%
	- Secondary school	85%	87%	90%
32	Proportion of people aged 15 and older participating in intermediate-level vocational education, or in college, or in university training programs	80%	85%	90%
33	Proportion of trained workers	65%	70%	75%
34	Proportion of workers with ICT skills	70%	80%	90%
35	Proportion of ethnic minority workers who have gone through a training	40%	45%	50%
36	Proportion of people with disability who are still able to work and receive vocation training	30%	35%	40%
37	Proportion of literates among people aged 15 years or older	98%	98.8%	99.6%
Objective 8: Ensure sustainable, comprehensive and continuous economic growth; full employment, productivity and decent work for all				
67	Growth rate of labor productivity	Sustain the annual growth rate of 5%		
68	Unemployment rate	<3%		
69	Underemployment rate	<1.89%		
70	Proportion of people aged 15- 30 years not in employment, education or training	<7.5%	<8%	<8%

Source: Resolution 136/NQ-CP⁶², Decision 681/QĐ-TTg⁶³

Proportion of trained workers remain as an important objective to ensure quality, equitable and inclusive education to all as it is also covered in social objectives of socio-economic development plan. Besides, proportion of workers with ICT skills, proportions of disadvantaged communities being able to receive trainings and other targets related to ensuring general education are important aspects of human resource development that are emphasized in sustainable development plan.

National green growth strategy for the 2021-2030 period⁶⁴

Besides, Vietnam government has issued the national green growth strategy for the 2021-2030 period that puts focus on modern science and technology as well as high-quality people resources. The decision points out that MOET is in charge of incorporating green growth material into education at all levels, while MOLISA is in charge of organizing technical human resource training in green economy professions, as

61 The order of target is kept as original document Decision 681/QĐ-TTg

62 Resolution 136/NQ-CP on Sustainable Development, dated on 25th September 2020

63 Decision 681/QĐ-TTg on Roadmap for Implementation of Objectives for Sustainable, dated on 4th June 2019

64 Decision 1658/QĐ-TTg on Approving the National Green Growth Strategy for 2021-2030 period, vision to 2050, dated on 1st October 2021

well as developing policies to promote green jobs. With this new policy, the Vietnamese government is prioritizing promoting human resources for green economic sectors for the coming period.

Industrial Development goals and policies

The most recent comprehensive goals and master plans for industrial development in Vietnam are mainly governed by the two policies in 2014, include the Decision No. 879/QĐ-TTg approving the strategy on Vietnam industrial development through 2025 with a vision toward 2035; and the action plan are provided by Decision No. 880/QĐ-TTg approving the general planning of industrial development for Vietnam by 2020 with a vision towards 2030. Besides, as recognizing practical challenges in many policies relating to industrial development, in 2018, the Resolution No.23 – NQ/TW has revised some important targets for national industrial development until 2030 with vision to 2045, and set the directions for developing policies for industrial development of the country. Among the major industrial development indicators, it can be seen that manufacturing and processing industry will play as key role in leading the general growth of the industry and also the whole economy. Human resource for manufacturing industry will be the key for future development.

Figure 28. General Index on Industrial Development

No	Target	Status 2020	Milestone		
			To 2025	To 2030	To 2035
1	Proportion of industry and construction in the national economic structure	Industry & Construction 33.72%	45%	50%	
2	Proportion of industry sector in GDP*	N/A	N/A	40%	N/A
3	Proportion of manufacturing & processing industry in GDP*	16.9%	25%	30%	N/A
4	Proportion of manufacturing industry in GDP*	N/A	N/A	>20%	N/A
5	Annual growth rate of industrial added value*	N/A	N/A	8.5%	N/A
6	Annual growth rate of industrial production value	N/A	11 – 12.5%	10.5 – 11%	
7	Value of hi-tech industrial products and hi-tech application products in GDP	N/A	45%	50%	
8	Ratio of exported industrial commodities to total export turnover	90.9% (Q1/2021)	85 – 88%	> 90%	
9	Industrial sector's Incremental Capital Output Ratio (ICOR)	N/A	3.5 - 4%	3 - 3.5%	
10	Average labor productivity growth rate in industrial sector*	N/A	N/A	7.5%	N/A
11	Workforce in industrial and service sectors	66.9%	N/A	> 70%	N/A

(*) targets that are added or revised by Resolution No.23 – NQ/TW

Source: Status 2020: GSO; Milestone: Resolution No.23 – NQ/TW, Decision No. 879/QĐ-TTg⁶⁵ Decision No. 880/QĐ-TTg⁶⁶

65 Decision No. 879/QĐ-TTg on Strategy on Vietnam Industrial Development until 2025, towards 2035, dated on 9th June 2014

66 Decision No. 880/QĐ-TTg on Master Plan of Industrial Development of Vietnam, dated on 9th June 2014

Recently, Vietnam has adopted priority industry sectors based on geographical regions so that these focused sectors can reach the highest level of development compared to the rest of the region. Particularly, heavy industries will be concentrated in the northern regions, service industries in the south, and agriculture, forestry, and fishery industries in the Mekong Delta. Electronics and telecommunications industries will be developed in large urban areas like the Red River Delta and the Southeast. Due to suitable climate conditions, the renewable energy industry is primarily centered in the Central region.

Figure 29. Priority industries and industrial fields through 2025, with a vision to 2035

Priority industry sectors	Manufacturing & processing				Electronics & telecommunications	New & renewable energy
	Mechanics and metallurgy	Chemicals	Agricultural, forest & fishery product processing	Textiles, garments, leather & footwear		
Priority Industrial fields through 2025	<ul style="list-style-type: none"> • Agricultural machinery & equipment • Shipbuilding • Automobiles & mechanical spare parts • Steel manufacturing 	<ul style="list-style-type: none"> • Petro chemistry • Technical plastic rubber • Pharmaceutical chemistry 	<ul style="list-style-type: none"> • Prioritize key agricultural, aquatic products and wood processing 	<ul style="list-style-type: none"> • Raw materials & auxiliary materials for garment & footwear products for export 	<ul style="list-style-type: none"> • Communication & telecommunications equipment 	<ul style="list-style-type: none"> • Atomic energy for peaceful purposes.
Priority Industrial fields through 2035	<ul style="list-style-type: none"> • Nonferrous metal & new materials 	<ul style="list-style-type: none"> • Pharmaceutical chemistry (vaccines) 	N/A	<ul style="list-style-type: none"> • Fashion clothing & high-grade shoes 	<ul style="list-style-type: none"> • Medical electronics 	<ul style="list-style-type: none"> • Renewable energies (wind, solar, geothermal & wave energy)
Priority regions	<ul style="list-style-type: none"> • Northern midlands and mountains • Red River Delta • Central coast • Mekong Delta 	<ul style="list-style-type: none"> • Red River Delta • Southeast 	<ul style="list-style-type: none"> • Central highlands • Mekong Delta 	<ul style="list-style-type: none"> • Southeast 	<ul style="list-style-type: none"> • Red River Delta • Southeast 	<ul style="list-style-type: none"> • Central coast • Central highlands • Mekong Delta
(Forecast) Ratio of production value in the entire industrial sector (%)	2010	55.84			3.54	4.22
	2015	61.79			6.8	5.85
	2025	72.74			7.54	6.9
	2035	74.61			10.75	8.64

Source: Decision No. 880/QĐ-TTg, Decision No. 879/QĐ-TTg on Strategy on Vietnam Industrial Development until 2025, towards 2035

Despite the primary goal of becoming an industrial country, Vietnam's supporting industry has recently been undeveloped, and the country's processing and manufacturing industry are highly reliant on the supply of imported input materials and components, particularly in major industries like electronic, textile, shoes, bags, and automobile assembly, etc. As a result, when the Covid-19 outbreak broke out in countries that primarily supply components and accessories for production to Vietnam, including China, Korea, and Japan, domestic companies faced significant challenges. Therefore, Vietnam government also put priority to develop the supporting industries, especially mechanical, chemical, electronic, and telecommunications products are prioritized to be developed, to increase the localization rate, reduce external dependence, and thus could participate more deeply in the global value chain.

According to Decision No. 68/QĐ-TTg, the government plans to spend 870 billion VND on the development of supporting industry in the period 2021-2025, covering 5 missions:

- (1) Connect to support businesses to become product suppliers of domestic and foreign customers; promote and attract foreign investment supporting industries
- (2) Support enterprises to build management systems satisfying business administration and manufacturing administration requirements of global value chains.
- (3) Support training to raise the quality of human resources meeting manufacture requirements of supporting industry products
- (4) Support research and development, application, transfer, and renovation of technologies in the experimental manufacture of components, spare parts, and materials
- (5) Build and operate a supporting industry information page

Small and Medium Enterprises and Start-up Development

Law on Small and Medium Enterprise Support (Law on SME) was issued in 2017, setting the foundation for assistances and incentives targeting to SMEs and start-up enterprises. The Law was concretized by a number of related documents as mentioned in the Table below:

Figure 30. List of legal documents related to SMEs and Startups

Related document's name	Issuing time and authority	Main contents
Decision 844/QĐ-TTg on Approval for the assistance policy on national innovative startup ecosystem to the year 2025	18/05/2016 The Prime Minister	Approval for the assistance policy on national innovative startup ecosystem to the year 2025, targeting to complete legislations on assistances in startup ecosystems; to set up a national startup ecosystem portal; to provide assistance for 800 startup projects and 200 startups
Law on Small and Medium Enterprise Support	01/01/2018 National Assembly	Regulations on principles, contents and resources of assistance for SMEs and the responsibilities of authorities, organizations and individuals related to the provision of assistance for SMEs
Decree 38/2018/NĐ-CP on Investments in small and medium-sized startup companies	11/03/2018 Government	Guidelines for investments in small and medium-sized startup companies, the establishment, management and operation of venture capital

Related document's name	Issuing time and authority	Main contents
		funds, and use of local government budgets to make investments in startups
Decree 57/2018/NĐ-CP on Incentive policies for enterprises investing in agriculture and rural development sector	17/04/2018 Government	Regulations on additional incentives to investment and related procedures for enterprises investing in agriculture and rural development sector, with priority given to small and medium sized SMEs
Decree 39/2019/NĐ-CP on organization and operation of SME Development Fund	10/05/2019 Government	Instructions on implementation of Article 20 in the Law on SME regarding organization and operation of SME Development Fund
Circular 07/2020/TT-BKHCN on Guidelines for establishment of SME incubators, technical facilities supporting SMEs and co-working spaces supporting start-up SMEs	11/12/2020 MOST	Guidelines for establishment of SME incubators, technical facilities supporting SMEs and co-working spaces supporting start-up SMEs
Decree 80/2021/NĐ-CP on Elaboration of some articles of the Law on Small and Medium Enterprise Support	26/08/2021 Government	Elaboration of some articles regarding criteria for identification of SME, provision of assistance in terms of technology, information, consultancy, development of human resources, provision of assistance for SME's conversion from household businesses; startups, SMEs that recently participate in industry clusters and the value chain; responsibilities of agencies and organizations for provision of assistance for SME

Various assistances in different aspects were formed to support the establishment and operation of SMEs and start-up enterprises:

- (1) Finance & Tax: access to credit, credit guarantee funds for SMEs, tax and accounting regimes;
- (2) Infrastructure and technology: assistance in production areas, technologies, assistance for incubators, technical establishments and co-working space; and
- (3) Incentives and business promotion: assistance in expansion into markets, access to information, consultancy and legal issues and developing HR.

In which, supporting activities related to HR development are mainly to provide training courses/programs, including:

- Reduction or exemption of charges for training courses funded by the state budget on entrepreneurship, enterprise administration and job training for employees working in SMEs
- Provide online training programs and training programs through mass media for SMEs and provide training courses at premises of SMEs engaged in production and processing area.

Besides, assistances for SMEs in conversion from household business to SMEs and startups, in joining business clusters and value chains are also regulated.

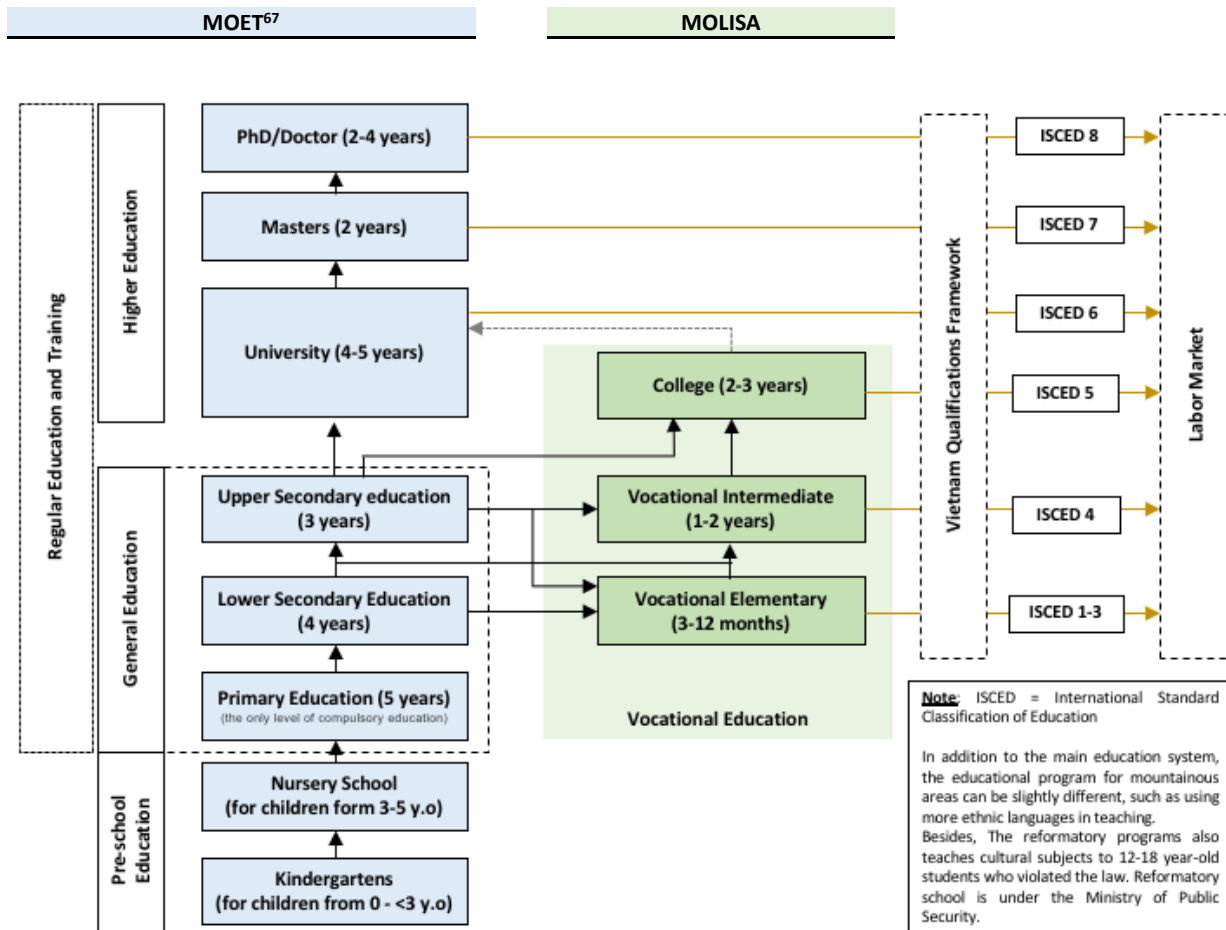
CHAPTER 2. THE SUPPLY OF HUMAN RESOURCE IN VIETNAM

2.1 Overview of education system in Vietnam regarding HE and TVET sector

2.1.1 Overview of the education system

The Figure below presents an overall structure of the education sector in Vietnam, including showing the linkage between pre-school education, general education, regular education, vocational education and higher education levels as various pathways from education to the labor market.

Figure 31. Structure of education system in Vietnam, 2021



Source: Research team developed from related ministries' information

General education is divided into basic education stage and career-oriented education stage. The basic education stage includes primary and lower secondary education. The stage of career-oriented education is from the upper secondary level.

⁶⁷ Pedagogical education (intermediate and college-level) is under control of MOET

The aims of general education are to comprehensively develop learners' moral, intellectual, physical, aesthetic capacity and basic skills for personal development, dynamism, and creativity, forming the human personality and civic responsibility, and to prepare learners to continue studying in higher education, or vocational education or to participate in labor market.

The mergers and integration of institution across three levels of vocational education has created more opportunities for students to achieve higher level of education. From ISCED-4 programs, students can progress to tertiary education including Diploma Degree, then Bachelor's University Degree programs.

2.1.2 Governmental bodies managing HE and TVET

Ministry of Education and Training (MOET) and Ministry of Labor, Invalids and Social Affairs (MOLISA) are the two main organizations performing the state management of education system in Vietnam. Specifically, MOET performs the function of state management of education from pre-school education to higher education (HE) and MOLISA performs the function of state management with technical vocational education and training (TVET).

(a) The role of Ministry of Education and Training (MOET)

MOET is the government agency performing the function of state management of pre-school education, general education, pedagogical education (intermediate and college-level), higher education and other educational institutions regarding:

- Educational goals, programs, content;
- Regulations on examination, enrollment and certificates;
- Development of teachers and educational administrators;
- School facilities and equipment;
- Quality control and accreditation of education quality.

Higher Education Department under MOET is the governmental organization with the direct management responsibility of HE system, which includes:

(1) HE enrolment and educational activities

- Guideline and supervision of HE programs (formal/ non-formal/ joint-training/ international cooperation programs...) about the implementation of enrolment activities, education and training regulations
- Guideline for the development of National Qualification Framework, training programs and output standards, minimum credit for training programs, teaching materials and curricula
- Regulations for compulsory subjects

(2) Quality control of HE and the training of teaching staff

- Provide guideline, inspection and evaluation regarding the required conditions and capacity of the HEIs, pedagogical colleges

- Approval of admission quantity
- Supervise the public announcement of information regarding the education quality of HEIs and pedagogical colleges on website (such as information about facility, teaching faculty, results of teaching and research activities, employment rate after graduation...)
- Supervise foreign invested HEIs

(3) Management of the network of HEIs and Pedagogical colleges

Besides HE Department, there is a number of other Departments, Centers, and Associations under the MOET to support the management and development of the HE sector, such as Quality Control Department, Teacher & Educational Management Department, International Cooperation Department, etc.

(b) The role of the Ministry of Labor-Invalids and Social Affairs (MOLISA)

Until 2016, vocational education system in Vietnam was governed in parallel by both MOET and MOLISA. The merge of two streams of TVET under MOET and MOLISA into one unified TVET sector under the management of MOLISA took effect from January 2017, as stated by Resolution No. 76/NQ-CP (on 3rd September 2016) that MOLISA is the state management agency on vocational education. Specifically, the Directorate of Vocational Education and Training (DVET) of MOLISA became the single central state management agency for TVET.

As a result, college is separated from the higher education system. The aim of this adjustment is to (1) reduce the overlap of the education system, (2) foster the role of vocational education, (3) create opportunities for vocational learners to continue higher level of education, and (4) enhance the quality of education in general. Moreover, the output of national education system based on level also is tied with Vietnam National Qualifications Framework⁶⁸ to ensure that the quality of education meets the requirements of labor market.

DVET performs the state management role on vocational education area (excluding pedagogical education) in the whole country, manages and implements the public service on vocational education. The main roles of DVET are stated as followings:

- (1) Collaborating with relevant ministries, sectors in providing guidelines on the implementation of legal regulations on TVET
- (2) Issuing the regulation of TVET institutions; enrollment, examination, graduation;
- (3) Regulating occupational certificates and the equivalent recognition for graduates with oversea vocational training qualifications;

68 Decision No. 1982/QĐ-TTg on Approving Vietnam Qualification Framework, issued by the Prime Minister, issued on October 18, 2016

- (4) Regulating the minimum knowledge requirement for each vocational education level; process of formulation, assessment and issuance of vocational training programs; compilation, evaluation, approval and implementation of vocational education curriculum;
- (5) Managing and implementing the accreditation of vocational education quality;
- (6) Managing and implementing training, improving skills for teachers and administration staff;
- (7) Making decision of establishment of vocational training colleges

Generally, higher education (HE) and technical vocational education and training (TVET) are two relatively independent tracks. The interconnection management aspects of MOLISA and MOET are mostly seen in facilitating the vocational orientation for students since lower/upper secondary school level, and implementing the bridge training programs (9+ model), which will be discussed in next part.

(c) The role of other line ministries and provincial government authorities on the management of public HE and TVET institutions

In addition to the management of MOET or MOLISA, many public HE and TVET institutions can also be under the administration of a so-called “governing agency”. The governing agency can be a line ministry administering a specialized HE or TVET institutions or local provincial governments managing the education institutions through their respective People’s Committee. Specifically, two National Universities (Hanoi and HCMC) with several specialized universities under them are directly managed by the Prime Minister’s Office.

The main roles of the governing agency on public HE or TVET institutions are: (1) to allocate the state budget for the operation of the HE/TVET institutions; (2) to participate in the management of the public HE or TVET institutions through the Board of Trustees or School Council in terms of development strategy, organizational structure, and financial policies.

(d) The 9+ model

Rationale and legal basis: The 9+ model is the bridge education program between intermediate level and college level

According to the Decision 522/QĐ-TTg (issued on May 15, 2018) upon the approval of the “Plan for Career Orientation Education and Filtering of Students from Secondary Education Level in the period of 2018-2025”, the goal of the Government is to have at least 40% of lower secondary education graduates to enter TVET sector at elementary and intermediate TVET level by 2025 (the rate is at least 30% for regions with less developed social-economic conditions). Career orientation and student classification to vocational education is an important task for MOLISA as the state management role of vocational education. Bridge program in vocational education is one solution to support this “career orientation and student classification to vocational education” role.

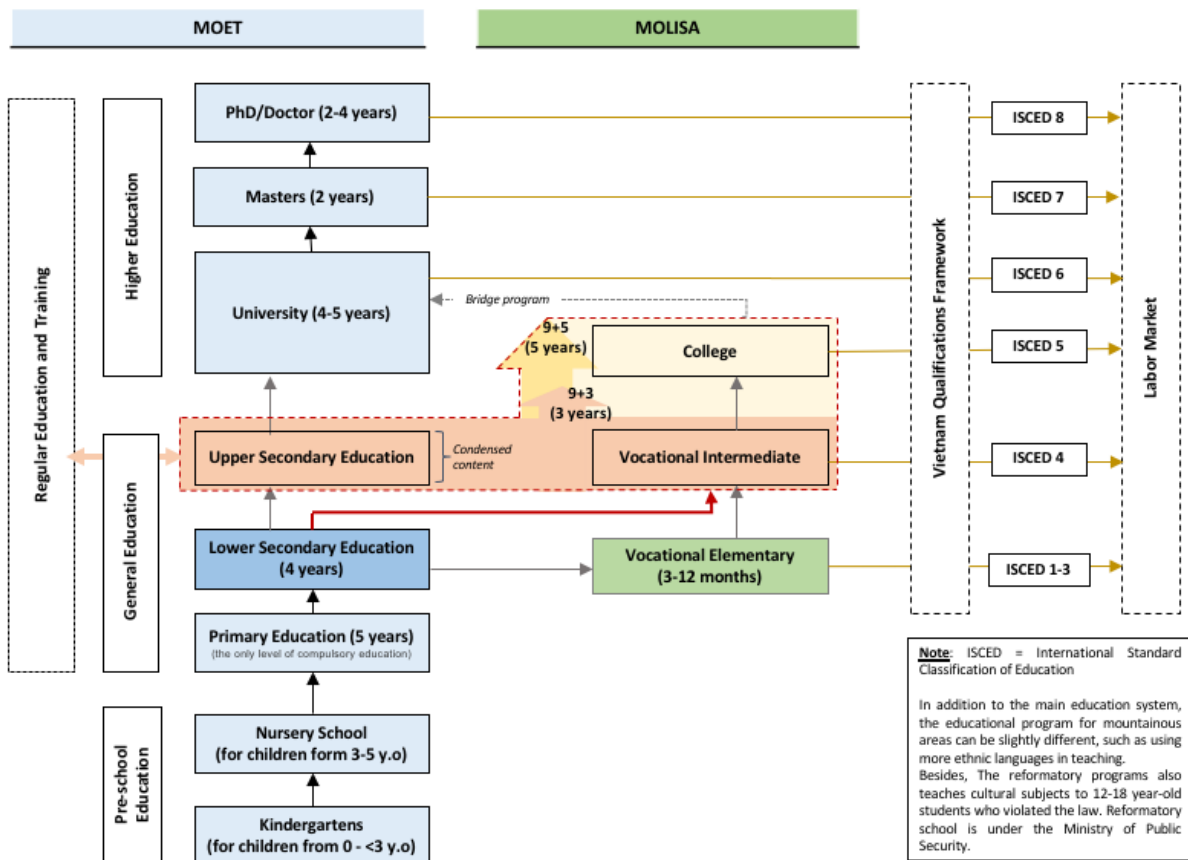
MOLISA has issued the Circular 27/2017/TT-BLĐTPXH on provision of bridge program integrating levels of vocational education, including the bridge program to connect elementary level and intermediate level, and to connect intermediate level and college level.

According to the Education Law 2019 (effective from July 1, 2020), the 9+ model can be understood that: students graduating from lower secondary school but not entering upper secondary school and transferring to formal vocational training at vocational colleges. Here, along with vocational training, students will learn general education course that are same as at the high school level.

The 9+ model was designed to provide an education option for post Lower Secondary Education students who cannot/ do not want to proceed to HE to follow a faster track of TVET program, in order to join technical and vocational work force. Students following 9+ will participate in two training programs at the same time: general education content (condensed content following regulations by MOET), and technical training course at intermediate and college level provided by the TVET institutions (under the management of MOLISA). MOET has issued an official letter that agree for TVETIs to organize the condensed general education content following related training regulations, however, as feedback by interview with TVETIs, this training content is mostly provided by a regular education center under the management of local Department of Education & Training – DOET.

The training options of the 9+ model include mainly the ‘9+3’ model and ‘9+5’ model, as below:

The 9+ model in the structure of education system in Vietnam



Source: Research team developed from related ministries' information

The table below explain the differences of the 9+ model options:

Model	Entry level	TVET Output level	Duration (year)	General education content
9+3 model	Lower secondary education	Intermediate vocational education	3	<ul style="list-style-type: none"> Equivalent to Upper secondary education (condensed content). After finishing 9+3, students will have certificate of completion.
9+5 model	Lower secondary education	College	5	<ul style="list-style-type: none"> Equivalent to Upper secondary education (condensed content) Need to have certificate of completion the condensed content of Upper secondary education for continuing college level program. Need to take examination for having upper secondary school qualification (degree) together with college degree
9+4 model ⁶⁹	Lower secondary education	College	4	<ul style="list-style-type: none"> Equivalent to Upper secondary education (condensed content) Need to have certificate of completion the condensed content of Upper secondary education for continuing college level program Don't need to take examination to get upper secondary school qualification.

In general, students of this 9+ model can reach ISCED-4 qualification after 3 years with intermediate vocational degree plus the additional certification for upper secondary education, from which they can enter the labor market or spend 2 more years on average to achieve the TVET college degree, equivalent to ISCED-5 qualification.

(e) The transition opportunities from TVET to HE as a part of life-long learning aspiration

One interconnection aspect between HE and TVET sector in the education system system is the open opportunity for college graduates to continue to higher education track by applying for a Bachelor degree course. However, despite the theoretical opportunity, the reality can be quite different. The formal track for TVET graduates to enter an HE program is through the standard admission procedure which requires

⁶⁹ In the sharing document of DVET for this report, there exist '9+4' model; however, by official documents there is only the official proposal from MOLISA for the bridge education to college level (which mean the 9+5 model), which having 9+3 level (bridge education to intermediate vocational education level) and 9+5 level (bridge education to college level). We may understand that 9+4 is a special case of 9+5 program, applying for students who don't have demand to get upper secondary education degree.

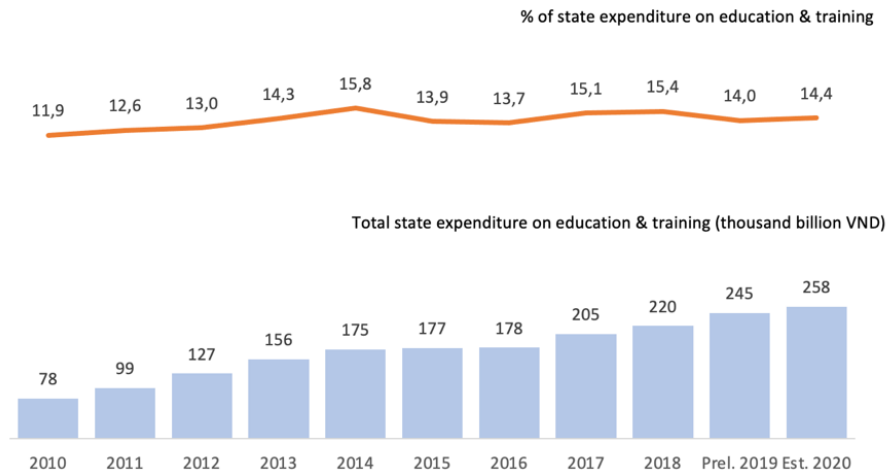
the completion of upper secondary education level with the certification of graduation from the national examination. This means that only those who graduate from 9+5 model would have opportunity to apply for HE level.

Besides, except for those cases where there is agreement between a university and a college for transitional programs (in which graduates from the partner college of a selected major with certain qualification can continue the relevant study program at the partner university), many universities are not confident with the quality of students from a college to offer a shorten transitional study track. In other words, there exists certain gap between the quality outcome of many TVET colleges and the requirement for the transition to an HE program at a university.

2.1.3 The state's investment in education and training

The Education Law 2019 stipulates that the budget for education and training should be at least 20% of the total state budget expenditure. The state expenditure on education and training has increased noticeably in terms of value over the past 10 years. The ratio to total state expenditure remained stable at around 14-15%.

Figure 32. Government expenditure on education & training in Vietnam (2010 - 2020)



Source: GSO, 2020

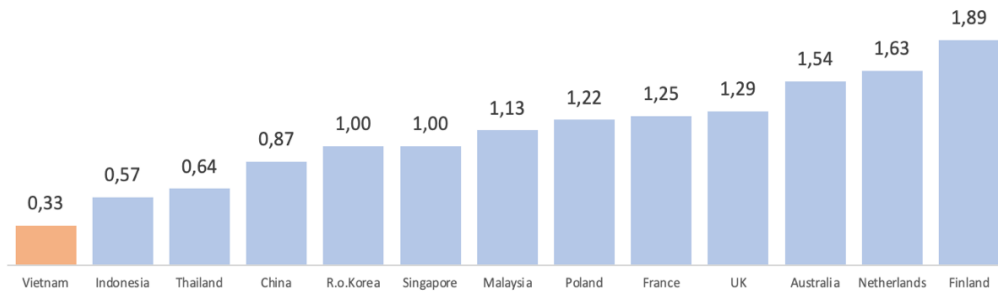
The allocation of the government budget for education and training must ensure proportions according to Resolution No. 29-NQ/TW issued on 4 November 2013 by the Central Committee of the 8th Term XI. Regarding state expenditures for HE and TVET, under the provisions of the Law on State Budget 2015, the state budget does not allocate HE and TVET expenditures separately, but general expenditures on education, training and vocational training. Therefore, the statistics of state budget expenditures for HE and TVET are determined only during the process of allocating and assigning the estimates within the Government system.

(a) Investment on higher education

The tertiary education sector⁷⁰, however, receives the lowest share of public funding allocation (as of 2016: 0.33% of GDP, 1.1% of total government spending and 6.1% of total government spending on education and training)⁷¹. This ratio of public spending on tertiary education to GDP is by far the lowest when benchmarking against peer and aspirational countries. Recurrent public funding resources are located to education institutions through block grants based on historical norms instead of consideration of real situation such as the actual number of students or any performance measure.

In Japan, public expenditure on educational institutions as a percentage of GDP on tertiary education is only 0.4% (2018). The share of private expenditure on tertiary education is high (as of 2018: 67.9%)⁷². The number of public universities is around 160 (22%) while that of private ones around 620. In Vietnam, the large number of public universities (84%) seems to be heavy burden on the state budget. That is also the motivation for enhance university autonomy among public institutions to improve the quality of education and effectiveness of the system.

Figure 33. Government expenditure on tertiary education, as % of GDP (2016)



Source: World Bank, 2020

Especially, the state expenditure for HE sector is relatively lower, compared with other countries. Historically, the Government focused on investment for general education more than higher education⁷³.

Figure 34. Public expenditure on HE sector

	2004	2011	2015
% of public expenditure on HE/ Gross Domestic Product	0.33	0.24	0.24
% of public expenditure on HE/ Total Government Expenditure	1.16	0.83	0.80
% of public expenditure on HE/ Total Government Expenditure on Education	6.80	4.76	4.41

Source: World Bank, 2020

70 Tertiary education is defined as from ISCED5 to above level

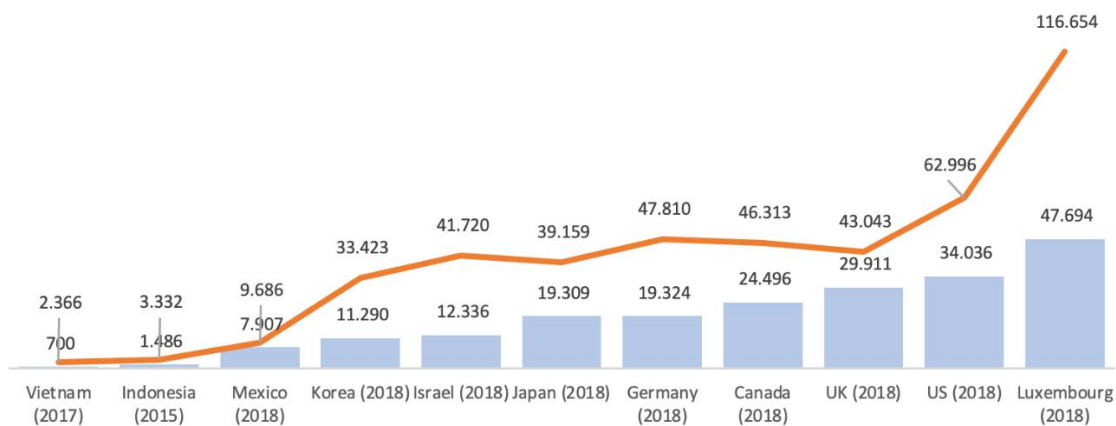
71 World Bank – Improving the Performance of Higher Education in Vietnam: Strategic Priorities and Policy Options (2020)

72 OECD: <https://gpseducation.oecd.org/CountryProfile?primaryCountry=JPN&treshold=10&topic=EO>

73 World Bank – Improving the Performance of Higher Education in Vietnam: Strategic Priorities and Policy Options (020)

Spending per student in tertiary education in Vietnam is much lower compared to that of other countries. The state budget investment per student is also low, while public universities account for 84% of total enrollment⁷⁴. The average ratio of GDP per capita to tertiary education spending per student in most developed countries is 2.0 while that of Vietnam is 3.4. This reflects the low cost for higher education in Vietnam, yet also the under-invested situation of the HE in the country. On a different note, the ongoing transformation towards automation of public universities in Vietnam has to some extent resulted in a significant shift of cost of HE onto students, which may lead to the decrease in new enrollments and potential threat of misuse of university revenues for private purposes⁷⁵. Besides, many universities are probably unable to generate sufficient tuition resources through marketable disciplines.

Figure 35. Spending per student and GDP per capital (USD)



Note: Government expenditure per student is the average general government expenditure (current, capital, and transfers) per student in the given level of education, expressed as a percentage of GDP per capita. Most spending in education is devoted to salaries for teachers and other staff as well as other core services (school buildings, teaching materials, books and administration). At the tertiary level, however, other services, particularly research and development activities (R&D), also constitute a large slice of expenditure and ancillary services⁷⁶.

Source: OECD, World Bank

(b) State investment on TVET

The state budget has also been considered as the main and most important financial source for TVET sector. According to the statistics on the budget and treasury management information systems, the total estimated recurrent budget expenditure for TVET recorded on the system in 2019 was more than 21,342 billion VND, of which, from central budget was 5,146.7 billion VND, from local budgets was 16,195.3 billion

74 National Council for Education and Human Resources Development

<http://hoidongquocgiagiaoduc.moet.gov.vn/tintuc/Pages/default.aspx?ItemID=5622>

75 Võ and Laking (2019), An institutional study of autonomisation of public universities in Vietnam

76 Organisation for Economic Co-operation and Development (OECD): https://www.oecd-ilibrary.org/docserver/eag_highlights-2012-16-en.pdf?expires=1635195665&id=id&accname=guest&checksum=1373DB18BC405D21DF969DA54B965740

VND. The estimate entered and approved on the system for budget in 2020 as of March 31, 2020 was 17,708.8 billion VND (from central budget: 4,430.7 billion VND, from local budgets: more than 13,278 billion VND).

The state budget allocation for TVET is currently used for three categories: recurrent expenditures, basic construction expenditures and target programs. Among target programs, for the period of 2016-2020, there were two remarkable National Target Programs approved by the Prime Minister, namely, the National Target Program for New Rural Development and the National Target Program for Vocational Education and Training.

First, the National Target Program for New Rural was approved in Decision 1600/QĐ-TTg⁷⁷, of which “improvement of the quality of vocational training for rural workers” was the most notable project. The second National Target Program – the National Target Program for Vocational Education and Training was approved in Decision 899/QĐ-TTg⁷⁸ including three projects, among which is project “Reform and improvement of VET quality”. Most of state funding for VET projects under National Target Program was used for project “Reform and improvement of VET quality”, accounting for 64% and increasing over 2 times from 2016 to 2018.

Figure 36. State budget for VET projects under National Target Programs (Unit: VND billion)



Source: Vietnam VET Report 2018, National Institute for VET

Regarding expenditure structure, the budget has prioritized allocating funds for vocational education and training in remote, isolated, disadvantaged areas, border and island areas and ethnic minority areas. According to Decision No. 46/2016/QĐ-TTg on promulgating norms for the allocation of recurrent expenditure estimates of the State budget in 2017, the allocation norm of training and vocational training expenditures was adjusted to increase by an average of 1.76 times depending on the region compared to Decision No. 59/2010/QĐ-TTg; the norm of allocation of expenditures on training and vocational training according to population criteria for mountainous areas - ethnic minorities in the delta and deep-lying areas is 1.56 times higher than in urban areas; for highland - islands, 2.22 times higher than that of urban areas.

77 Decision No. 1600/QĐ-TTg, issued by the Prime Minister, issued on 16th August 2016

78 Decision No. 899/QĐ-TTg, issued by the Prime Minister, issued on 20th June 2017

In addition to the state budget, in fact, there are many sources of investment funding for TVET such as funding from tuition fees, from enterprises, and ODA. However, investment funds from the state budget still account for 60%. Besides the achieved results, the allocation of state budget expenditures for TVET in recent years has also encountered difficulties and limitations such as: The proportion of state budget expenditures on TVET tends to decrease gradually, causing difficulties in investment in facilities and equipment for improving the quality of teaching and learning of vocational schools. Along with that, the mobilization and allocation of funds by ministries, provincial departments for vocational training development is still low, not meeting practical requirements.

2.2 Higher education (HE) system: status, challenges and development direction

2.2.1 The network of higher education institutions (HEIs)

As of September 2021, there are 278 Universities and Institutes and 24 Pedagogical College under the supervision of MOET and public institutions outnumber private ones. In term of region, the northern and the southern areas gather most of HEIs in Vietnam. While, the northern area locates a large number of public one, the southern have a bigger proportion of private HEIs.

Figure 37. Number of public and private HEIs by region

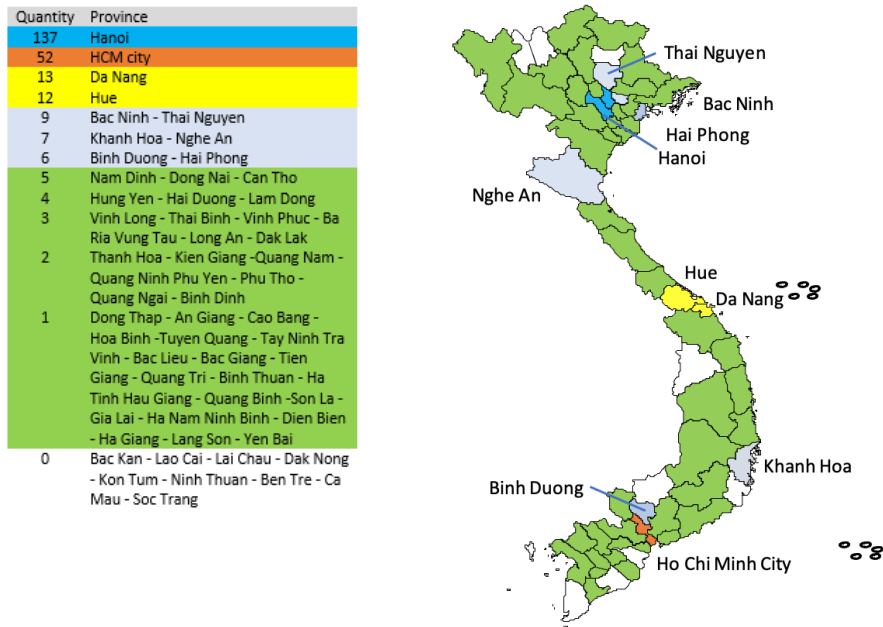
Classification	Number of HEIs	North	Central	South
Number of HEIs	278	142	49	87
Public HEIs	211	116	38	57
Private HEIs	67	26	11	30

Source: Research team consolidate from MOET data

Most universities are still concentrated in Hanoi (137 HEIs) and Ho Chi Minh City (52 HEIs) – the two political and economic centers of Vietnam. The number of HEIs in Hanoi accounts for almost half of total number of HEIs in Vietnam. Cities and provinces with relatively specific geographic location and economic sector focus like Da Nang (13 HEIs), Hue (12 HEIs), Bac Ninh (9 HEIs), Thai Nguyen (9 HEIs) also have more HEIs compared to the rest of the country.

This statistic reflects the imbalance of HEI distribution by geographic regions, in which there is more opportunity of HE accessibility in big cities. Additionally, the private sector of HE is more active in two biggest cities of Hanoi and HCMC (29 private HEIs out of total 67 HEIs nationwide)

Figure 38. Mapping of universities & colleges across Vietnam (as of September 2021)



Source: Research team’s synthesis from MOET data⁷⁹

By governing agency, out of 278 HEIs, there are only 119 institutions are directly under the direct management of MOET, other HEIs belong to the administration of other governing agencies including line ministries, local governments or foreign organizations.

Governing agency	Number of HEIs
MOET	119
Ministry of Defence	22
The Government	17
Ministry of Culture, Sports and Tourism	13
Ministry of Health	11
Ministry of Industry & Trade	9
Ministry of Public Security	8
Ministry of Finance	4
Ministry of Transport	4
Ministry of Agriculture and Rural Development	4
Ministry of Agriculture and Rural Development	4
Ministry of Construction	4
Other Ministries, Institutes, Associations	54
Foreign Organizations	5

79 MOET - <https://moet.gov.vn/giaoducquocdan/giao-duc-dai-hoc/Pages/tin-tuc.aspx?ItemID=7503>

In general, these HEIs would follow the guideline and supervision of MOET for education related activities while financial and general management will involve the direct management of respective management organizations that the HEI is under. This is one of the reasons why there is a large difference in recurrent expenditures from the state budget per student⁸⁰. It may be necessary to reform the method of allocating state budget for higher education, according to new spending methods such as ordering and bidding associated with output results, gradually reducing allocation by tasks.

Additionally, several research institutes are operating independently from the universities, following the East-European model of separation between teaching and research activities. This separation can result in the ineffectiveness of both teaching and research outcomes as well as the inefficiency in the use of human and financial resources.

2.2.2 The HE reform agenda, overview and current progress

(a) Overview of higher education reforms over the period of 2011 – 2020

The revised Law on Higher Education (2018) (Law on Amendments to the Law on Higher Education in 2012) has created an important legal basis; promoted university autonomy, effective use of resources, improvement in sector management; and innovated the governance of higher education institutions.

There are nine key policies for HE development:

- (1) The development of HE sector shall focus on providing a high-skilled workforce for socio-economic development.
- (2) Funds and resources shall be given to development of higher education on principles of competitiveness, equality and efficiency through investment in research and development (R&D) investment, signing research and training contracts, offering scholarships, student credit and other forms. Higher education development will be given certain privileges and incentives in terms of land, tax, credit and other policies.
- (3) Support the development of HEIs with regional and international standards; HEIs that commit to develop a high-skilled teaching workforce; HEIs that develop specialized programs and contribute to the achievement of national/ regional development goals.
- (4) Encourage the development of private HEIs and promote the socialization of education with the participation of different sectors and stakeholders in the development of HE sector including education, research and technology transfer activities.
- (5) Foster the autonomation together with the accountability in management of HEIs.
- (6) Emphasize the link between education and labor market demand, research and implementation of technology innovation; strengthen the partnership between HEIs and enterprises and science and technology organizations; foster the participation of enterprise sector in HE activities.

80 Online newspaper of Vietnam State audit: <http://baokiemtoannhanuoc.vn/giao-duc/ngan-sach-cho-giao-duc-dai-hoc-can-duoc-phan-bo-theo-don-dat-hang-cua-nha-nuoc-140037>

- (7) Improve the policy to appeal and retain high-skilled teaching workforce, especially those with PhD qualification and leading professors in the respective field.
- (8) Improve the inclusivity and equal accessibility for HE.
- (9) Promote international collaboration and integration in HE sector.

Key changes in HE sector reflected in the new Law on Higher Education include:

- Promote the diversity of education forms and models, which consequently offers learners with more choices to acquire HE opportunities based on personal preferences and condition as well as foster life-long learning:
 - Clearer definition of different forms of HE including formal education, distance education, part-time learning and continuing education
 - Introduce the notion of research universities and applied science universities
- Encourage the transformation of public HEIs towards autonomy and the development of private sector
 - HEIs can make their own decisions and take responsibility for their professional, academic, organizational, personnel, financial, property and other activities on the basis of the provisions of law and the capacity of the HE institution.
 - The school council has real power to decide development strategies; issue internal rules and regulations including financial regulations; decide plans for enrollment, establishing new programs, partnership and cooperation, training, education and research activities, quality assurance; determine the organizational and personnel structure; decide investment guidelines and the use of institutional assets; decide policies for attracting investments, tuition fees and assistance for students. Noticeably, this direction, which states that representative from the governing agency is one member of the school council, is considered a solution to reduce the overlapping of different layers of management on HEIs and to give public HEIs more room for autonomation.
 - The development of HEI network has emphasized the efficiency of resources, the balance between public and private sector, fostered the development of not-for-profit private universities and the establishment of strategic HE clusters.
 - Clarify more details on the source of revenue of HEIs: Tuition fees and revenues from training, science and technology activities and other ancillary training services; Payment from the State, other organizations and individuals for performance of training and research contracts; completion of tasks given by the State; Revenues from investment of domestic and foreign entities; annual additional revenue from operation of the institution; Revenue from business operation, social activities, financial investment (if any) and other lawful sources of income; Loans; Sponsorships, donations, gifts from former students, domestic and foreign entities; State funding (if any)
- More flexible policy on evaluating and ranking of HEIs, which allows more participation of the private sector and integration with regional and international standards

- HEIs can choose and participate in different national or international ranking system.
 - Vietnamese non-commercial legal entities may rank higher education institutions and have the responsibility to ensure truthfulness, objectivity and transparency; publish and explain their ranking method, criteria and results.
- Encourage research and technology transfer through research activities at HEIs, participation of enterprise sector in HE development and international collaboration
- Provide support through financial funds and incentives for research and development activities at HEIs
 - Encourage enterprises participating in research and technology transfer activities with HEIs
 - Encourage HEIs participating in international collaboration

(b) Agenda and achievement of higher education reforms over the period of 2011 – 2020

The reform agenda of HE sector in Vietnam over the period of 2011 – 2020 possessed noticeable resolutions:

- Changes in university enrollment method towards diversifying assessment methods and more efficiency of resource usage: (1) the national examination for upper secondary education level was combined with the university entrance examination, which reduced the resource usage for organizing two separate examination for evaluation and the stress for students; (2) besides using the result of the fore-mentioned examination, there are various ways for assessment: base on the results of upper secondary education or base on the achievement of students from national and international gifted student awards
- Setting learners at the center of education: encourage the implementation of credit-based education system through which learners can actively plan their study. This, as a result, fosters the creativity, proactivity and accountability of learners and respects the personal preferences and capacity of each learner on their path to achieve education.
- Transformation in quality assurance from which HEIs shall conduct internal quality assurance based on the guidelines provided by MOET and acquire external quality assurance through qualified agencies. The standards for HEIs as regulated by MOET have close synergy with regional standards of Asian University Network Quality Assurance (AUN-QA).
- Strengthening the socialization of education, encouraging the investment from different organizations and individuals. This is believed to create more opportunities for prospective learners to access HE and to improve the quality of education through fair competition among HEIs.
- Continue the transformation of public HEIs towards autonomation. This reform has enabled public HEIs to have more power in determining their development strategies, thus improved the management capacity of public HEIs, the operational efficiency and the speed of response and adaptability to changes and new trends of the market and the socio-economic development.

Achievements of HE reform over the period of 2011 – 2020 basically witnessed positive results which reflected the set targets of the period of developing the HE sector towards improvement of education quality, institutional management capacity, and international integration.

The network of HEIs has expanded and strongly contributed to the supply of high-skilled workforce

- Between 2011 – 2019, the number of HEIs increased 1.6 times. In the same period, the number of faculty members increased 1.6 times. Particularly, the number of faculty members with PhD qualification increased 3.3 times⁸¹.
- Over the period of 2015-2020, on average, the HE sector provides 470,000 Bachelor Degree graduates for the HR market in Vietnam annually (MOET) with increasing choices of education majors. Post-graduate education was also expanded with more partnership programs with foreign HEIs.

There is noteworthy improvement in education quality of HEIs

- By end of 2020, there were 404 HE programs which were assessed and accredited, of which 192 programs from 48 HEIs were recognized based on domestic standards, and 212 programs from 36 HEIs were accredited based on foreign standards (MOET)
- Clearer guidelines from MOET regarding setting the program learning outcomes and designing new programs with requirement to involve the participation of enterprise sector to reflect the trends and demand of labor market. Existing programs are required to be reviewed at least every 2 years to be updated with new knowledge and technology.
- Research and technology transfer activities have achieved positive results: Between 2009 – 2018, the number of international publications by HEIs on Scopus increased 4.7 times from 1,764 articles to 8,234 articles⁸². Some HEIs offer a funding amount of 5,500 to 8,800 USD for research team with publication on Scopus. 19/23 HEIs in the pilot phase of automation have achieved remarkable results in international publications (the number of research articles published in international research journals doubled between 2014 – 2016, from 848 to 1,651 articles) and technology transfer (the number of technology transfer contracts tripled between 2013 – 2015).
- According to the rankings published by the QS⁸³ World University Rankings (QS) of the British educational organization Quacquarelli Symonds in 2018, for the first time, Vietnam has 02 representatives in the top 1,000 best universities in the world, VNU-HCMC and VNU-Hanoi. As of 27/11/2019, Vietnam has 8 institutions⁸⁴ ranked in the list of top 500 universities in Asia (out of 13,578 HE institutions).

(c) The draft of HE Development Strategy 2021 – 2030 with vision to 2045

The draft of “*HE Development Strategy 2021 – 2030 with vision to 2045*”⁸⁵ sets focus on improvement of sector’s quality and efficiency, enhancing investment and adaptability on global development trends.

81 Tap chi lich su dang (Journal of Party History) – August 2021, “Higher Education (2011 – 2020) – Results and Lessons Learnt”, Pg. 73-80

82 <https://dantri.com.vn/giao-duc-huong-nghiep/10-nam-so-luong-cong-bo-quoc-te-cua-viet-nam-tang-gan-5-lan-20190115081238291.htm>

83 The 11 indicators used to compile the QS Asia University Rankings include: (1) Academic reputation (30%), (2) Employer reputation (20%), (3) Faculty/student ratio (10%), (4) International research network (10%), (5) Citations per paper (10%), (6) Papers per faculty (5%), (7) Staff with a PhD (5%), (8) Proportion of international faculty (2.5%), (9) Proportion of international students (2.5%), (10) Proportion of inbound exchange students (2.5%), and (11) Proportion of outbound exchange students (2.5%)

84 MOET website

85 According to the recent announcement of MOET on 31st Dec, 2021, the draft of “*HE Development Strategy 2021 – 2030 with vision to 2045*” is still in the process of completing and editing in the alignment with Government’s targets and experts’ opinions

The MOET determines the requirements for the formulation of the HE Overall Development Strategy over the period of 2021-2030 with vision towards 2050, as the basis for innovation, comprehensive and sustainable development in the long-term of Vietnam's higher education system. The reform agenda has a strong focus on developing an HE ecosystem that is favorable to the emergence of the University of the Future. It is considered as “a dynamic institution that is inclusive, operates in a flexible manner, is academically, organizationally and financially autonomous and accountable, and achieves outstanding results in terms of training highly-qualified graduates and producing leading-edge research that can positively impact the national and regional economy”⁸⁶

➤ Three pillars of the development strategies for HE sector in 2021 – 2030 include:

System optimization	<p><i>Develop the master plan on the network of higher education and pedagogical institutions for the period of 2021 - 2030</i>⁸⁷</p> <ul style="list-style-type: none"> • The planning of the network of HEIs is to restructure the university network to ensure a reasonable size and structure of training professions, to meet the needs of human resources for socio-economic development of the country; at the same time ensure investment efficiency, limit waste; education quality; liberalization, innovation, association with businesses • Forming a number of prestigious universities and universities in the region and the world • Merging of small-scale, inefficient universities and planned in an open direction, developing universities and universities with good quality assurance conditions. <ul style="list-style-type: none"> ✓ Enhancing the institutional autonomy of HEIs ✓ Improving the capacity and operational efficiency at institutional and sectorial level
Implementation of financial leverage strategy	<ul style="list-style-type: none"> • Reformation of financial policy to improve the effectiveness of public investment on HE sector • Develop policy to encourage investment from other sectors for HE
Digitalization of HE sector	<p>Enhancing the digitalization in HE sector at all levels from governmental management, between HEIs, and within each HEI towards a more transparent, dynamic, effective, efficient HE system and to create more opportunities for high-quality HE</p>

➤ The expected outcomes of the next decade strategy were first envisioned through the set of objectives for the first 5-year of the plan

As stated in the Decision 69/QĐ-TTg issued by the Prime Minister on January 15, 2019 regarding the approval of the Plan for HE Quality Development 2019 – 2025, the general objective is to enhance the quality of education, research and technology transfer to meet the demand for high-skill workforce, foster

86 World Bank – Improving the Performance of Higher Education in Vietnam: Strategic Priorities and Policy Options (2020)

87 Decision 209 QĐ-TTg issued on February 17, 2021

innovation and entrepreneurship, improve the competitiveness of Vietnam at regional and international level. The aforementioned objective is quantified in following key performing indicators.

Figure 39. Performance Indicators for HE Quality Development in 2019 - 2025

Key development indicators	Till 2025
Regarding the quality of HE graduates	
Percentage of HE graduates meet the program learning outcomes and ready to participate in labor market	100%
Regarding quality assurance	
Percentage of faculty members with master qualification	100%
Percentage of faculty members with PhD qualification	At least 35%
Percentage of HEIs qualified for domestic quality assurance	100%
Percentage of HEIs qualified for reputable international quality assurance	At least 10%
Percentage of HE programs qualified for domestic or international quality assurance	Above 35%
Regarding institutional autonomy	
Percentage of HEIs achieving institutional autonomy and accountability	100%
Regarding international integration	
Percentage of HEIs utilizing open source of reference and curriculum shared by internationally reputable HEIs	100%
Percentage of HEIs having student/ teacher exchange programs with other regional and international HEIs	Above 70%
Percentage of HEIs which offers programs among the 8 majors that are mutually recognized among ASEAN members completing the procedure for credit transferring with other HEIs in the region, including Architecture, Technical Consulting, Nursing, Medical Practice, Dentist, Tourism, Auditing, and Surveying	Above 70%
Number of HEIs in the Asia top 100 best HEIs by reputable ranking system	At least 2
Number of HEIs in the Asia top 400 best HEIs by reputable ranking system	At least 10
Number of HEIs in the world top 1000 best HEIs by reputable ranking system	At least 4
Regarding scientific research, technology transfer and community service activities	
Percentage of HEIs having at least 3 annual research projects with international partner(s)	Above 30%
Percentage of HEIs having at least 2 annual research or technology transfer projects with domestic or international partner(s)	Above 50%
Number of scientific journals by domestic HEIs meeting the regional and international standards of ASEAN and the world	At least 10
Regarding curriculums	
Percentage of domestic HEIs applying foreign curriculum and reference materials	Above 50%
Percentage of curriculum designed to meet the demand of labor market and socio-economic development	100%

Source: Decision 69/QĐ-TTg issued by the Prime Minister on January 15, 2019 regarding the approval of the Plan for HE Quality Development 2019 – 2025

(d) The HE development strategic solutions in the period of 2019 – 2025

The HE development strategic solutions in the period of 2019 – 2025 show breakthrough approaches in various aspects

- More assertive actions towards institutional autonomy and sector management
 - ✓ Select, develop and implement effective HEI management models
 - ✓ Reduce the participation and intervention of governmental organizations
 - ✓ Empower HEIs to actively develop strategies
 - ✓ Disintegrate or merge inefficient HEIs
 - ✓ Stop programs which are out of date or do not meet market demand
- More beneficial policy for teaching and management workforce
 - ✓ Improve the training activities for faculty staff
 - ✓ Increase the investment on teaching and management workforce through performance-based remuneration package and support in capacity building activities and international exchange programs
 - ✓ Establish talent acquisition strategy to invite more highly reputable lecturers from abroad to join the teaching workforce in Vietnam
- Innovative solutions to improve teaching facility
 - ✓ Encourage the implementation of technology innovation
 - ✓ Foster the establishment of modern research and development facility to be shared among HEIs and the formation of “university village” to be the base for international collaboration in research and teaching activities
 - ✓ Encourage resource sharing and research collaboration among HEIs
- Diversify training programs for HE graduates to offer more opportunities for continuing education and re-training based on labor market demand; develop different teaching models including online and distance learning; encourage the establishment of training centers at enterprises;
- Develop the system to collect and process data for high-skill human resource demand forecast;
- Continue fostering research and technology transfer activities, international integration

2.2.3 Existing system challenges & perspective of stakeholders

Despite much emphasis from various HE reform agenda on developing a HE system that would meet international standards and be highly competitive, the sector has not yet been able to claim such status by 2020 though significant progress in improving quality and effectiveness over the past 10 years is undeniable. One of the major reasons for the slow and sporadic pace of reformation is due to the fact that “the sector’s need to rely upon leadership from a slow-moving State bureaucracy” and “existing need for better sector-wide coordination, for more global integration, and for public universities to be given

appropriate forms of institutional autonomy”⁸⁸. The HE reform journey in the past years can be seen as “messy, chaotic, spontaneous, patchy, inconsistent, and incoherent, yet refreshing, evolving, innovative, and aspirational at the same time”⁸⁹. However, the transformation can at the same time bring opportunities for Vietnam HE to reposition itself as a note-worthy new player in the global HE landscape.

This part would be summarized and divided into 9 items: (a) *Governance & State management of HE*, (b) *Institutional Autonomy and Accountability*, (c) *Quality Assurance*, (d) *Teaching workforce*, (e) *Teaching infrastructure with focus on digitalization of HEIs*, (f) *Academic Research and Technology Transfer*, (g) *International collaboration in HE sector*, (h) *Students’ Enrollment* and (i) *Emerging new university models*

(a) Governance & State management of HE

Existing multiple streams of state management on public HEIs

From the perspective of regulation framework, despite recent positive transformation from the amendment of Law on Higher Education in 2018, fragmentation and inconsistency still exist with the fact that higher education is overseen not only by MOET but also by a number of other governing agencies including line ministries and local governments through their Peoples’ Committee. There remains confliction between different regulations regarding the management of public HEIs. As regulated in the 2018 amended Law on Higher Education, the School Council would have more authority and decision-making power in managing the institution. However, as a public organization under the administration of a state governing agency, a public HEI would also be required to follow other regulations regarding matters like state budget allocation, usage of public assets, or the human resource organizations for public organizations. The inconsistency of these multiple bylaws caused more complexity and fragmentation in the legal framework on management of public HEIs and confusion for the institutional autonomy process.

Ineffectiveness in state budget allocation for public HEIs

Public HEIs receive state recurrent funding through their respective governing agencies in the form of block grants. The volume of funding is associated with maximum number of student enrollment quota instead of actual number or performance measures⁹⁰. The amount of expenditure per student can also vary depending on the respective governing agency (e.g.: average per student public funding for universities under MOET is under VND 9 million per year while that for VNU-Hanoi received from MOF is around VND 30 million per year). On the other hand, even though the ongoing path of institutional autonomy transformation is expected to reduce certain burden on the state budget, there might be other demand for state funding on the overall development of the HE sector to achieve ambitious objectives in the next decade.

88 Hayden M., Le-Nguyen D.C. (2020) A Review of the Reform Agenda for Higher Education in Vietnam. In: Le Ha P., Ba Ngoc D. (eds) Higher Education in Market-Oriented Socialist Vietnam

89 Phan L.H., Doan B.N. (2020) Introduction and Foregrounding the Work: ‘New’ Players, ‘New’ Discourses, ‘New’ Practices, and “New Flavours”. In: Le Ha P., Ba Ngoc D. (eds) Higher Education in Market-Oriented Socialist Vietnam

90 World Bank – Improving the Performance of Higher Education in Vietnam: Strategic Priorities and Policy Options (2020)

Lack of unified database system

Regarding the management of HE sector database, there is no unified higher education management information system (HEMIS), which reflects the fragmentation of decision-making role from all related stakeholders. The current HE data are collected and managed by many organizations including MOET, GSO, and other ministries' departments⁹¹.

(b) Institutional Autonomy and Accountability

As of 2020, 23 public universities in Vietnam are allowed to transfer to the autonomy scheme under the Resolution 77/2014/NQ-CP (issued in 2014) on autonomy transformation of HEIs. These universities can determine their own tuition fee rate, which became averagely US\$800 – 2,000 per year, 2 – 3.5 times higher than the normal old tuition fee of public universities that are not autonomous⁹². Related to this, there is the Decree 81/2021/ND-CP on tuition fees of education institutions affiliated to national education program and collection, management thereof; policies on tuition fee exemption, reduction, and financing for learning fees; service fees in education and training sectors. In this document, there are regulations on tuition limits for higher education in public HEIs that have not guaranteed recurrent expenditure and investment expenditure entirely, and those that have guaranteed recurrent expenditure and investment expenditure entirely (almost financial autonomous).

Figure 40. List of autonomous public universities in Vietnam (2020)

No.	University	Location	No.	University	Location
1	Hanoi University	Hanoi	13	University of Economics HCMC	HCMC
2	Foreign Trade University	Hanoi, HCMC	14	HCMC University of Law	HCMC
3	National Economics University	Hanoi	15	Ton Duc Thang University	HCMC
4	Thuong Mai University	Hanoi	16	HCMC Open University	HCMC
5	Hanoi University of Science and Technology	Hanoi	17	University of Finance & Marketing	HCMC
6	Vietnam National University of Agriculture	Hanoi	18	HCMC University of Technology and Education	HCMC
7	Posts & Telecommunications Institute of Technology	Hanoi	19	Industrial University of HCMC	HCMC
8	Electric Power University	Hanoi	20	HCMC University of Food Industry	HCMC
9	University of Hanoi Industrial Textile	Hanoi	21	Da Nang University of Economics	Da Nang
10	Hanoi University of Industry	Hanoi	22	Tra Vinh University	Tra Vinh
11	Hanoi Open University	Hanoi	23	Can Tho University of Medicine and Pharmacy	Can Tho
12	University of Economics-Technology for Industries	Hanoi & Nam Dinh			

Source: *tuyensinhso.vn* (HE enrollment portal)⁹³

91 World Bank – Improving the Performance of Higher Education in Vietnam: Strategic Priorities and Policy Options (2020)

92 For example, according to Decree 81/2021/ND-CP, the tuition limit of school year 2021 – 2022 in HE level in public HEIs that have not guaranteed recurrent expenditure and investment expenditure entirely ranges from 980 – 1,430 VND thousand/student/month while that of the public HEIs that have guaranteed recurrent expenditure and investment expenditure entirely is 2,020 – 5,050 VND thousand/student/month.

93 HE enrollment portal - <https://tuyensinhso.vn/ban-tin-cho-diem/danh-sach-23-truong-dh-cong-lap-thu-hoc-phi-cao-hon-2-35-lan-cac-truong-cong-lap-khac-c28962.html>

The notion of promoting institutional autonomy and accountability has been one key theme in the HE reform agenda of Vietnam more than a decade, aiming to increase the effectiveness of the system. By moving away from the traditional centralization in decision-making, this transformation surely possesses potential for more innovative development in HE sector and follow the mainstream global trend of HE governance and management. All interviewed HEIs for this report agreed that autonomy transformation create positive changes and opportunities for them towards a more efficient management:

- Faster decision-making process for many important managerial issues such as organizational structure, study program, partnership, etc.
- Improve productivity and efficiency
- More proactive actions for collaborations and initiatives

However, certain limitation exists in (i) schools' understanding and experience in leading the change, (ii) unclear strategy for implementation, (iii) overlapping functions among different related authorities, and (iv) lacking sufficient financial support for the change process. These factors have created obstacles for the decentralization process, especially when many newly empowered stakeholders are not ready to take the lead upon the loosen of control from the central ministries⁹⁴.

Particularly, "the so-called financial autonomy in many public HEIs is largely associated with financial self-reliance in terms of mobilization of non-public resources"⁹⁵. Among interviewed HEIs, 100% of interviewed public HEIs which are now on the path of institutional autonomy admitted that financial autonomy was the most challenging issue of the transition. The main source of income for most HEIs is from tuition fee. With financial aid from the governing agency, the tuition fee of public HEIs is considerably affordable compared to the normal range from private HEIs. However, the timeline for removal of state funding support often comes before the increase adjustment in tuition fee. This often results in the imbalance of income and expenditure for the newly autonomous institutions, especially in the case of those which are still passive in finding solutions for diversifying sources of income.

However, there are some noteworthy models for HEIs for more effective financial autonomation. These approaches have been applied in some universities and have shown positive results. It also reflects one of the expected outcomes from institutional autonomy: enhancing the capacity, creativity and proactiveness of education institutions towards organizational management and development. There are two main approaches for revenue generation apart from tuition fee:

- From research and technology transfer and consulting services
- Through financial aids and sponsorship

All HEIs have different opportunities for additional revenue depending on the advantage of each. For HEIs with strengths in the fields of mechanical engineering, agriculture, and technology, they can cooperate with factories, production enterprises, and groups of people directly engaged in production. HEIs with

94 Thi Tuyet Tran (2014) Governance in higher education in Vietnam – A move towards decentralization and its practical problems, *Journal of Asian Public Policy*, 7:1, 71-82

95 World Bank – Improving the Performance of Higher Education in Vietnam: Strategic Priorities and Policy Options (2020)

strengths in the social sciences, economics and business are suitable to strategic consulting. For revenue from Financial Aids and Sponsorship, HEIs need to generate matching benefits with partners.

Regarding institutional accountability, HEIs are requested to: (i) ensure education quality and academic integrity in accordance to regulated quality assurance framework; (ii) publish information on curriculums, enrollment, performance, minutes of school council meetings to the public; (iii) other requirement to provide information for learners, the public, competent authorities, the owner and relevant parties about their conformity with law and their rules and commitment. However, according to World Bank, “Vietnamese HEIs do not have clear and reliable accountability mechanism in place”.

Revenue generation from research and technology transfer and consulting services

Case of Can Tho University and Foreign Trade University

With the advantages from (i) professional academic lecturers with expertise and experience as well as research skills; (ii) research facilities and technology, many HEIs can actually actively provide services for the government and enterprise sector in the form of: Research and consulting projects; and Innovation and technology transfer activities.

Besides providing opportunities for faculty members and students to enhance research and innovation capability, this approach is an effective solution for revenue generation, especially at high-ranking researched and applied science HEIs. At Can Tho University, various consultancy projects have been done to support foreign investors to evaluate the Mekong Delta region and make strategic decision the penetrate this market. Besides, the universities’ technical and technological teams have also successfully conduct many technology transfer projects for local enterprises. One of those many successful stories is the cooperation with Yanmar – the Japanese market leader in agricultural machinery to develop modification for its agriculture machines to better adapt the Vietnam land condition and local farmers’ practices. This form of cooperation can be seen in many HEIs with the strength in engineering or agriculture field, where practical innovation and technology transfer outputs can support partnering enterprises to improve productivity or marketability of their products or services.

For the case of HEIs with the strength in social science, economics and business field, research and consultancy projects for government and enterprises is popular and effective. Foreign Trade University, one of the leading universities in Vietnam in this field, has established the Institute of Economics and International Trade since 2011. The Institute is the focal point for the universities research, bidding and implementing of local and international projects, as well as providing training courses for enterprises, students and community. This model has also become popular in many applied science oriented private universities.

Even though above-mentioned activities do not contribute to the major part of revenue for many public and private HEIs where tuition fee still accounts for the main revenue source, it can be considered as a starting point to become more financial independent. On the other hand, it is also considered an effective approach to enhance knowledge and hand-on experience for faculty staff and students, which in result would improve the overall performance of the university.

Revenue generation through financial aids and sponsorship

Case of Fulbright University

Following the American liberal arts education model and as an independent and non-profit university, Fulbright University commits to provide “full academic freedom scholarship for those in need” (as stated on the university website). To keep this goal, the university aspires to promote various campaign and forms for financial contribution, called “gift”, from prospective donors and supporters:

- Financial aids
- Supporting construction of campus
- Outfitting classrooms with technologies
- Bringing international scholars to school campus

By doing so, Fulbright can assist two third of its students with need-based financial aids assistance in the form of scholarship and grants. Parts of the “gifts” are also gone into funding the building of modern campus as well as to attract and retain qualified faculty members, visiting professorship, fellowship, research activities, and enhance student experience.

(c) Quality Assurance (QA)

According to current regulation, QA for higher education system has 5 functions:

- Assessments related to the establishment of a new institution or the initiation of a new program;
- Supervision of the operation of institutions and programs to ensure that they maintain the minimum standards defined in the law;
- Accreditation to ensure high levels of quality;
- Professional certification of graduates, which is most frequently done by professional associations to grant a license for professional functioning;
- Provision of information regarding the recognition and accreditation of institutions and programs.

QA system for HE sector has been through various reforms towards more international integration, aligning with regional and international standards:

- Between 2014 -2016⁹⁶, four accrediting agencies were established, which marked the launch of the first official phase of accreditation. After this time, the standards were revised to align with the Asian University Network QA (AUN-QA). The AUN-QA system was developed with collaboration and technical assistance from the European Union (EU), German Academic Exchange Services (DAAD), German Rectors Conference (HRK), European Association for Quality Assurance in Higher Education (ENQA). The system is recognized in Asia, Europe and East Africa and provides QA at program level and institutional level⁹⁷. All HEIs evaluated from 2018 and onwards are assessed against these new standards.
- The majority of HEIs view the MOET policy and direction on QA of HE institutions and programs are in sync with regional and global trends. Many universities will finish the assessment of their

96 World Bank – Improving the Performance of Higher Education in Vietnam: Strategic Priorities and Policy Options (Apr. 2020)

97 AUN - <http://www.aunsec.org/institutionallevel.php>

institution and programs in the next 2 years, from either MOET approved assessment agencies or other regional and international agencies. Many representatives from interviewed institutions in the study for this report shared opinion that the requirements from MOET can be considered as the minimum qualifications which basically align with the regional standards and approaches. However, to remain competitive, many HEIs aim at achieving internationally recognized qualifications.

However, after more than a decade of development, the QA system for HE in Vietnam still lacks of “holistic national QA framework” to provide guideline for internal and external QA:

- This issue is reflected in the lack of evaluation tools for QA. Moreover, despite the effort to establish independent agencies for external QA, many part-time HEIs’ staff were hired as assessors, which resulted in the conflict of interests and loss of trust and credibility in the QA process.
- In terms of the self-assessment activities of HEIs (internal QA), there exists opinion that the credibility of this work is not standardized among HEIs. This is mainly due to the different methods used by the university and its responsibility and transparency in conducting research and collecting data for assessment. An example of this is the estimation of employment rate after graduation, which can vary significantly depending on the approach and methodology of the research.
- Besides, while many HEIs keep a very serious attitude on this internal and external assessment as a way to improve their performance and education quality, many also see this as an unavoidable process that they just need to find ways to work around it.

Enterprise sector is increasingly engaged in the assessment of education quality and development of curriculum

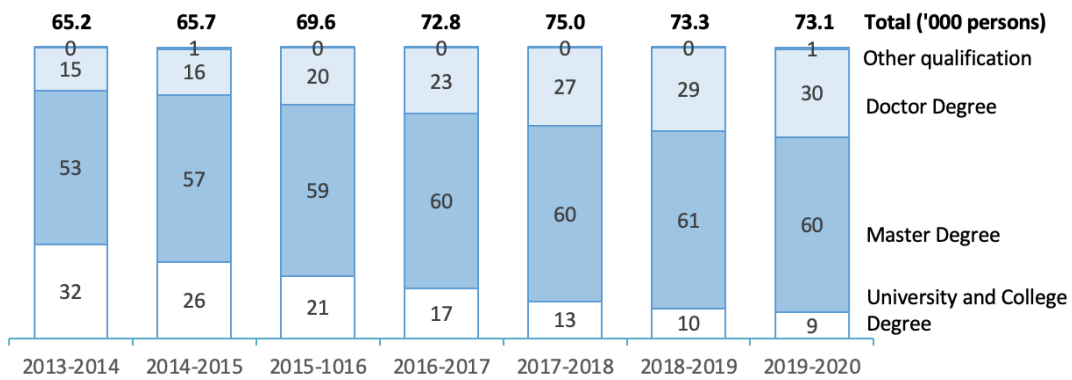
- Many HEIs develop their network of enterprises or establish an advisory council of professionals and industry experts besides academic members to periodically review and provide feedback and advice for the university.
- Regarding the establishment of new programs, there is an emphasis on engaging with enterprises sector in sharing inputs on program design, setting the learning outcomes, and reviewing of syllabus. Most common methods for this procedure are: (i) to conduct research and hearings with enterprises; (ii) to organize seminar with the participation of enterprise representatives, industry experts, alumni to gain insight on labor market demand and future trends of the industry. This practice is also similar for the reviewing and revising of existing programs, which is regulated to be done every 2 years based on the guidelines by MOET.

(d) Teaching workforce

The teaching workforce has increased in both quantity and quality⁹⁸.

- Total number of faculty members in HE sector has increased 12% between 2013 – 2020
- The proportion of teaching staff in HEIs with Doctor Degrees has doubled from 15% in 2013 to 30% in 2020.
- The proportion of teaching staff in HEIs with Master Degree has also increased from 53% to 60% between 2013 – 2020.

Figure 41. Teaching workforce in Vietnam HE sector by educational qualification (Unit: %)



Source: MOET (2020)⁹⁹

However, the quality of university teachers in Vietnam is still low (especially regarding foreign language and computer skill proficiency) and there is gap of quality between geographic regions

- The foreign language proficiency and computer skills of public university teachers are quite limited, especially those on smaller cities and provinces. There are not many teachers who can teach in English or other foreign languages. Those who can mostly base in Hanoi & HCMC
- Very few lecturers participate in research activities.
- Except for some top ranking universities, many HEIs still have low rate of academic staff with Doctor Degree (just about 30%).

98 State Organization Journal (Ministry of Home Affairs) - <https://tcnn.vn/news/detail/41635/Thuc-trang-doi-ngu-giang-vien-cac-truong-dai-hoc-cong-lap-o-Viet-Nam.html>

99 MOET website - <https://moet.gov.vn/thong-ke/Pages/thong-ko-giao-duc-dai-hoc.aspx>

HE teachers in Vietnam face pressure on managing quality of interaction with students due to high student to teacher ratio:

- Vietnam has a high student to teacher ratio (STR) compared to some countries in the Southeast Asian region. The STR of Vietnam was 27 in 2015 while that of Thailand, Indonesia, and Malaysia was 21, 22, and 16 respectively.
- Many public universities still maintain classes with 100 students per each or 40 – 50 students per class as the case of private universities. This situation indirectly indicate concern on the quality and quantity of contact time between students and lecturers.

There are existing challenges in talent management for HEIs, especially in the public sector:

- Regarding the remuneration policy for academic staff, most university lectures do not receive a competitive “package”, especially those working in public institutions. The situation seems to be better at private institutions, foreign HEIs or universities with bilateral cooperation between Vietnam and other countries’ partner (such as the VJU), in which there are grants and financial aids to support this matter. For many autonomous HEIs, one of the common actions in the transition to institutional autonomy is scaling down the number of HR as a way to improve efficiency and to increase the benefits for remaining staff.
- Many public schools have received support from the government and donors to assist their faculty members with continuing education and training activities including short-courses or PhD courses abroad. Many HEIs offer these opportunities for their talents as a way to retain talents for future academic workforce.
- Human resource policy and incentives can be a crucial measure for creating a highly qualified academic staff. The recent Circular 20/2020/TT-BGDĐT (2020) has adjusted the key regulation and guidelines for working condition of HE academic staff including reduction of required annual lecture hour, promoting research activities, remuneration for lecturing classes with more than 40 students and for over-performance of required annual workload. These adjustments can be seen as some first steps to tackle current pending issue of policy and incentives for academic staff, yet more strategic approach and innovative system need to be considered in order to attract more talents for the HE sector. The effectiveness of these initiatives would contribute to the higher outcomes of HE sector in the long run.
- In addition, the autonomy policy for HEIs has also contributed to the attracting of talents as it allows these institutions to independently develop recruitment policy and remuneration package to appeal academic talents.

(e) Teaching infrastructure with focus on digitalization of HEIs

Infrastructure is one of crucial factors to facilitate enriched studying experience. This includes the physical facility and ICT infrastructure.

Physical infrastructure

Existing gap in infrastructure situation between public and private sector: Upgrading institutional infrastructure in HEIs is among key goals for the transformation agenda as to meet international standards. Almost half of the universities in Vietnam are located in big metropolitan cities of Hanoi, HCMC, and Da Nang. Many of these universities, especially the public ones, are not well equipped. The public sector which is more often having less investment and financial autonomy seems to be behind the private sectors in the infrastructure funding.

ICT infrastructure

Digitalization of teaching and organizational management activities is the main theme in recent years:

- Hybrid learning, which is a combination of in-campus lectures and online learning, has become popular.
- Many schools have confirmed the transition of teaching materials and after-class discussion onto digital platforms to improve the learning experience for their students.
- Other management work such as student, administration, library and reference material database management has also been gradually integrated to digital system.

The level of digitalization varies among HEIs:

- Private schools with strong investment have begun the process from the beginning and seems to be at the forefront of this roadmap, while public sector seems to be behind.
- Public HEIs, on the other hand, have received various support from the government, donors, and technology enterprises in this field, especially during the COVID-19 pandemic.
- Another key challenge for digitalization, as shared from the study for this report, is from the older age group of staff who are often slower in adaptation to technological changes. This issue is more popular in public HEIs compared to the private sector.

Amid the COVID-19 outbreak, the digitalization in education has been speeded up faster than ever before but there is remaining gap between geographic regions

- Education and training facilities are transiting to online teaching platforms. 324 lessons¹⁰⁰ were broadcast on channel VTV7 (National TV broadcaster) and channel K+ (one of the leading digital TV services).
- 6 cities directly under the Central Government lead in the percentage of students learning via the internet (86.5%) and on television (87.5%), followed by other localities in the Red River Delta, the Southwest, the South Central and the Central Highlands.

100 MOET website - <https://moet.gov.vn/giaoducquocdan/tang-cuong-ung-dung-cntt/Pages/tin-tuc.aspx?ItemID=6703>

- The percentage of students learning via the internet and on television in the northern mountainous areas, the northern midlands and the north central region is less than 50%, mainly due to difficulties in infrastructure and facilities.

(f) Academic Research and Technology Transfer

There was a notable improvement in the evaluation of academic research in Vietnam over the last decade based on global ranking. However, when compared with other benchmarking countries, the status of Vietnam in the regional and global academic landscape is among the lowest¹⁰¹.

- Over the period of 2010 – 2018, the average annual growth rate in the number of international research publication from Vietnam is 20%¹⁰²
- The number of citable documents per 1 million population in Vietnam increased 3 times from 23 in 2010 to 63 in 2017. Meanwhile, in 2017, that statistic of Indonesia is 71. Also at the same year, Thailand is 212, China is 356, Japan is 898, and Singapore is 3,388.

The imbalance in resource mobilization for research activities and in the participation of HEIs.

- More than 60% of Vietnam's international science articles are funded by The National Foundation for Science and Technology Development (NAFOSTED).
- 5 HEIs contribute 50% of total international research publications: Vietnam Academy of Science and Technology, VNU-HCMC, Ton Duc Thang University, VNU-HN, Hanoi University of Science and Technology;
- By researched field, between 2000 – 2018, top 3 areas of research from international publications from Vietnam include: Natural Science (49% of total publications); Medical and Pharmaceutical Science (20.8% of total publications); Technical and Technological Science (19.5% of total publications).

Some main factors hindering the progress of academic research and technology transfer in Vietnam HE sector include:

- Lack of sufficient research funding: total public funding for research activities is low and the HE sector even receive less funding compared to the government research institute group;
- The registration for academic research grants and projects can sometimes be complicated and the benefits from these activities can be not clear and appealing;
- Lack of research talents: despite the increase in number of Master and PhD graduates, the quantity and quality of research outputs is modest;
- Limited links to global research frontier and low level of university – industry linkage;

101 World Bank – Improving the Performance of Higher Education in Vietnam: Strategic Priorities and Policy Options (2020)

102 Vietnam Journal on Science and Technology - <https://vjst.vn/vn/tin-tuc/3793/cong-bo-khoa-hoc-quoc-te-cua-viet-nam--thuc-trang-va-mot-so-khuyen-nghi.aspx>

- Under-developed ICT/ research infrastructure.

However, with direction and encouragement from MOET, good signs are witnessed among many HEIs in the field of academic research. A number of research universities were established in recent years as a result of agreement between Vietnam government and other partner countries such as: Vietnam – Japan University, Vietnamese – German University, University of Science and Technology of Hanoi (Vietnam and France), Fulbright University. These universities are all aimed at becoming a leading research university in the region with international standards. Other public universities such as the VNU-HN, VNU-HCMC, Hanoi University of Science and Technology or HCMC University of Technology are all good model of HEIs with strong records for academic research and technology transfer.

(g) International collaboration in HE sector

The trend of globalization and the explosion of science and technology innovation have been encouraging the higher education sector of each country to thrive in research activities and international collaboration and international integration to catch up with new trends, knowledge and skills. In the development trend of modern education, international cooperation of universities takes place as an objective necessity and increasingly asserts its important role in the development of universities in the world. Vietnam has established educational cooperation relations with more than 100 countries and territories; and is an active member of many international educational organizations¹⁰³.

As of December 31, 2019, Vietnam had over 500 valid foreign investment cooperation projects in the field of education with a total investment capital of over 4.4 billion USD¹⁰⁴. Vietnam currently has 5 universities and nearly 100 foreign-invested education institutions from preschool to high school levels with foreign investment, and more than 450 international training programs taught at 70 universities nationwide.

HEIs are encouraged in participating in international partnership in various forms including:

- Develop dual programs provided by Vietnam and foreign institution
- Establish credit transfer mechanism between similar programs to support the exchange of students and qualification recognition between partnering institutions
- Establish exchange programs for students, teaching staff and managing staff for sharing opportunities of learning and capacity building
- Share resources, knowledge and collaborate in research and technology transfer activities

(h) Students' enrollment

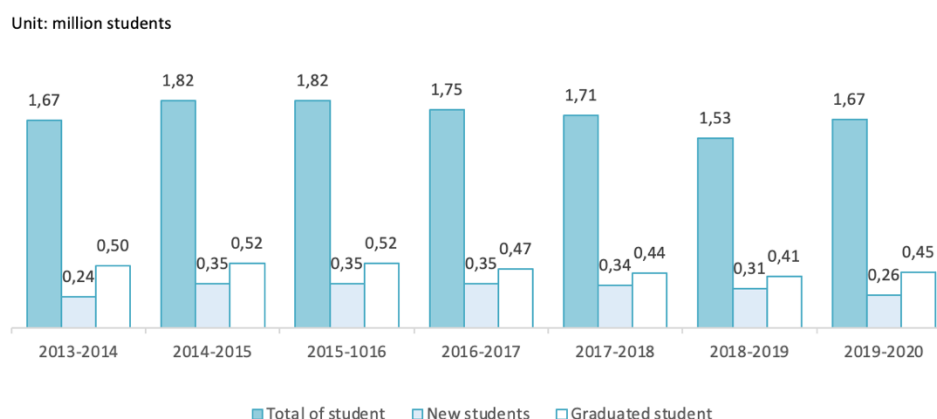
After some constant increase in the number of students enrolled in universities in Vietnam during the period of 2005-2016, the speed has been slowing down since school year 2015-2016 and tended to slightly level off in the past 3 years. The period of 2015-2020 saw an average of 1.7 million university students per school year. Public universities account for 85% of total student enrollment. The number of students

103 Online Newspaper of the Government of the Socialist Republic of Vietnam: <http://baochinhphu.vn/Doanh-nghiep/Tang-cuong-hop-tac-va-dau-tu-de-thuc-day-doi-moi-giao-duc/410993.vgp>

104 Online Newspaper of the Government: <http://baochinhphu.vn/Doanh-nghiep/Tang-cuong-hop-tac-va-dau-tu-de-thuc-day-doi-moi-giao-duc/410993.vgp>

enrolled in post-graduate programs has shown notable decrease with 94,920 master degree students and 11,054 PhD students in school year 2019-2020, a 14% drop in total post-graduate students from 106,567 master degree students and 14,686 PhD students in school year 2017-2018.

Figure 42. Students enrolled in Bachelor Degree in Vietnam



Source: MOET (2020)

Reasons behind the decrease in HE students' enrollment:

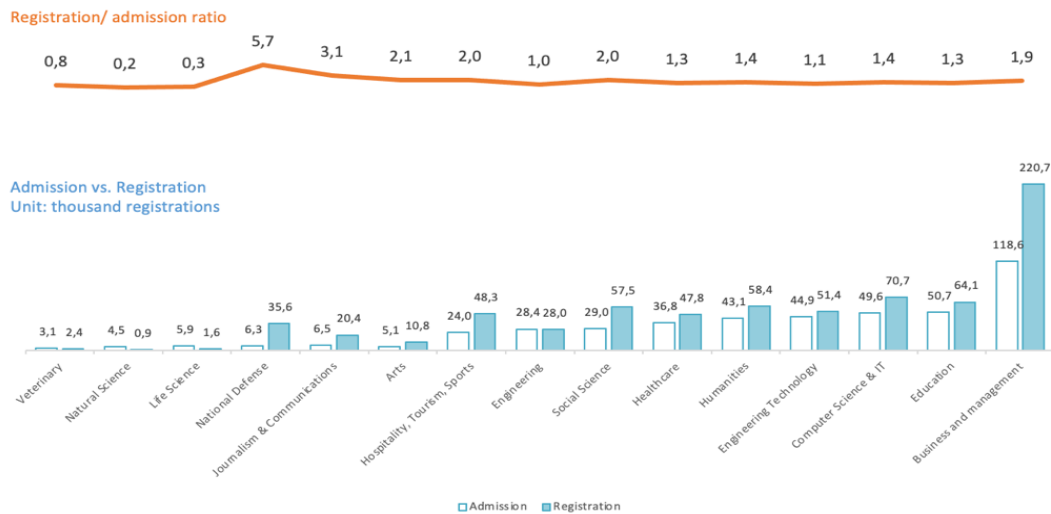
- Government policy to put a break on quantity growth as concern of “system grew too fast and compromised quality”¹⁰⁵. The underlying issues were believed to be a consequent of setting a too ambitious growth target in the previous period while lacking various factors such as: (i) effective policy design with logical framework and guidelines; (ii) clear solution for the fragmentation in tertiary education governance between The MOET and The MOLISA as well as with other line ministries and related authorities; (iii) consistent regulatory framework to encourage the private sector expansion.
- The competition between domestic and foreign HEIs also results in this drop as many students choose to acquire their master degree abroad. As of 2017, Vietnam ranked 2nd in the Southeast Asian region in term of outbound mobility rate (only after Malaysia), with 3.6% of total tertiary education enrolment took place abroad¹⁰⁶. This rate was 1.5 times higher than that in 2012. As a result, families with more economic privilege tend to send their children to study abroad.
- The birth rate in Vietnam decreased sharply in the past 10 years from 1992 to 2001, so the rate of students entering universities among those finish general education in the following 18 years (2010-2017) also decreased. A similar situation may occur in the next 10 years (2020-2029).

105 World Bank – Improving the Performance of Higher Education in Vietnam: Strategic Priorities and Policy Options (Apr. 2020)

106 L. Tran et al. 2014. Higher Education in Viet Nam: Flexibility, Mobility and Practicality in the Global Knowledge Economy. 4th edition. Basingstoke:PalgraveMacmillan

- Some students have chosen vocational training instead of going to university as TVET system has been developed and become more attractive and due to the results of student filtering into HE and TVET after lower secondary education level as the general policy from the government.

Figure 43. Registration and Admission situation of training programs in HE in 2021



Note: Registration is the number of students applying for an HE program while admission is the number of students can be admitted to an HE program as approved by The MOET

Source: MOET (2021)

Despite various reform agendas, many see that the counseling and career orientation for students are not well associated with the socio-economic development plan. Looking at the admission rates of different Bachelor programs, many students register for trending sector like business and management, journalism and communications, hospitality-tourism-sports, and social science while engineering, technology and natural science major seem to have relatively low registration. This can lead to the shortage of HR in some key industries.

(i) Emerging new university models

Changes in HE-related legal framework and diverse education demand from learners can be seen as three main driving factors for the emerging of different university models:

- HEIs are given the rights to decide their own strategy for development
- Law on Higher Education has encouraged the participation of private sector in HE and the model of not-for-profit private HEI
- Prospective learners have different demand for higher education

The following three models are the most popular ones in Vietnam:

- Research universities: there have been an increasing number of universities choosing the direction of becoming a research university, among which are those in the public sector. In

addition, universities established as a mutual cooperation between Vietnam and other countries such as the VGU, VJU, and USTH are setting examples for research university models with international standards and the thrive to be among top research universities in the region. These universities are supported by a consortium of high ranking HEIs with strong research base faculty as well as the bilateral governmental support and funding. Students enrolled in these universities are exposed to international educational environment with opportunities for various exchange programs in many foreign partner universities of the institution.

- Applied science universities: on a parallel track with research university model, applied science universities are focusing on active training and taking the “learning by doing” approach with more investment on students’ experience and activities as well as internship programs and practical skill training. Besides theoretical education, these universities often engage with industry experts and practitioners as “visiting lecturer” to expose students to the practical side of the industry. Many private universities are following this direction. Some highlight models include Phenikaa University & FPT University.
- Not-for-profit and liberal universities: Fulbright University was “Vietnam’s first not-for-profit, independent, liberal arts” university. The model prides itself to contribute to the development of Vietnam’s next generation of leaders equipped with skills and knowledge that can tackle global challenges. The model promotes the student-centered pedagogy and liberal arts approach as the education philosophy. There are also research or applied science universities with liberal-oriented approach, which means that such university would encourage its students to take part in interdisciplinary courses as a way to expand knowledge and experience and to “customize” the study plan based on personal preference.

2.2.4 Support situation and existing challenges from perspective of HE Institutions

This part focuses on presenting the findings from the survey with HE institutions about their perception on prioritized issues for development and thus can reflect the demand for support in the future.

(a) Support activities for HE in the last 5 years

Among 44 HE institutions responded to the survey, 31 organizations confirmed that they have received certain support from international donors or government in the last 5 years. Besides MOET as the Government management body, the HE institutions mostly receive support collaboration from the World Bank, ADB, USAID, KOICA and JICA. The range of donors is not as diversified as in TVET sector.

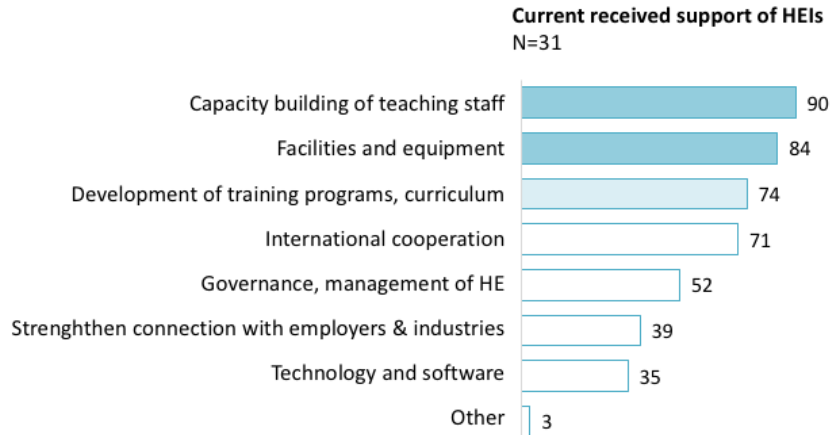
The support was mainly for capacity building for teaching staff (90%), and teaching facilities and equipment (84%), or in terms of developing training programs and curriculum (74%), as well as international cooperation.

“Regarding bilateral cooperation with donors: Prioritize exploiting the strengths of each partner (e.g. USAID - improve education and training of human resources, JICA - training soft skills and languages, KOICA - short training course for students). With the support of donors, the school has undergone significant changes, being more enhanced and developed. It is important to be able to access and exploit various forms of sponsors from different donors. Therefore, the school always needs to upgrade and improve internally. The school has received

limited support from the Ministry of Industry and Trade, mainly self-funded and self-governing, even before the school became autonomous.” Office of Science Management and International Relations, HE, South

“A lot of support from projects: Europe (Erasmus), Japan (JICA, FTU - JAPI Universal House), Research project (facilities project, training room). Other organizations that FTU participates in are Switzerland, Germany’s DAAD Foundation, Germany’s FNF Foundation. The main content and goals are training and developing human resources. Government support is scholarship for lecturers.”, ‘Director of International Office, HE, North

Figure 44. Support received since the last 5 years by the surveyed HE institutions



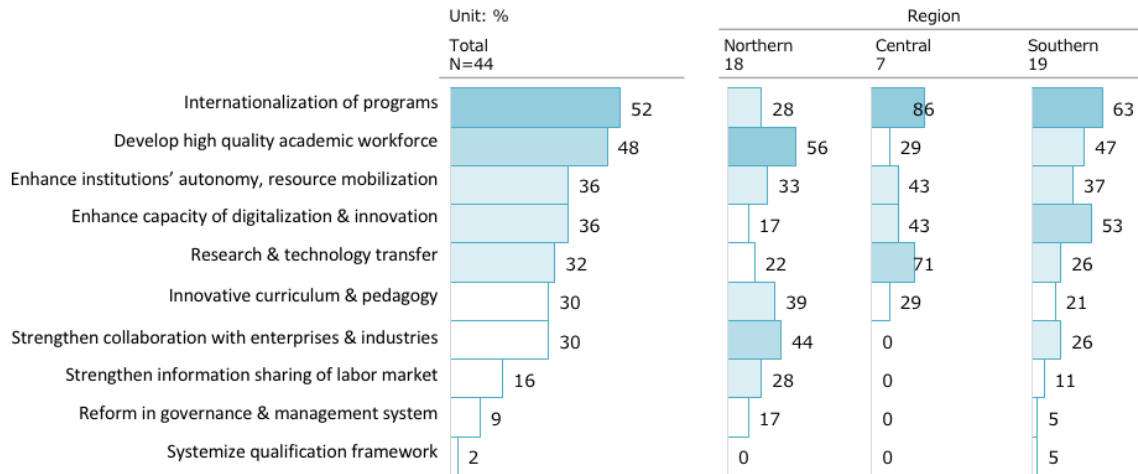
Unlike in TVET sector, when the support from international donors mostly goes through centralized government management bodies, the HE institutions normally have much autonomy in directly develop collaboration programs, proposing initiatives with supporting organizations as well as implementing project activities. Support in terms of facilities and equipment mostly carried out in form of ODA loans in big scale projects; while support in terms of capacity building for lecturers, development of training programs or international cooperation can be very flexible and in various project size and implementation levels. The support situation will be discussed more comprehensively in chapter 4 when reviewing overall donors’ actions in higher education sector.

(b) Perception of existing challenges at institution level

When being asked about the challenges have the HE institutions faced in order to meet with training demand of the current and future labor market¹⁰⁷, top three challenges shared by the HE institutions include: lack of ability to provide practical trainings that could meet with the changes of HR market under the impact of global trends of industrial 4.0, digitalization & automation etc. (68%), lack of resources and capacity to develop training programs that can supply human resource for emerging jobs in the future (66%), and limited collaboration in R&D and technology transfer with industry stakeholders (59%). This means, the education institutions all feel critical pressure from the rapidly changing labor market.

107 Question: Which challenges has your organization faced in order to meet current and future labor market demand?

Figure 46. Perception of HE institutions on Top 3 prioritized sector challenges



Some interesting difference between HEIs in different regions, which may reflect the development gap of HE sector by region, could be recognized. HEIs in Southern and Central region put critical more concern on issues of program internationalization. This may reflect that the universities in Southern region and in Central don't have as much support opportunities for internationalization program as the Northern ones.

Besides, the HEIs in the South care more about capacity for digitalization & innovation, perhaps, because they feel more urgent needs to innovate towards digitalization since Ho Chi Minh city is positioned as the center for high-tech industrial and economic development of the nation. Digitalization in higher education is an emerging trend in institutional management as well as in training activities, more universities have developed digital platform for research and education purpose as well as adopting some hybrid teaching model, which is a combination of in-class lectures and online learning.

Northern universities, on the other hand, set higher priority on the issue of strengthening collaboration with enterprises and industry stakeholders (44%) while this issue is not perceived as an important sector priority for those in the Central region (0%). Issues of developing high quality academic workforce and innovating training curriculum and pedagogy are in top 3 priority issues from the perspective of Northern universities.

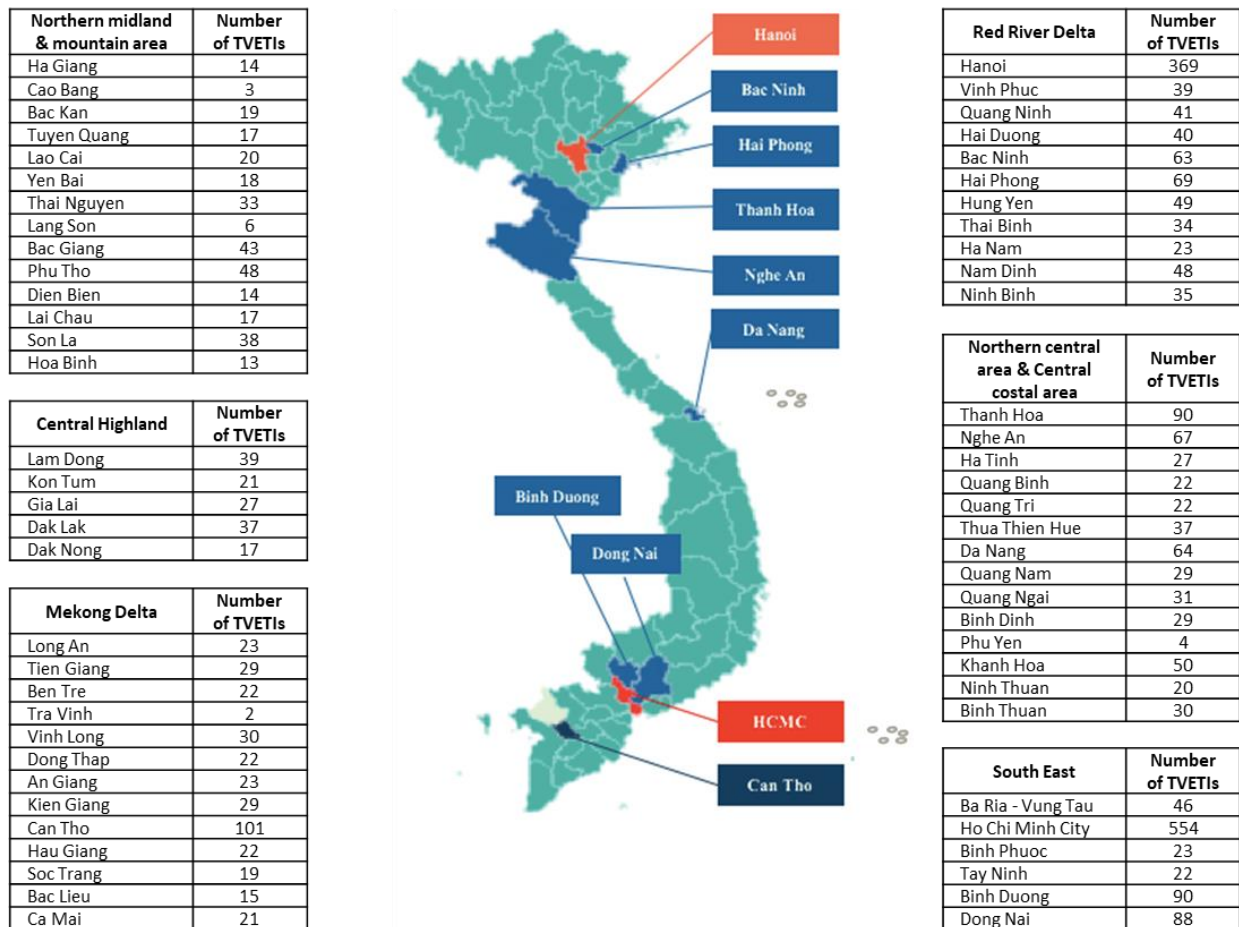
Regarding Central region, a critical higher percentage of surveyed HEIs in Central region put attention on the issue of research and technology transfer; however, none of them select 'collaboration with enterprises & industry stakeholders' as one important sector challenge for future development. This may reflect that the collaboration between universities and enterprises in the Central region has been strong in other aspects rather than practical R&D and technology transfer.

2.3 Vocational Education & Training (TVET): status, challenges and development direction

2.3.1 The network of vocational education & training institutions (TVETIs)

TVET institutions mostly gather in urban areas, especially big cities and provinces where there is high concentration of industrial zones. Meanwhile, the supply of TVET institutions in rural areas and less developed provinces is quite limited, reflecting the imbalance in vocational training supply by regions.

Figure 47. Mapping of TVET Institutions in Vietnam



Statistics in 2018 shows that the Red River Delta and South East regions have the highest concentration of TVETIs with 810 and 823 institutions, respectively. The top 2 provinces having most TVETIs are Ho Chi Minh city (554 TVETIs) and Hanoi (369 TVETIs), which accounts for 30% of the vocational institutions across the country. In Southern Vietnam, the number of TVETIs in Mekong Delta region is less than half of that in South East region. Among 06 socio-economic regions, Central Highlands only accounts for 5% of total number of institutions.

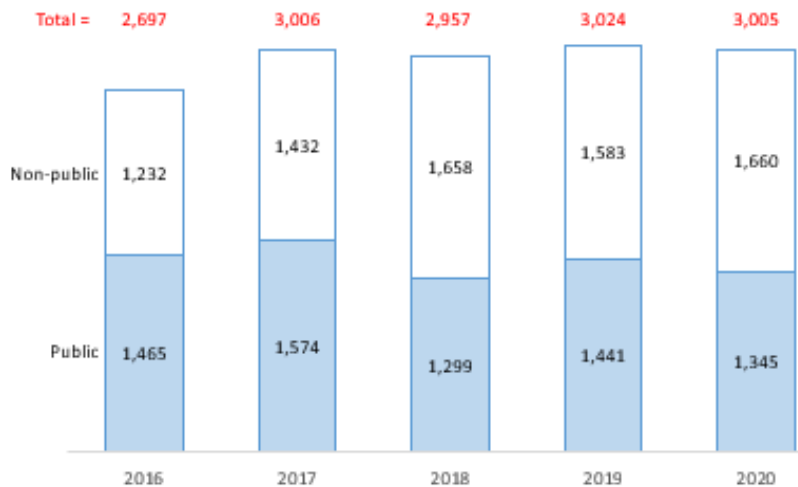
This reflects one existing big gap in vocational training supply structure by geographic regions, as the proportion of trained workers with certificates in urban areas reached 39.9%, while that in rural areas

reached 16.3% (DVET, 2021). Therefore, promoting access to TVET supply in rural and disadvantaged areas will still be an important goal for inclusive human resources development of Vietnam.

In the last 5 years, the quantity of TVET institutions remained stable with two development characteristics: the non-public TVET institutions have emerged stronger, and the public TVET institutions were restructured

The total number of vocational institutions mostly remained stable in the period 2016-2020. While the number of public vocational institutions decreased from 1,465 institutions in 2016 to 1,345 institutions in 2020, the number of non-public institutions grew up by 34.7%, from 1,232 institutions in 2016 to 1,660 institutions in 2020, showing a good sign for the efforts of Vietnam government to improve the participation of non-public sector in vocational education.

Figure 48. Number of TVET Institutions in Vietnam by type of ownership



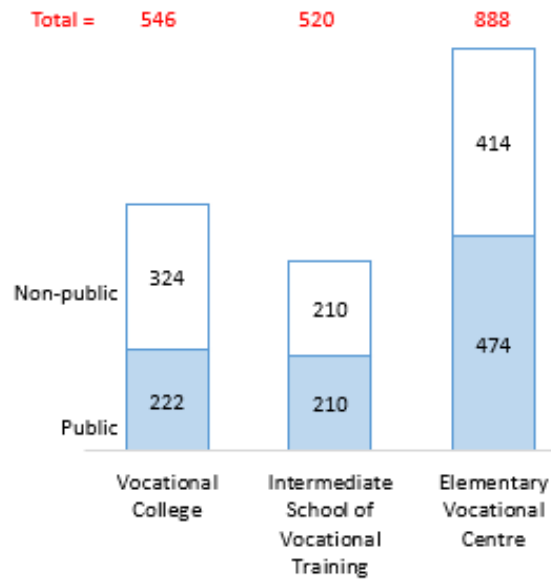
Note: Statistics from GSO seems include other organizations that having vocational training activities, those are not catergorized as TVET institutions under the TVET law 2014

Source: GSO (2020)

After the transition of the TVET system under Law on Vocational Education and Training (2014) and series of related legal documents, MOLISA has reorganized and restructured the TVET institution network in coordination with related ministries and local government. The organizing and restructuring process focused mostly on merging TVET institutions located in the same geographical areas, the dissolution of TVET institutions with low performance result, increasing the autonomy rights for TVET institutions, and promoting non-public TVET institutions to raise competitiveness of TVET offers¹⁰⁹.

By type of institutions, elementary vocational training centers account for the most number of institutions, with strong growth on non-public sector.

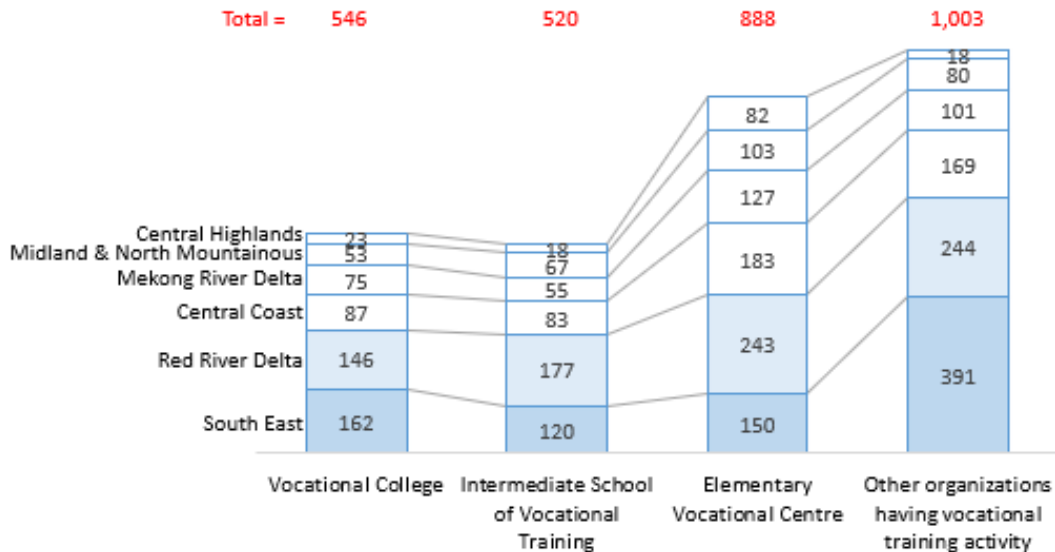
Figure 49. Number of TVET institutions by type (2018)



Source: GSO (2020)

Especially, elementary vocational centers and other organizations having vocational training activities were very developed in the South East region and Red River Delta region. This reveals a fact that the labor market has required more short-term and informal vocational training services to meet the demand of development.

Figure 50. Numbers of TVET institutions by type and by regions (2018)



Source: GSO (2020)

2.3.2 The VET reform agenda, overview and current progress

a) Overall of the TVET reform agenda in 2011 - 2020

The reform of TVET sector in Vietnam has begun strongly since the period 2011 – 2020 with key agenda set by the “Vocational Training Development Strategy for period 2011- 2020”.

The Vocational Education Development strategy period 2011- 2020 was developed by the MOLISA and approved by the Prime Minister via the Decision No. 630/QĐ-TTg on May 2012. This strategy set out key fundamental reforms of the vocational education sector, covering critical solutions regarding sector governance renovation, system restructuring, improving quality of management, quality of education at both system level and institutional level that aim to solve practical inadequacies as well as to foster the expansion of vocational education towards meeting socio-economic development objectives.

The nine fundamental solutions stated by this strategy reflect the key system challenges and the long-term direction for the TVET reform in Vietnam, which can be the base to evaluate the achievement of TVET reform progress during the last decade as well as to recognize the direction in the future period. The nine systemic reform components include:

- i. Renovating the state management of TVET
- ii. Development of vocational teaching staff and vocational training managers
- iii. Development of occupational standards & national vocational qualifications framework
- iv. Development of curriculum and training materials
- v. Enhancement of TVET facilities and equipment
- vi. Improvement of TVET quality assurance
- vii. Enhancing the linkage between TVET institutions and the labor market and enhancing enterprises’ participation
- viii. Improving social awareness about TVET development
- ix. Promotion of TVET international cooperation

Among these nine components, the component (i) "Renovating the state management of TVET" and solution (ii) "Development of teaching staff and vocational training managers" were defined as two breakthrough solutions.

(b) Reform of State management of TVET

The new Law on Vocational Education (2014) came into effect on 1st July 2015. This new TVET law covers many important and breakthrough content in order to strongly institutionalize as well as to comprehensively reform the TVET system. Different aspects in this new TVET law enable the restructuring of the whole system in terms of training levels, training institutions, training programs as well as TVET

operational models; foster the autonomy of institutions and enhance the demand-based approach of vocational education. The prominent reform aspects can be recognized as below:

TVET system organization is more streamlined

- Streamline the vocational education level: the vocational education system contains of 03 levels: *Elementary level, Intermediate level, College level*. This has reduced the complicating double-training system between MOET and MOLISA under the previous law
- Systemize the vocational institution's naming: *Vocational Education Centers* (merging of TVET techniques & career orientation centers and centers of vocational training); *Vocational Training Schools* (merging of professional education secondary school and vocational training secondary school); *Colleges* (merging of college and vocational training college).

Renovation in management and organization of training towards creating more convenience for learners to attend vocational education and more autonomy for TVET institutions to organize training

- Allow two modes of training: module-based accumulation and credit-based accumulation, TVET institutions have the rights to choose the suitable training mode to their conditions. Thus, the TVET system is more flexible and able to assure the permeability between training levels of the same occupation or different occupations, or articulate higher levels of Vietnam national education system. This process respects learners as the center of education and allows them to pursuit appropriate training or follow multiple courses in the same time period, so that they can shorten or extend their training time depending on the conditions, abilities and context of each personal learner.
- Shorten training duration of the vocational intermediate level for the lower-secondary school graduates to 1- 2 years if follow module-based accumulation model (in previous Education law, it was 3-4 years). This means the upper secondary education content is not compulsory for lower-secondary school graduates, unless they aim to pursuit college level¹¹⁰.
- More autonomy and flexibility in developing training programs: the state does not promulgate framework curriculum but allows TVET institutions the rights to develop their training programs. Vocational education institutions may also choose foreign programs that have been accredited to teach; or choose an existing curriculum as the TVET school's curriculum. Currently, TVET institutions can be pursuant to Decision No. 1982/QĐ-TTg¹¹¹ about Vietnamese qualification framework to develop appropriate training programs.
- More autonomy in student enrollment for TVET institutions: the institutions are allowed to define their enrollment scale based on their conditions of quantity, qualification of the training

¹¹⁰ If a student obtaining lower-secondary degree wishes to reach college education, he/she must learn and pass the exams which satisfy the requirements pertaining to upper-secondary knowledge (Article 33, Law on Vocational Education)

¹¹¹ Decision No. 1982/QĐ-TTg on approval for Vietnamese Qualification Framework by the Prime Minister, effective from 18th October 2016

staff, infrastructure and facilities; the number of enrollment times throughout the year; enrollment based on an entry examination result or general education results, or combination of both.

- Reform of testing, examination, graduation consideration and awarding graduation certificate: With new training method (module-based or credit-based training), if learners accumulate enough necessary module or credit regulated for each training program, they will be awarded graduation certificate without final examination.

Increase supporting policy that attracts learners to attend vocational education

- Learners can get exemption of tuition fee in vocational education if they belong to special groups¹¹², such as: disadvantaged groups regulated in education policies, graduates of lower secondary schools when enrolling to the TVET intermediate level, learners in occupations with difficult enrollment but high-demand and other occupations which require special characteristics;
- Boarding support for disadvantaged learners from ethnic minorities, disabilities from disadvantaged socio-economic areas or special remote areas;
- Learners who graduate from college can be awarded college certificate and recognized as practical engineer depending on the training occupation.

Other policies that benefit for learners and create more autonomy for TVET institutions

- Renovation in policy for teachers/trainers: The VET Law (2014) shows the salary structures corresponding to defined title system, honor policies, extension of working time policy for experienced and highly qualified teachers/trainers. Trainers/teachers of practical training or integrated training are eligible to favorable incentives as stipulated by the government.
- Renovation in policy on connecting enterprises with TVET institutions: Enterprises which participate in TVET activity have equal rights and responsibilities as TVET institutions. Expenses for training activity can be deducted from taxable incomes.
- Increase autonomy of TVET institutions: TVET institutions have autonomy in activities related to organization, personnel, finance, asset management, technology and training, international cooperation, ensuring training quality as stipulated in law. Public TVET institutions ensure regular expenditures and investment by themselves as stipulated by the government.
- Renovation in international cooperation in the TVET field: The VET Law contains of separate items about international cooperation, such as: forms of international cooperation, TVET cooperation with foreign associations, establishing the representative office of foreign associations in Vietnam and of Vietnam TVET institution abroad.

112 Article 62, Law on vocational education

Besides the TVET law, the effort of government to centralizing all TVET institutions under MOLISA (DVET) management helps to systemize the planning and implementation of TVET reform. Though it has been mentioned in part 2.1.1 of this report, it is still critical to emphasize that the Government’s decision to shift the central state management function for all TVET institutions from partly under MOET to fully under MOLISA (since January 2017), except pedagogical education, is one of the most important structural changes in TVET sector management. On the one hand, this shifting allows the centralization of planning and implementation of key reform actions in TVET specifically and human resource development generally; on the other hand, it defines the positioning of colleges more clearly as high-quality vocational training providers.

(c) Result of TVET reform in period 2011 - 2020

TVET reform progress 2011 – 2020 has achieved positive results, especially in terms of quantitative indicators achievement

A set of quantitative performance indicators were set to specify the targets in the 10-year period, which serve as guidance for the implementation of the strategy. The performance results of TVET reform in period 2011 - 2020 is consolidated by the table below:

Figure 51. Results of performance indicators of TVET development strategy 2011 - 2020

Performance indicator	Up to 2015			Up to 2020		
	Targets	Actual	Completion level	Targets	Actual	Completion level
Structural quantity of newly trained laborers						
Number of newly trained laborers (million persons), of which	9.6	9.0	94 %	12.9	10.7	83 %
- Trained laborers at College and intermediate level	2.1	1.9	93 %	2.9	2.3	80 %
- Elementary level and vocational training under 3 months	7.5	7.0	94 %	10.0	8.4	84 %
Number of laborers (million persons) at rural areas received vocational training	4.7	4.1	87 %	5.5	5.2	94 %
The number of vocational institutions						
Vocational college, of which	190	190	100 %	230	410	178 %
<i>Non-public Colleges</i>	60	48	78 %	80	97	121 %
<i>High-quality Colleges</i>	26	40	154 %	40	40	100 %
Vocational training schools (VTS)	300	279	93 %	310	444	143 %
<i>Non-public VTS</i>	100	104	104 %	120	231	193 %
Vocational training center (VTC), of which	920	997	108 %	1050	1057	101 %
<i>Non-public VTC</i>	320	341	107 %	350	360	103 %

Performance indicator	Up to 2015			Up to 2020		
	Targets	Actual	Completion level	Targets	Actual	Completion level
Development of vocational teachers						
Number of vocational teachers (person), of which	51,000	39,152	77 %	77,000	83,959	109 %
<i>At college level</i>	13,000	15,986	123 %	28,000	37,235	133 %
<i>At Intermediate level</i>	24,000	9,254	39 %	31,000	13,295	43 %
<i>At elementary level and other < 3-month programs</i>	14,000	13,912	99 %	18,000	33,429	186 %
Development of curriculum and training materials						
Number of national vocational programs and curricula to be issued	130	96	74 %	150	n/a	n/a
Number of international TVET programs and curricula to be used	26	20	77 %	35	34	97 %
Number of regional TVET programs and curricula to be used	49	n/a	n/a	70	n/a	n/a
Number of elementary programs and curricula for rural labor to be developed	300	191	64 %	200	n/a	n/a
TVET quality assurance						
New regional quality accreditation centers to be developed	-	-	-	3	4	133 %
National vocational qualifications framework						
The framework of national vocational qualification	250	191	76 %	400	193	48 %

Notes: name of vocational training institutions are used according to new TVET law 2014

Source: Target: Decision 630 QĐ/TTg; Achievement: review from MOLISA's draft project document on TVET development strategy 2021- 2030

As of positive result of TVET reform, admissions to TVET institutions has increased positively

Over the period between 2012 and 2018, the number of TVET students increased 1.5 times with nearly 1 million more students after 6 years. The admission volume to primary vocational training and under 3-month training has covered the highest proportion by 75% total, 5 times higher than the admission volume to intermediate level and 7 times larger than the number of new trainees of TVET college level.

Figure 52. Admissions to TVET Institution

Unit: thousand students

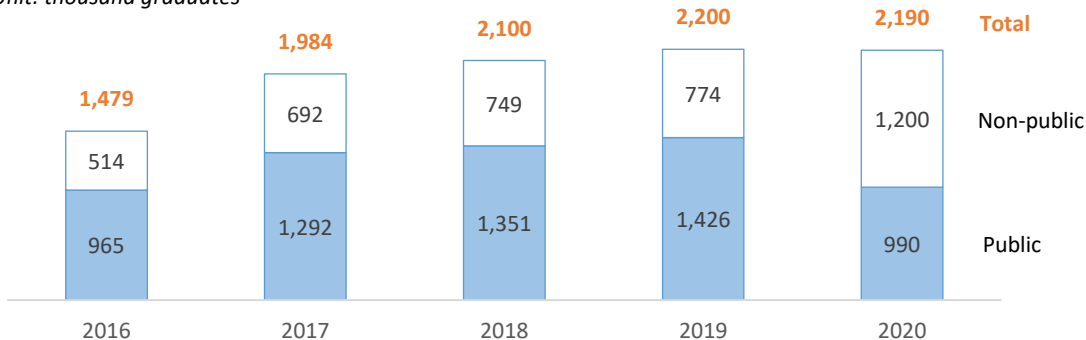
Year	Vocational colleges	Vocational intermediate schools	Elementary vocational training and under 3-month training	Total
2012	84.2	129.2	1279.2	1492.6
2013	88.9	128.2	1515.9	1733.0
2014	88.0	132.6	1802.7	2023.3
2015	81.1	129.0	1769.1	1979.2
2016	241.4	290.2	1836.0	2367.6
2017	230.0	310.0	1664.0	2204.0
2018	229.6	315.5	1664.8	2209.9

Source: Department of Formal Vocational Training, DVET

Between 2016-2020, the TVET sector has provided almost 10 million graduates for the labour market. The number of graduates from TVET institutions has increased in recent years, especially in non-public sector. In 2016, one third of TVET graduates were from non-public TVET institutions¹¹³. After 4 years, the number rose about 1.5 times, accounting for 55% of total TVET graduates.

Figure 53. Number of Graduates from TVET Institutions

Unit: thousand graduates



Source: GSO (2020)

However, there remained important limitations and great demand gaps that require TVET system to thrive in the future

Reviewing TVET reform period 2011 - 2020, MOLISA¹¹⁴ has identified key remaining gaps that need to be addressed in the future, those are briefly discussed as below:

113 The number of graduates from non-public TVET institutions increase sharply meanwhile the number of TVET institution remain stable, it could be due to Government's policy to restructure the network TVET institutions, which aim to reduce the number of public TVET and at the same time the system is more open and supportive for non-public TVETs to operate. Those changes occurred mostly by the change of number of secondary TVET institutions and TVET centers which have short term training courses

114 MOLISA's draft project on vocational education development strategy 2021- 2030 with vision to 2045 (2021)

- The quantitative scale of vocational training has not met the target of workforce development. Until 2020, the labor force without any diplomas is still about 75.4%, which means there is still a huge demand for vocational training;
- Overall, quality of TVET in Vietnam is still evaluated low among the region. Vietnam's skills pillar ranking and vocational training quality index belong to the bottom group of ASEAN.
- The training structure is still unreasonable in terms of qualification levels and occupations. In terms of level, intermediate and college degrees account for a low proportion, which means that most vocational trainings are at lowest level of elementary short-term courses. Besides, MOLISA evaluated that the structure of training occupations has been not yet suitable with the demand structure of occupations from the labor market;
- In terms of inclusiveness, there remained big gaps. Vocational training for disadvantaged groups such as ethnic minorities and women has not been given sufficient investment. The percentage of ethnic minority people participating in vocational training is still very low, and most of them are attending short-term courses below 3-month. Many other disadvantaged groups such as people with disabilities, ethnic minorities, people after drug rehabilitation, people who have been released from prison, etc., still lack of accessibility to TVET although there are supportive policies.
- In general, graduate career development opportunities are still limited, and skills of the vocational learners have yet met with employers' requirements. The skills gap between TVET and enterprises requirements will be discussed in-depth in Chapter 3 of this report.
- The scale of high-quality training is still insufficient, failing to meet the requirements of key economic sectors and the requirements of improving the competitive quality of human resources in the context of high integration and competition.
- The adaptability of the system is not high to keep up with the changes of science and technology, especially Industry 4.0 and non-traditional risks such as the COVID-19 pandemic.
- Regarding international benchmarking, vocational skills of trained workers in Vietnam are almost not recognized in the regional and international labor market, thus the labor movement between Vietnam and other countries is still limited. The cooperation between TVET institutes of Vietnam and training institutions of other countries is still limited.

The issues analysis for these limitations will be discussed further in part 2.3.3 when reviewing the main development aspects and system challenges of the TVET sector in Vietnam.

(d) TVET Development Strategy 2021 - 2030

The TVET Development Strategy 2021 – 2030 sets clearer matrix for TVET reform in the next decade, with strategic focus on improving quality and structure, and thriving towards global integration

The Prime Minister has recently approved the Vocational Education & Training Development Strategy for period 2021 – 2030 with vision to 2045 by the Decision 2239/QĐ-TTg on 31st December 2021. Comparing

with the previous period, TVET development strategy 2021-2030 has shown better specific¹¹⁵ objectives and less ambiguous in meaning of targets.

Overall objectives for TVET development until 2030 emphasize that TVET needs to be *developed rapidly*, needs to “*meet the diverse needs of the labor market as well as general citizens*”, and “*to meet higher requirements in terms of quantity, structure, and quality of skilled human resources for the development of the country in each period*”. The statement of the objective reflects that the Government has put a clear emphasis on efforts to speed-up the development of TVET at the same time with pressures to continue structural improvement of the TVET sector.

In terms of specific objectives for each 5-year period, it is clearly presented that TVET development will be driven to enhance the quality and improve structure of supply to provide skilled labor force for socio-economic recovery after Covid pandemic crisis and towards sustainable industrial development, along with determined ambitions to enter global integration of training standards.

Figure 54. Objectives of TVET Development Strategy period 2021 - 2030

	Specific objectives by 2025	Specific objectives by 2030
<i>Quality & Structure</i>	<ul style="list-style-type: none"> Ensure the scale and structure of training industries and occupations for the country's socio-economic recovery and development; 	<ul style="list-style-type: none"> Focus on improving the quality and effectiveness of TVET in order to meet the needs of skilled human resources for developing countries with modern industry;
<i>Global integration</i>	<ul style="list-style-type: none"> The training quality of some schools asymptotically reaches the level of ASEAN-4 countries (including Indonesia, Philippines, Thailand and Malaysia), quality of some occupations asymptotically reaches the level of developed countries in the region and the world; 	<ul style="list-style-type: none"> Actively participate in the international HR training market; The quality of some schools asymptotically reaches the level of ASEAN-4 countries, quality of some occupations reaches the level of developed countries in the G20 group;
<i>Scale of demand</i>	<ul style="list-style-type: none"> Contribute to increase the rate of trained workers with degrees and certificates to 30% of the labor force 	<ul style="list-style-type: none"> Contribute to increase the rate of trained workers with degrees and certificates to 35-40% of the labor force

Accordingly, the key performance indicators were set towards these objectives. Compared to the set of indicators in previous period, the indicators have been set more strategically and focus.

¹¹⁵ One ADB’s report on TVET sector assessment in 2014 has evaluated that the targets set by TVET development strategy 2011 – 2020 were ambitious and criticized that “the strategy tends to be unclear about specific means to achieve objectives”

Figure 55. Performance Indicators for TVET Development Strategy period 2021 - 2030

Key development indicators	Till 2025	Till 2030
<i>Towards meeting labor force structure demand</i>		
Students graduating from middle and high schools enter the vocational education system;	40 – 45%	50 - 55%
Percentage of labor force retrained and regularly trained through the vocational education system	25%	50%
Number of key trained occupations	150	200
<i>Towards TVET Inclusiveness development</i>		
Female learners in the total new enrollment quota	30%	40%
Percentage of employees who are ethnic minorities with vocational training	45%	50%
Percentage of employees who are disabled people who are able to work and receive appropriate vocational training	35%	40%
<i>Towards improvement of TVET quality assurance</i>		
Percentage of workers (trained by TVET) with information technology skills	80%	90%
Percentage of vocational education institutions meeting quality accreditation standards	30%	70%
Percentage of training programs in key occupations meeting quality accreditation standards	50%	100%
Rate of qualified teachers	100%	100%
Percentage of managers trained and fostered to improve capacity in management and modern administration	80%	90%
Percentage of training industries and occupations developed and updated with output standards according to the National Qualifications Framework	80%	90%
<i>Towards developing high-quality TVET institutions</i>		
Number of high-quality schools	70	90
National center for high quality vocational training & practice	03	06
Regional center for high quality vocational training and practice	06	12
<i>Towards achieving international quality benchmark</i>		
Number of schools approaching the level of ASEAN-4 countries	40	60
Number of schools approaching the level of developed countries in the G20 group	03	06
Number of key industries with outstanding competitiveness in ASEAN-4 countries	5-10	15-20

Source: Decision 2239/QĐ-TTg on 31st December 2021

Key solutions for implementation of TVET strategy 2021 – 2030 present different set of priorities

In order to achieve the strategic goals, eight solution components are defined as focus of TVET development.

Figure 56. Key solutions of TVET Development Strategy period 2021 – 2030, vision to 2045

No.	TVET development strategic solutions in 2021 - 2030
i.	Completing the institutional management, increasing effectiveness and efficiency of TVET state management
ii.	Accelerating digital transformation; Modernizing facilities and equipment; Renovating training programs and methods
iii.	Developing TVET teaching staff, artisans, experts, vocational trainers and managers
iv.	Closely linking TVET with enterprises and the labor market
v.	Scientific application research and technology transfer; career guidance, entrepreneurship and innovation
vi.	Increase mobilization and improve the efficiency of financial investment for vocational education
vii.	Enhancing communication to improve the brand image, the positive perception about social values of vocational education
viii.	Actively and effectively improve international integration of TVET

Source: Decision 2239/QĐ-TTg on 31st December 2021

The solutions present different priorities comparing to the last period, as driven by the aforementioned objectives as well as by global development trends. Renovating state management was one of the most important achievements of TVET reform in the last period and thus it is not defined as a breakthrough solution in the next decade. Meanwhile, (iii) “Developing teaching staff, artisans, experts, vocational trainers and TVET managers” is still determined as a breakthrough solution. Two development aspects of “TVET facilities and equipment” and “TVET programs and curricular” which were two independent solutions in previous strategy are now combined; together with accelerating digitalization in TVET as a new aspect, this group of three aspects (ii) is defined as one breakthrough solution for the future period.

Besides, some interesting and notable changes in setting priorities could be recognized:

- TVET quality assurance, such as strengthening the capacity of the national vocational skills assessment and skill qualification system, used to be an independent solution but it has been placed under the objective to link TVET with enterprises and the labor market. This shows the clear perspective that TVET training quality assurance has to be linked closely with the labor market demand.
- Scientific application research and technology transfer; career guidance, entrepreneurship and innovation as solution (v) is the new prioritized development aspect in TVET in the next decade. Though being categorized under one solution, the explanation shows quite independent tasks, ambitious but ambiguous tasks for implementation. The main points include: associating TVET training with technology transfer and aiming for ordering mechanism as well as ability to commercialize result; setting up start-up and innovation centers at high-quality TVET institution,

strengthening innovative and entrepreneurial spirit in TVET ecosystem, enhancing vocational orientation for learners prior, during and after training process.

- Another new key solution is determined on financing TVET aspect. The solution (vi): Increase mobilization and improve the efficiency of financial investment for vocational education includes tasks of: increasing state's investment on TVET; increasing mobilization of non-public resources on TVET; enhancing financial autonomy of public TVET institutions; prioritizing synchronous investment for high-quality TVET at regional and national level and in key target occupations; prioritizing investment towards improving training quality for TVET institutions as well as towards inclusive TVET access for disadvantaged groups; and transitioning from average state budget allocation mechanism to more competitive way such as bidding and task-based allocation.

Along with overall TVET development strategy in period 2021 – 2030, the Government has issued an independent action program on TVET Digitalization

On the same day of issuing Decision 2239/QĐ-TTg on TVET Development Strategy for period 2021-2030, the Prime Minister also issued the Decision 2222/QĐ-TTg on approving the “Digitalization program in vocational education until 2025 and orientation to 2030”. This action program covers key solutions of: (i) Completing institutional policies and mechanism regarding TVET digitalization; (ii) Developing vocational training programs that align with digitalization in the economy and international integration; (iii) Developing digital infrastructure, platforms, equipment and learning material; (iv) Developing digital capacity for TVET teaching staff and managers towards innovating teaching and learning methods; (v) Digital transformation of state management and school administration activities; (vi) Mobilizing resources for TVET digital transformation; (vii) Raising awareness and international cooperation and (viii) Ensuring network safety and security.

2.3.3 Status of key development aspects and existing challenges of TVET development

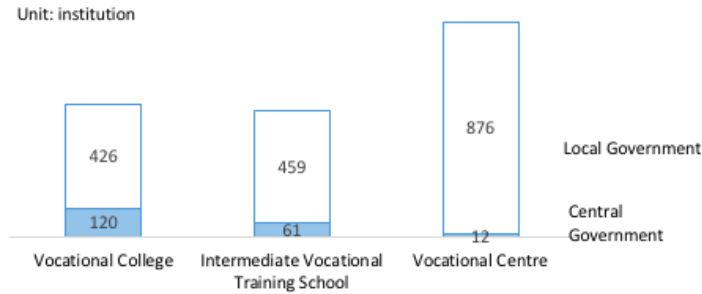
This part is to elaborate information and discussions on the key development aspects and the remaining key challenges of TVET sector, following key directions that mentioned in “*TVET Development Strategy 2021 – 2030 with vision to 2045*”.

(a) Governance & State management of TVET

Besides the launch of new TVET law in 2014 as the most prominent progress in TVET legal framework reform, the Directorate of Vocational Education (DVET) has reported that, during the period 2016 – 2020, there have been 07 decrees, 01 directive of the Prime Minister, 06 decisions of the Prime Minister, and many circulars issued with regards to the organization and management of TVET institutions; management of training activities; supplementing priority and related policies for teachers and learners to create a synchronous and unified legal framework for TVET institutions. However, there remain issues in system governance that need critical effort in the future in order to enhance the effectiveness of TVET centralized management, to reduce redundancy and to quickly respond to practical issues in implementation. According to DVET, existing limitations that need policies revision include: practical policies on encouraging enterprises to participate in TVET training, re-skill training activities, employment and remuneration policies for workers in occupations that specifically require skills training, etc.

Besides, the governance structure is still evaluated as “fragmented in some crucial management tasks largely determine the actual operations of the almost 2,000 TVET institutes but scattered among 13 line ministries, 63 provincial People’s Committees, diverse social–political organizations, and private owners”¹¹⁶. Most of vocational institutions are under the management of local government, covering 92% of institutions in 2018. Only 8% (out of 193) of institutions belongs to central line, of which the majority is vocational college.

Figure 57. Number of TVET Institutions by level of management



Source: Labor Statistical Yearbook, MOLISA (2018)

Additionally, the capacity of state management agencies is still limited. The contingent of state management staff in TVET sector, especially at the local advisory level, is inadequate, few in number and has limited professional capacity. The application of information technology in TVET management organizations has not met the requirements.

(b) Key training occupations assigned to TVET

In 2019, MOLISA passed the Decision No. 1769/QD-LDTBXH on Approval of Key industries; Assigned Schools for training key industries and occupations for the 2016 - 2020 period and orientation to 2025. The decision has issued the list of:

- i. Key industries according to international, ASEAN regional and national levels;
- ii. Public colleges and intermediate schools are assigned for training key occupations;
- iii. Public specialized schools provide training key occupations serving the development of the marine economy and training for ethnic minority people and people with disabilities.

It can be seen from below figure, in general, the government put much focus on training labor force in Engineering & Engineering Technology with a large number of assigned TVETs for training across all regions. Besides, Midland & North mountainous region and Mekong Delta are assigned more for the training labor force in Agriculture, Forestry & Aquaculture which is known as the regions’ strength. While, TVETs training in manufacturing, engineering, IT and business-related sectors are located more in Red River Delta, Central Coast and South East regions. Moreover, TVETs training service occupations such as tourism, hospitality, healthcare are more concentrated in central regions.

116 ADB Vietnam TVET sector assessment report (2020)

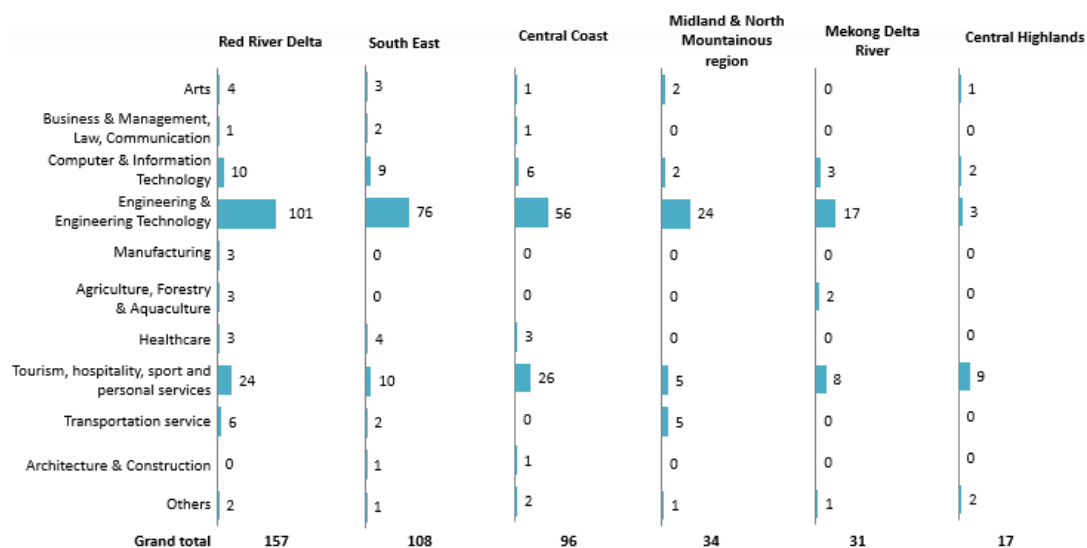
Figure 58. Number of public TVETIs assigned for training key occupations - by fields & by regions



Source: Decision No. 1769/QĐ-LĐTBXH

In term of the training key occupation following international standard, Engineering and Engineering Technology is still the governmental focus in almost all regions, except Central Highlands where is more focused on tourism, hospitality, sport and personal services. In addition, Red River Delta, Central Coast and South East regions are also chosen to train international level in IT field, tourism and hospitality field.

Figure 59. Number of public TVETIs assigned for training key international level occupations - by fields & by regions



Source: Decision No. 1769/QĐ-LĐTBXH

(c) TVET facilities and equipment

Equipment infrastructure, especially practice equipment, is the most important factors that directly affects the quality of vocational education. The Directorate of Vocational Education (DVET) reported that, as in the context of limited overall financial resource for TVET, in the period 2016 – 2020, the investment support was focus on high quality schools for synchronous facilities, and for key occupations. Through such strategic resource allocation, over 80% of equipment is invested in a relatively synchronous manner and meet with requirements on list of training equipment, advanced and modern quality. Especially, the schools that are selected to invest in key international and ASEAN-level occupations, or in pilot training programs transferred from abroad.

However, it could not be denied that, at broad level, TVET facilities and equipment are mostly considered as outdated compared with practical requirements of prospective employers; there lacks of synchronous investment in facilities, not meeting the requirements of practice levels. Among the TVET institutions surveyed for this report, 58% said that ‘insufficient training facilities and infrastructure’ is one challenge that the TVET is facing in order to meet with current and future labor market demand. The Supporting Industries Association said that the current practice machines, equipments and materials used in mechanical engineering vocational training schools are very old compared to the actual requirements of the industry, especially the supporting industry which will develop rapidly in the context of automation and industry 4.0.

(d) Program Development

Training programs and curriculum are developed more dynamically from adopting market demand

From interview discussions with TVET institutions for this report, two popular approaches on developing programs and setting program learning outcomes by the TVET institutions are recognized:

- A TVET program focuses mainly on subjects and practice of the main skills directly related to the work that students will perform after graduation. This approach is believed to guarantee the employability of graduates right after graduation since the program is designed based on discussion with prospective employers and follow most practices and skills required;
- A TVET program should have a balance combination of profession subjects and general subjects on interdisciplinary fields. This is based on the logic that a program needs to provide learners the fundamental knowledge and skills that would not only serve the immediate labor market requirements but also ensure the life-long learning ability and self-learning skills so that graduates can maintain the competitiveness in the labour market in the long run. The approach would often require more resources to accomplish program development, and such programs may comprise of more credits than normal programs.

Improving TVET training quality towards international standards has been implemented through transferring international programs and piloting international collaboration training model

In order to improve the quality of TVET to approach the quality standards of the ASEAN region and internationally, until 2020, MOLISA has completed the transfer of 34 sets of training programs for 34 key international occupations (12 programs from Australia and 22 programs from Germany). The programs have been piloting for college-level students, and upon graduation they will be awarded 02 degrees (college degree from Vietnam and degree from Australia or Germany). Learners, in addition to internationally recognized professional skills, also have the lowest English proficiency according to the European Foreign Language Competency Framework to participate in the labor market in Vietnam or in the collaborated countries, or students can choose to study continuously to university level at the university system of the collaborated countries. Implementing such programs, however, is facing challenges of adapting to local conditions of the industries and complying curricular with national occupational standards. In terms of quality output, how the qualifications of these programs can compete with similar national certificates on the labor market should need further evaluation.

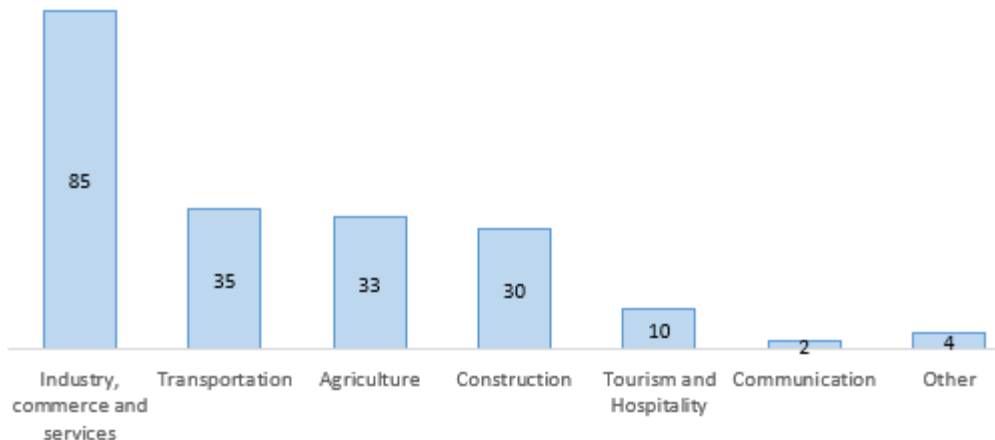
Still, this direction will be strongly promoted in the future via efforts to develop competency-based training programs that can benchmark with standards of other countries, and efforts to pilot training under the "dual vocational training" model of Germany and Switzerland, etc.

(e) Skills Standards, Quality Assurance & Accreditation

Development of National Occupational Skill Standards (NOSS)

National Occupational Skills Standards (NOSS) are regulations on professional knowledge, practice capacity and ability to apply such knowledge and competence to work that employees need to have to perform jobs at each level of each profession¹¹⁷. Thus, NOSS are the criteria on the ability and capacity of the workers required to perform the jobs. By December July 2021, there were a total of 199 NOSS which were developed, most of promulgated NOSS were in industrial, commerce and services.

Figure 60. Number of NOSS promulgated and updated as of July 2021



Source: Department of Occupational Skills, DVET; Decision 806/QĐ-LĐTBXH

117 Law on Employment No. 38/2013/QH13, effective from January 1, 2015

Regarding legal basis, MOLISA has issued the Circular No. 56/2015/TT-LĐTBXH on guiding the development, appraisal and publication of National Skill Standards. It is required that the appraisal committee of a national skill standard has to include participation of industry representatives and employers: *“Participants include the representative of the MOLISA; representative of relevant agencies, organization and enterprises employing workers in the profession including: labor union or trade union; occupational associations; a number of enterprises. In which representatives of the enterprise must account for at least 1/3 members of the council”.*

National occupational skill standards are developed in the direction of approaching the implementation capacity that are suitable to use for training at enterprises as well as for designing and building training programs at TVET institutions. The promulgation of a set of skill standards for each occupation will help businesses to have a basis for evaluation and recruitment; Instead of recruiting based on qualifications, enterprises can recruit vocational staff based on skills. This is a new trend in the world and in Vietnam to match TVET quality with the market demand, it is considered as a good solution to improve TVET training quality in Vietnam and thus has been receiving attention and support by some international donors, including Japan.

Improving TVET quality assurance activities

During the last period, many efforts were put on quality assurance and program accreditation to improve TVET quality. According to DVET, 144 colleges and intermediate schools have developed a self quality assurance system inside the school; quality assurance mechanism during training course was also piloted in 20 key national occupations. In parallel with the self-accreditation of TVET institutions, external accreditation of TVET institutions has been organized¹¹⁸, and a number of occupations were assessed. Quality assurance and accreditation of TVET according to international standards were also implemented¹¹⁹, 04 independent TVET quality accreditation organizations. During 2016-2020 period, capacity building activities have been organized for 1,800 inspectors; training and retraining on quality assurance of TVET were organized for 6,000 people.

In terms of skill assessment for learners, 49 organizations were formed to assess vocational skills for workers, which are eligible for assessment and grant of national vocational skills certificates for employees. This effort went along with the investment in building key industries and occupations at TVET institutions. MOLISA was also active in studying the framework for mutual recognition of vocational qualifications and skills between Vietnam and ASEAN countries, as well as internationally, pursuing mutual recognition of qualifications and thus contribute to the promotion of international skills development and labor mobility.

However, MOLISA also reports considerable remaining limitations regarding TVET quality assurance:

118 DVET project on TVET Development strategy 2021 – 2030 (draft project, July 2021): 239 times of accreditation has been done for 204 colleges, intermediate vocational schools and centers

119 DVET project on TVET Development strategy 2021 – 2030 (draft project, July 2021): accreditation according to British and German standards in 09 colleges were implemented

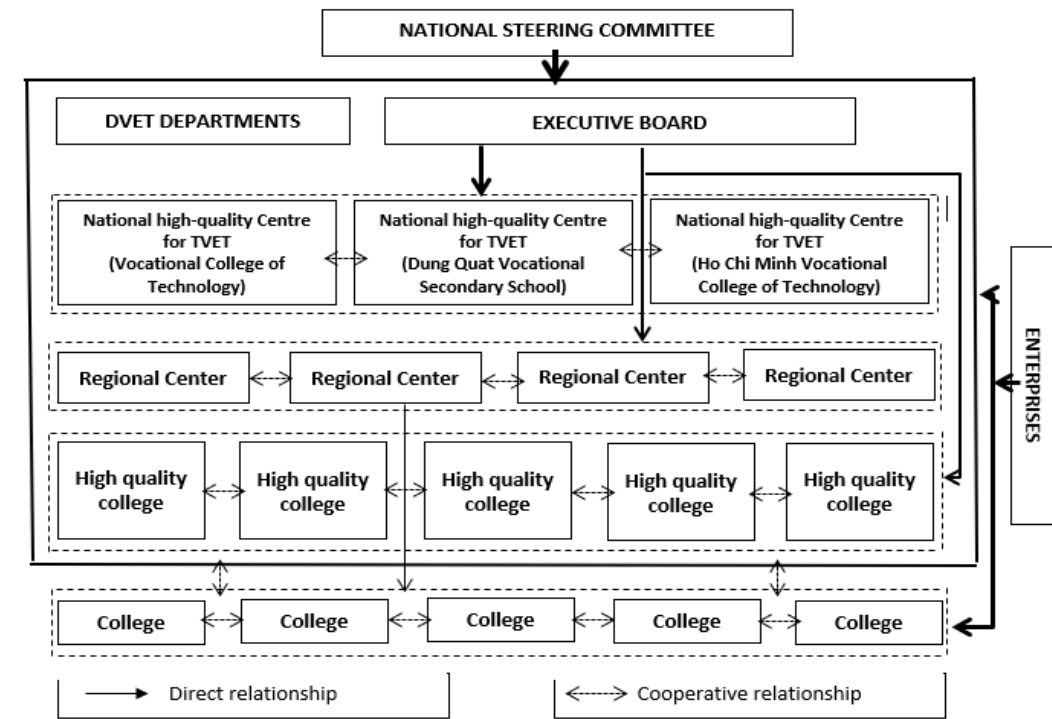
- The standards in the TVET system are not strongly synchronized, weakly connected, and have not met with management requirements; quality management, quality control according to the risk management approach has not been implemented; the accountability of TVET institutions has not been specified; monitoring and evaluation indicators on TVET have not yet been developed;
- The national system of assessment and recognition of the quality of TVET and vocational skills has not been renewed and updated along with the global integration;
- The implementation of the National Qualifications Framework is still slow; lack of effective governance and operating mechanisms; lacking of active participation of state management agencies, enterprises, trade unions, professional associations; The National Vocational Skills Standards development is slow compared to the speed of science - technology development and the rapid changes of the labor market;
- The mechanisms for assessing and granting national vocational skills certificates, which recognize the past learning results of learners/ laborers, have not yet met with the demand for recognition of professional qualifications & skill levels for laborers.

(f) Development of High-quality TVET

Demand for higher quality vocational trained laborers are common findings of various macro analysis as well as from demand assessment with employers. The TVET development strategy till 2030 puts an emphasis on the mission that TVET in Vietnam need to be developed to meet the diverse needs of the labor market and the higher requirements of quality of skilled human resources. Therefore, developing “high-quality TVET” has been a focus of MOLISA in recent years.

Objectives to develop high-quality TVET in the future period include: (i) Form a network of high-quality colleges; (ii) Establish 03 smart, modern and green high-quality centers for TVET training and other high-quality colleges which have capacity for high-quality training; (iii) 03 National Centers are established on the basis of investment, restructuring of 03 colleges under MOLISA with additional functions and tasks for these 03 colleges to perform the functions of the National Centers; (iv) 03 National Centers become leading and inspirable models for the whole system. Overall, the expected model to develop high-quality TVET in Vietnam is comprehensive and quite ambitious, showing the intention to systemically restructure the TVET institution network in Vietnam.

Figure 61. Expected model of High-Quality Training System



Source: MOLISA

Regarding quality standard, Decision No. 761/QĐ- TTg in May 2014 on Approving the High-quality Vocational School Development Project by 2020 has stipulated a set of higher standards for institutions to be recognized as “high-quality vocational schools”, introducing criteria that largely focus on measurable outcome and output performance of vocational programs, especially for those that are based on regional and international curriculum standards.

Ambitious objective on National high-quality colleges

National high-quality college will be the key model to be developed to realize such strategy. Functions of National Centers and High Quality Colleges include: (i) Conduct training at all levels; (ii) Provide high-quality training in key, new, outstanding occupations at all levels; (iii) Training in modern governance for TVET staff and managers; training in new technologies, new methods for TVET teachers/trainers; (iv) Implement national occupational skill assessment and innovation activities; (v) Training and improve skills for labor force based on labor market’s requirements and labors’ expectations; (vi) Research and apply updated techniques and technologies to improve training quality and effectiveness; strengthen cooperation with international organizations and enterprises in providing training; organize and implement production and business activities in compliance with Vietnam Law.

MOLISA also specified that there will be policies to support the development of National Center and high-quality schools as smart, modern, green, model TVET institutions; which are totally different from other TVET institutions; with concentration of resources to invest in facilities and equipment ensuring high-quality training conditions. National high quality colleges also aim to attract TVET managers and teachers

with specialized working conditions and salaries, and attract highly qualified learners to meet the training program requirements.

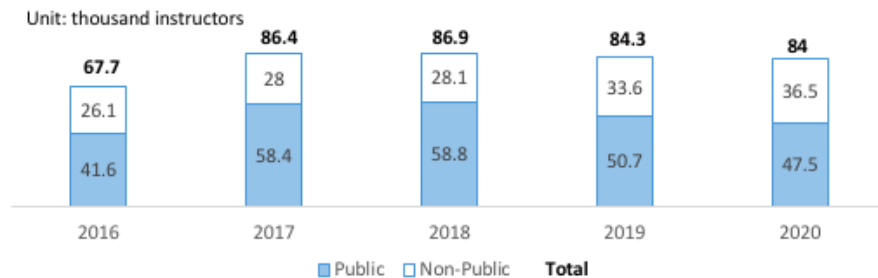
As it is still in initial development phase, there haven't been clear results and evaluation of the progress, however, this will be the prominent development program that attract most attention of the Government as well as development stakeholders in TVET sector.

(g) Teaching and management workforce

In recent years, the number of TVET instructors has evolved with a sharp increase from 67.7 thousand persons in 2016 to 86.9 thousand persons in 2018, following by a light decrease to 84 thousand persons in 2020. The reason might be that after VET Law 2014 became effective, some institutions managed by MOET were transferred to MOLISA and some ineffective institutions were closed or merged.

With 84 thousand TVET instructors, the teaching workforce in TVET is considered not enough for the effectiveness of training programs. As of 2020, the conversion rate between instructors and students/trainees is 1/27. This rate is higher than the standard set by MOLISA for TVET institutions. Accordingly, the maximum conversion rate between instructor and trainee is 25, and this rate is different depending on training field¹²⁰.

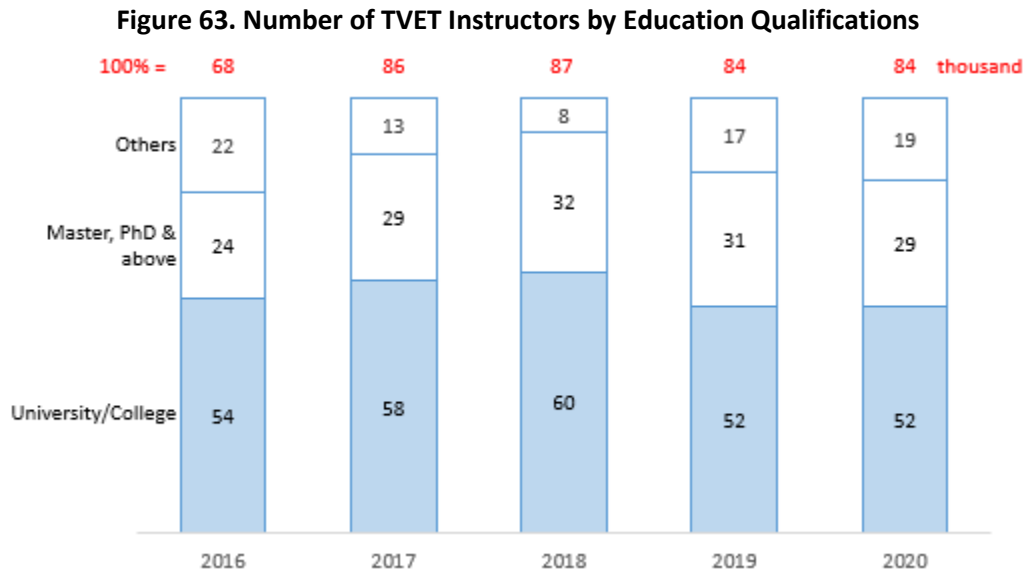
Figure 62. Number of TVET Instructors by Type of Ownership of Institution



Source: GSO (2020)

Most TVET instructors work in public sector, accounting for about 60% of the total number of TVET instructors in 2018 before its reduction to 47.5% in 2020. In the contrast, the number of TVET instructors working in non-public sector has increased in the period of 2016-2020 from 26.1 thousand persons to 36.5 thousand persons, which reflects the emergence of non-public institutions. Besides, the educational qualification of TVET instructors has been improved in recent years with more people having a bachelor degree or higher.

120 MOLISA, <http://www.molisa.gov.vn/Pages/tintuc/chitiet.aspx?tintucID=24705>



Source: GSO, 2020

From the perspective of vocational colleges, most public TVET colleges when being interviewed for this report said that they have faced challenges in attracting and retaining talents for the teaching workforce. With limited resources and the dependance on governmental support, many public TVET colleges cannot provide their teaching staff with competitive remuneration package as that from other private enterprises. This issue has been a serious concern to maintain the quality of training.

In order to develop and standardize the contingent of TVET teachers, in the past period, 45 TVET pedagogical faculties have been established at TVET institutions, universities and research institutes to carry out activities to standardize the training and retraining for vocational education teachers. MOLISA has organized 03 training programs and related documents on vocational training for TVET teachers in 03 levels; organized training courses directly for 2,080 teachers. Besides, 36 sets of training programs, documents and tests to assess vocational skill certification for TVET teachers were developed. The training, testing, assessment and granting of certificates of vocational skills for 1,300 teachers were organized; there are also trainings on specialized in English for 860 teachers of key investment occupations at all levels, etc.

Yet, in general, there remain limitations in terms of capacity of TVET teaching staff, including inadequate vocational skills, English and ICT skills, technology & science research, teaching pedagogies and teaching methods. Besides, the scale of training for teachers have not yet met with the scale and demand of practical occupations.

(h) Digital transformation in TVET

Digital transformation in TVET required investment in infrastructure, data sources, raising capabilities of stakeholders, developing training resources, professions, sector management being used and shared on data science platform, etc. However, the ability to realize digital transformation in the current TVET

system has been very limited. According to MOLISA's review in the draft action program on TVET digital transformation, there are a few key aspects regarding the baseline current status as below:

Lack of training program and training content on digital and ICT

Though there may have local experiments or spontaneous initiatives at some institutions, overall, there has not been any comprehensive content development that specialized for digitalization and related technologies. In terms of content, digital skills are simply referred to IT basic knowledge. Thus, besides the basic IT module which requires a mandatory amount of time, most non-technology-related vocational programs do not have specialized training content in technology or ICT. The proportion of knowledge and skills related to digital technology in traditional industries is not high. For example, technical programs such as automotive mechanics, electricity - electronics, and mechatronics have not updated their knowledge of IoT and AI. Although some programs such as mechanical engineering and electronics spend a considerable amount of time teaching knowledge and skills in CNC and PLC programming, the schools in general do not have clear plans for training on digital capacity in both basic and specialized subjects. Training programs at enterprises, on the other hand, do not focus on digital transformation as they often only focus on specific skills required at enterprises. Therefore, the current training content has not yet ensured that learners are equipped with digital capabilities sufficiently and equally among different training programs.

The readiness of digital teaching and learning methods in TVET is still low

During social distancing by the Covid-19 epidemic, e-learning is applied more popularly in TVET, which can be considered as a push factor for digitalization in teaching and learning. According to a survey report by MOLISA¹²¹ in 2021, about 70% teachers and 84% students who responded to the survey said they participated in teaching and learning through online teaching tools such as Zoom, Google Meeting, MS Teams etc. However, as causing by inadequate preparation of skills and materials, the quality of online teaching is limited and it is evaluated as insufficient for proper transformation solution. 90% of teachers said they need more training on online teaching as they were provided with guidance on using the tools but were not trained on teaching methods, thus the ability to deliver content, to interact with learners and control the trainings has been not satisfied.

Insufficient infrastructure and equipment

Teachers and students have faced difficulties in insufficient infrastructure, especially equipment and Internet problems, especially in remote areas. Lacking of software is also one important fact. As discussed lately in Chapter 3, in the future, under the impact of digitalization and automation, employers will require more skills in using specialized softwares. However, currently in TVET sector, the investment in specialized software for teaching has been inadequate, most of the used softwares are still outdated compared to industry practice, or are not copyrighted ones.

121 Report data in the project on Digital transformation of TVET until 2025 with orientation to 2020 (Draft on August 2021)

Limited application in digitalizing related management in TVET system

Using software in management is popular in TVET institutions and in management agencies, however, fragmented application and lacking of practical system design to connect different data from stakeholders is a prominent problem. Most specialized departments of TVET institutions have their own software systems to serve their work but the connectivity between systems and applications of departments in TVET institutions is poor. Besides, human resource to develop and operate the IT system in TVET institutions is another big limitation, though it is not equally challenge among different institutions. Some institutions with strong IT capacity can self organize and utilize IT technology for digital applications, especially with non-public TVET as the case of FPT PolyTechnique.

Case of a Non-public TVET: FPT Polytechnique

FPT Polytechnic College is under the college training division of education segment of FPT Corporation. The main training majors include: IT, Economics, Tourism, Hospitality, Graphic Design, Mechanical and Electrical Engineering. The College has 5 main campuses across Vietnam offering TVET programs including 9+ model.

Besides participating in on-campus training classes, students at FPT Polytechnic College are also required to fulfill a number of online courses. The school has a Program Development Unit in charge of selecting the best lecturers, foreign learning materials and textbooks. Video clips of many lectures are then produced and used in the whole system. By this way, basic theoretical lectures can be available to students from all campus via digital platforms. The solution at the same time improves the self-study skill of students and reduces the cost of teaching staff, allowing the model and training activities to be multiplied in a large number of campuses with the same standards. The training programs as a result do not depend on the lecturers because there is a ready-made program framework with clearly defined output standards.

To maintain the quality of its training programs, every year, the school measures the quality of training based on two factors: (1) feedback from lecturers and students about the training courses; (2) feedback from enterprises about the quality of fresh graduates. The school also develops an ISO process, which provides commitments such as: periodically update the training materials, adjust the program framework. The development of the program framework involves the participation of qualified experts and lecturers.

(i) Implementation of the 9+ model

The 9+ program, as discussed on legal basis in the previous part, is an effort by the Government to implement early vocational orientation and support for learners, especially in rural areas to have equal access to high-quality vocational training meanwhile can continue learning mainstream education content. Through interview with TVET institutions during this report, it is recognized that the schools have shown certain positive perception of the model, and many parents, especially from rural areas, are open

to send their children to participate in the 9+ model, expecting it as a better solution for those who want to follow the technical vocational track, as it can shorten the studying time and to some extent offer good employment opportunities upon graduation. However, also from the above mentioned study, limitation of the current 9+ model situation does exist:

- Many students enrolling in the 9+ model are those who do not have strong learning capacity to continue towards higher education. As a result, to follow a studying program of both general and vocational education and general education training programs at the same time can be challenging. This consequently may lead to the low quality of graduates when entering the labor market.
- At the age of 15, many students are still too young to really evaluate all future opportunities and make a strategic career decision. Therefore, the choice for this 9+ model mostly depends on parents and career orientation activities. This can lead to the lack of interest and willingness of learners on completion of training program when the choice for program does not really reflect their strength and belief.
- The fact that “the general education of the 9+ model is provided by the local continuous education centers under the Department of Education and Training” can make the TVET institution dependent. This can lead to inefficient management issues.
- Unlike the KOSEN model with strong investment and support from the Japanese government in terms of teaching facility and the maintenance of low student/ teacher ratio, the 9+ model in Vietnam is believed by many TVET institutions that schools and teachers do not receive enough support to accomplish the challenges
- Even though there are more people open to this model over the year, there is still a common mindset of many parents that entering this program is for their children to finish the traditional study track of upper secondary education, then they are able to move forward to higher education track.

(j) Other issues

Start-up, Entrepreneurship, Innovation

Scientific application research and technology transfer; entrepreneurship and innovation is emerging trend, however, it seems still lack of direction in planning and implementation. In 2020, MOLISA has organized an event on “National start-up day” among TVET students and got attentions from various stakeholders. However, recent discussions haven’t shown clear objectives and direction on developing such theme in TVET sector. Therefore, this will also open for opportunities for support from stakeholders, including international donors to contribute to this development theme.

Public and Non-public TVET institutions

Regarding TVET autonomy, though the Government also aims to grant full autonomy to TVET institutions, the public TVET institutions show more dependence on the central state management and support from donors, while non-public TVET ones need to acquire investment permission and often take full responsibility for financial aid. Therefore, public vocational institutions have a strong advantage as low

tuition fee thanks to support from the state 's budget and other sponsors or international organizations. However, due to relying heavily on state capital, the investment of infrastructure is sometimes slow which affects the quality of training programmes. Meanwhile, non-public training providers have to recover all costs through tuition fees so tuition fee is a bit high. But they are able to actively manage their training activities and programmes such as diversifying training programs which stronger linkages to the requirements of labor market. Besides, non-public TVET ones usually have strong relationship with enterprises which create more career opportunities for trainees after graduating.

Figure 64. Comparison between public and non-public vocational institutions

Category	Hanoi Vocational College of High Technology (Public vocational institution)	Hanoi Institute of Technology (Non-public vocational institution)
Website	http://hht.edu.vn/	http://hitech.edu.vn/
Infrastructure	Has to rely heavily on state capital, so the process of applying for funding also needs to go through many extremely complicated steps	Technical facilities are more modern and spacious due to autonomous rights to make decisions to improve the quality of infrastructure
Tuition fee	- College system: 900,000 – 1,300,000 VND/month. High quality system: 1,800,000 VND/month - Intermediate level: free for vocational training program	5,000,000 – 8,000,000 VND/Semester depending on the major. Each semester lasts 4 months. Besides, learners need to pay some other fees, such as English training fee, books, enrollment fee...
Curriculum	Applied in the direction of traditional training	Diversified training programs and practice-oriented learning
Career opportunity	N/A	Is the vocational institution of enterprise – FPT Corporation -> Career opportunities for learners are clearer. After training, learners have chances to work at the enterprise
Enrollment standard	Screening application document, academic records	Screening application document, academic records

2.3.4 Support situation and existing challenges from perspective of TVET Institutions

This part focuses on presenting the findings from the survey with TVET institutions about their perception on prioritized issues for development and thus can reflect the demand for support in the future.

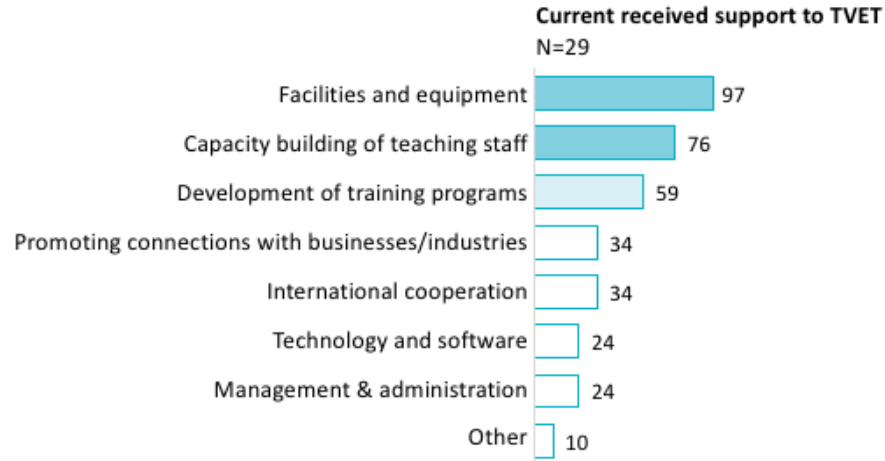
(a) Support activities for TVET in the last 5 years

Among 50 TVET institutions responded to the survey, 29 organizations confirmed that they have received certain support from international donors or government in the last 5 years. The support was mainly in form of assistance in facilities and equipment (97%), and capacity building for teaching staff (76%), or in terms of developing training programs (59%).

For example, Ho Chi Minh City Vocational College shared that in the last 5 years, they have got support from DVET of improving capacity of teaching staff by sending them to study in Australia, France. Moreover, Ho Chi Minh City Vocational College received investment from City People's Committee of Ho Chi Minh City in building the second campus in Thu Duc City, handing over at the end of 2021 (23,000m²,

300 billion VND including more than 20 billion VND for equipment). This means that the TVET institutions seem to receive strong support directly from government bodies.

Figure 65. Support received since the last 5 years by the surveyed TVET institutions



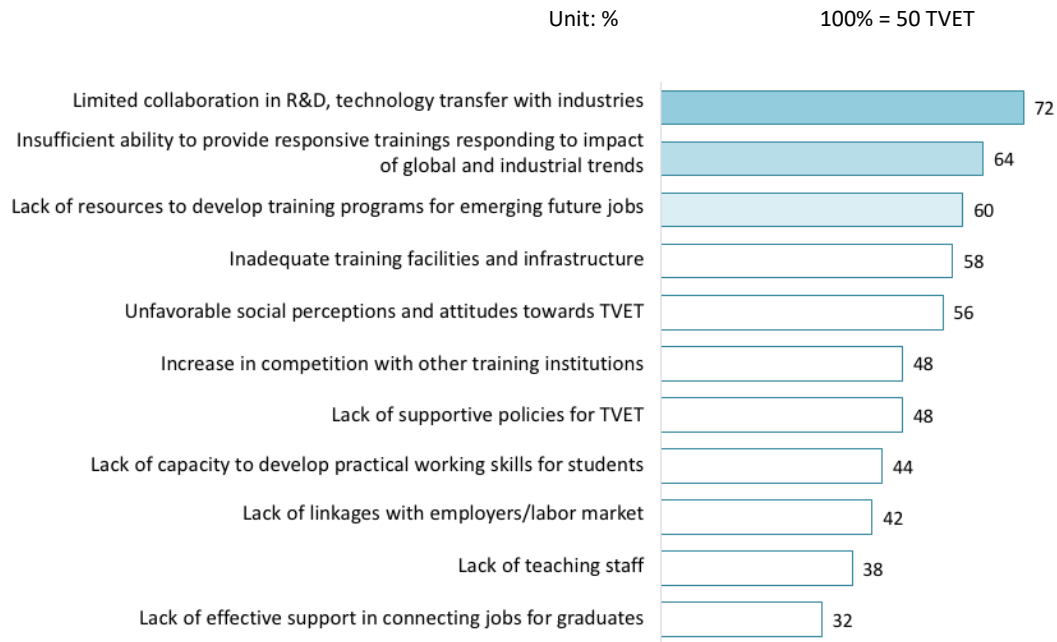
Regarding support from JICA, during interviews with specific TVET institutions, many TVET colleges express high appreciation on the support of JICA for Vietnam TVET sector. The key difference of JICA support projects is the presence of “JICA experts” engaging directly on-site of the supported organizations. This approach allows direct support and observation from Japanese side, which can help JICA evaluate the status and effectiveness of the supported projects in good timing for any necessary adjustment. It also creates a special bond between Japanese and Vietnamese side through direct engagement, which is crucial to enhance trust and sharing.

(b) Perception of existing challenges at institution level

When being asked about the challenges that the TVET organizations faced in order to meet with the current and future labor market demand¹²², top three challenges shared by the TVET institutions include: Limited collaboration in R&D and technology transfer with industry stakeholders, Lacking of ability to provide responsive trainings with regards to the impact of global and industrial development trends, such as industrial 4.0, digitalization & automation etc., and Lacking of resources and capacity to develop training programs that can supply human resource for emerging jobs in the future. However, almost a similar number of institutions also had feedback that inadequate training facilities, infrastructure and unfavourable social perceptions towards TVET are the critical challenges.

122 Question: Which challenges has your organization faced in order to meet current and future labor market demand?

Figure 66. Perception of main challenges faced at TVET institution level



Interestingly, the TVET institutions also feel that increasing competition with other training institutions in TVET sector is a challenge to them, this could be seen as a positive pressure. The connection with labor market, insufficient teaching staff, or ability to provide effective job placement support for graduates are perceived less challenging for TVET institutions.

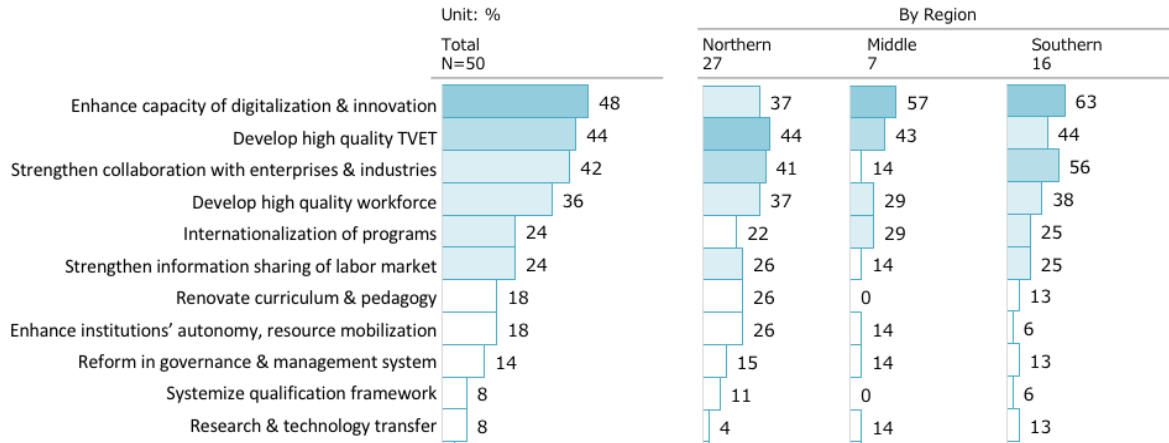
(c) Perception of challenges at system level

It is also helpful to understand the prioritized sector challenges that require investment in future period from the perspective of TVET institutions¹²³. The top three challenges that need prioritized investment in the future period include enhancing capacity for digitalization, developing high quality TVET and strengthening collaboration with enterprises and industry stakeholders. The key prioritized issues from perspective of the institutions greatly follow the strategy determined for next period 2021 -2030.

There has been a slight difference among regions. Interestingly, ‘collaboration with enterprises and industries’ is not a priority issues for TVET institutions in the central region; however, it is quite consistent with findings from survey with companies in the central region. This may inform us that the collaboration of TVET and enterprises in this region is active and effective for both sides.

¹²³ Question: In your opinion, what are the TOP3 important issues of TVET system should be focused by Government and Donors to give supports in the next 5-10 years?

Figure 67. Perception of TVET institutions on Top 3 sector challenges



From in-depth interviews with specific TVET colleges, there have been consistent feedback about the prioritized issues for future development:

- **Digitalization capacity:** it is important that TVET sector can integrate its management and training activities onto digital platforms. This action would improve the efficiency and productivity of TVET management and the quality of education and training activities as well as enrich student experience.
- **Collaboration with industry and enterprises:** It is believed that close collaboration between TVET colleges and enterprises would bring mutual benefits for both sides as it brings together the supply and demand sides, thus minimizes the quality gaps between training outputs and enterprises demand.
- **Development of high quality workforce:** High quality workforce is thought to be the key driver for improving the quality of TVET sector. Many support initiatives from the government and donors have been focused on tackling the capacity building for TVET teaching workforce.

On the other hand, results also show that TVET institutions do not see their clear demand for strong reform in state management, in qualification frameworks, which might be already heavy in the last period. Besides, it may also reflect that TVET institutions do not have clear awareness about renovating institutional autonomy in TVET sector, as well as in research and technology transfer. However, these are the two new aspects in the TVET development strategy in period 2021 – 2030. This fact indicates that there should be stronger effort from government and related stakeholders to clarify the actual needs from institutional level, as well as to communicate these two aspects more clearly towards TVET institutions.

2.4 The collaboration of HE and TVET institutions with enterprises

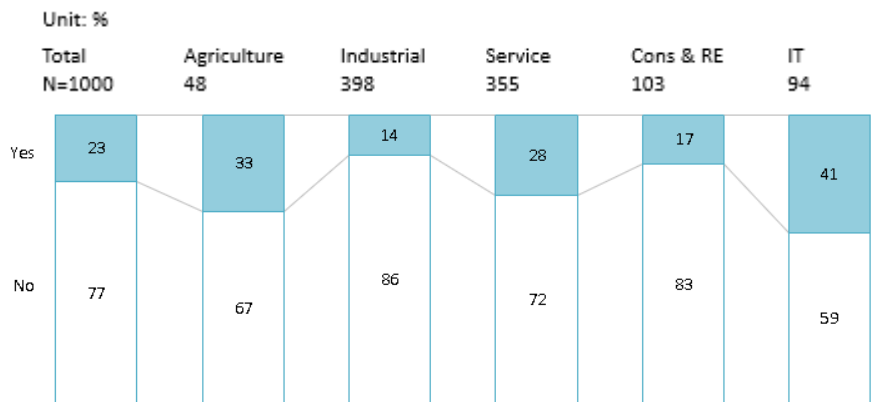
2.4.1 Collaboration of HE with enterprises & industries

(a) Popularity of collaboration

Almost all HEIs participated in the survey are having collaboration with enterprise. Meanwhile, survey with enterprises shows lower collaboration rate with HEIs and skewed to IT, agriculture, service industry, large – sized companies and center located enterprises

Results from the survey shows that 95% of HEIs have collaboration activities with enterprise sector in various form of human resource development activities. Meanwhile, the among 1000 enterprises joining the research, only 23% said that they are having collaboration with universities.

Figure 68. Current collaboration of enterprises with HEIs, by industry



By industry, enterprises in IT (41%), agriculture (33%) and service (28%) record more collaboration in working with HEIs than other sectors (such as real estate, manufacturing industry). This is quite understandable as agriculture and service (including consulting, hospitality, logistic) requires positions with specialized knowledge, then collaboration with HE will be the shortest way in approaching necessary resources. Motivation for collaboration with HEIs becomes more serious and popular in IT industry (41%) than the average (23%). A significant shortage of human resources in IT is noticed from voices of many companies varied from local to international, big to small and in all locations. Even some enterprises outside of the industry also share difficulties in recruiting IT position in their company in an in-depth interview.

“Our company is collaborating strongly with educational organizations of hospitality as you know the industry needs specialized knowledge. There are a lot of activities including receiving internship, organizing hotel tour, holding practical knowledge sharing sessions for students, etc. All is for sourcing candidates and building company brand in recruitment for future recruitment purpose.” _ HR, Service, Northern company.

“I think all companies in IT industry face difficulty in recruitment due to shortage of supply. We need to cooperate with educational organizations more closely and more intensively to expose our brand name and sourcing candidates for future recruitment.” _ HR, IT, Northern company.

Regarding location, it seems that in the central region, the collaboration between companies and HE is more popular than in the north and the south. Statistic records 30% enterprises in the center have collaboration with HE compared with 25% in the north and 17% in the south. This mainly inversely proportional to the size and the dynamic of the market, of which the center of Vietnam is considerably staying behind the north and the south.

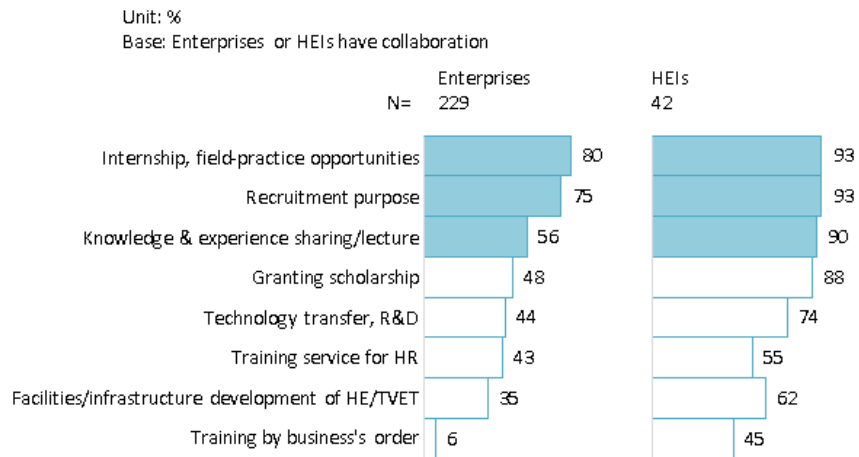
"I do have relationship with different colleges related to forestry and agriculture in HR activities such as receiving internship or practical tours...." _ HR, Industry, Central region company

And the larger the company size, the more popular of collaboration with educational organizations. This seems being obvious thanks for more demand in quantity and position in big size company

(b) HEIs – Enterprises collaboration activities

Collaboration activities between enterprises and HEIs are various, but focus primarily on top 3 activities recruitment purpose, internship & field-practice opportunities for students and knowledge & experience sharing or lecturing. HEIs mainly want to improve practical knowledge for their students as well as prove for effectiveness of study programs via employment rate after graduation. Meanwhile, the ultimate goal of enterprise is to recruit candidates with reasonable budget investment.

Figure 69. Current collaboration activities between enterprises and HEIs



Generally, popular collaboration activities with HEIs mainly are providing internship, field-practice opportunities for students (80%), recruitment purpose (75%) and knowledge & experience sharing or giving lectures for students (56%) thanks for visible and measurable results, easy and less time consumption in organizing activities. On the other hand, these activities also can show benefits in building strong and positive image for company brand in the industry to target human resource with reasonable investment on budget.

"Our companies usually collaborate with HE for recruitment purpose such as joining job fair or posting recruitment ads on site. Recently, because of the Covid-19 pandemic, we can not join direct onsite activities

any more. Hence, we try more online activities such as organizing online seminar and lectures to share practical knowledge and experience, and receive warm welcome by students and the educational organizations. We dedicate only our managers' time and effort in preparation, no additional expenses" –
HR, Manufacturing, Northern company

The same three activities are popular among more than 90% surveyed HEIs. Regarding Internship and field-practice opportunities for students, many HEIs have developed a database and network of enterprises to send their students for internship and learning activities. As a compulsory requirement by all HE programs, students need to finish some internship program as a condition for graduation. Some HE programs even require two intership programs in which: the first one is often in the second year of the study for the students to observe and learn about the general working environment and developing professional working attitude; the second one often occurs at the end of the program when students will learn how to apply their knowledge into real work and be prepared for graduation. In terms of knowledge and exprience sharing or lecturing: it is an increasing trend in HEIs that students can learn not only the theory from lecturers but also need to learn from industry expert and pratitioners with hand-on exprience and updated understanding about the industry and the market. Therefore, the form of visiting lecturers or guest speakers has become popular throughout an HE program. Regarding recruitment purpose, employment rate after graduation is one of the indicators to evaluate a study program. All studied HEIs mentioned that they have activities to support students to secure a job upon graduation, including partnering enterprise database, direct referal and holding job fairs. In case of high ranking universities, some enterprises even need to proactively approach those HEIs to attract fresh graduate talents though recruitment and trainee programs.

HEIs are more welcome other collaboration activities which required more budget and effort from both sides, but enterprises do not show high intention

These less popular activities are granting scholarships, technology transfer or R&D cooperation, training services for enterprises human resource, facilities/infrastructure development of educational organizations and training by business's order. In which, granting scholarship is the most preferable from both enterprises and HEIs sides, because it is not only quick, and less effort consumed but also easy to build positive image for the company brand. Moreover, this is beneficial for students in HEIs not only for having financial aid to help with tuition fee but also highlight notable academic achievement. Meanwhile, training by business's order¹²⁴ is uncommon in cooperation with HEIs because this would require much investment on budget, efforts on time and personnel for negotiating and designing the order while demand for recruiting staff stay at reasonable quantity. Hence, this activity is perceived to be suitable only for the enterprises that require stably large quantity of recruitment.

¹²⁴ 'Training by business's order' means situation that a company order specific HEI or TVETI to recruit and train for certain amount of future laborers based on scale and quality demand of the company. Meanwhile, 'Training service for HR' means situation that a company hire specific HEI or TVETI to conduct training (in-house training) for existing staff of the company.

"I heard about this type of collaboration activity, but mainly with TVET. I have not seen much this form with HEIs. Also, I think only big company with strong investment on budget and personnel and have stable demand for recruitment like Samsung can do." _ HR, Manufacturing, Northern company

Collaboration activities having potential to generate revenue are of interest by HEIs. These include R&D and technology transfer; training by enterprises' order and other training for enterprises' HR. High ranking HEIs in their field have more advantages in expanding these forms of collaboration.

In case of Can Tho University, the strong connection with enterprise sector and local government has brought the university the advantage in collaboration for research and technology transfer. Many local companies in the Mekong Delta region or prospective investors have chosen Can Tho University to conduct research or develop new technology-based products to help them improve their production outputs, redesign or modify products/ services to better serve the local target market, or make strategic investment or business decision. In Industrial University of HCMC, all research projects of lecturers are oriented towards technology transfer to enterprises, commit to enterprises on the output products. Every year, there are about 200 research projects, often combining output with enterprises and many other projects, and enterprises act as counterpart units of the University to request and provide financial aids. In Foreign Trade University, the university has a unit to provide various services to enterprises, ranging from training courses to research and consulting projects.

(c) Intention for future collaboration between HEIs and enterprises

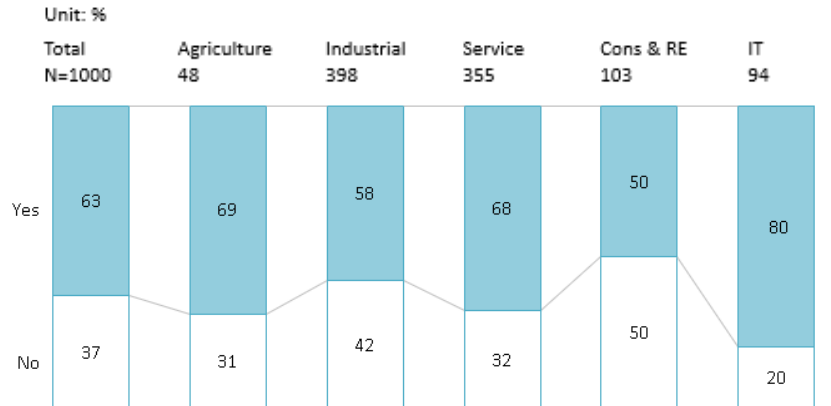
Generally, there has been high satisfaction from both sides about collaboration

Generally, both HEIs and enterprises having collaboration are satisfying with current activities results. Low percentages of dissatisfaction from enterprises' opinion toward the collaboration with HE (2%). Average satisfaction score archive 3.6 point out of 5 in total and being similar across all different groups of industry, location, company labor size, and company origin. Meanwhile only 4% of HEIs share dissatisfaction toward the collaboration with enterprises.

"Collaboration with HE or TVET in recruiting human resource is quite effective and shortest way in approaching the right target labor including office staff and workers. We like the active and well – arranged collaboration from some leading TVETs in town" _ HR, Service, Northern company

High intention for future collaboration between enterprises and HEIs across all groups of location, industry, company labor size and origin; continuously skewed to IT, agriculture, service industry and big sized company

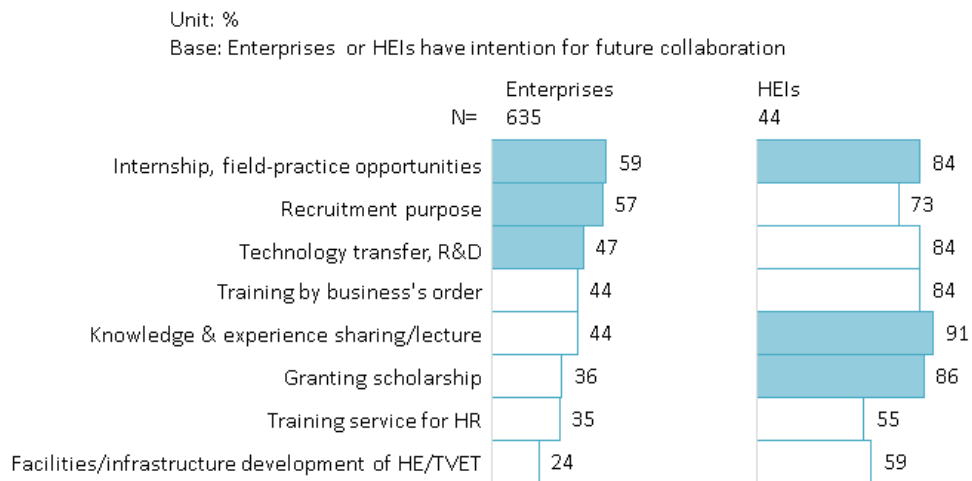
Figure 70. Intention for future collaboration with HEIs of enterprises, by industry



In the future, many companies show high intention, eagerness, and enthusiasm to cooperate with HEIs in related IHRD activities. 63% respondents want to cooperate with HE in near future. Statistic again proof for stronger wills in IT (80%), agriculture (69%) and service (68%) compared with other industries, in large size companies (80%) rather than in medium (54%) and small ones (52%).

Both sides expect more complex & customized collaboration activities such as training for business's order and technology transfer

Figure 71. Expectation on future collaboration activities between HEIs and enterprises



In future collaboration with HEIs from enterprises' opinion, the most two common activities including providing internship, field-practice opportunities (59%) and recruitment purpose (57%) still take lead compared with other activities. Knowledge & experience sharing or giving lectures for students' activity also noticed a down trend (from 58% currently to 44% in future). It can be seen that enterprises tend to

decrease those direct popular activities to more complex & customized activities including technology transfer R&D cooperation (increase from 44% currently to 47% in future) and training by business's order (6% currently to 44% in future).

From HEIs' expectations, it is noticed the similar expectation for future activities compared with such from enterprises. There is expected an increase in future collaboration for complex & customized activities such as training for businesses' order (from 45% currently to 84% in future), technology transfer and R&D (from 74% currently to 84% in future). However, many HEIs does not expect for a significant down trend for collaboration by current popular activities such as internship, field-practice opportunities for students, knowledge & experience sharing or lecturing, and recruitment purposes.

(d) Situation of Japanese enterprises' collaboration with HEIs

Among the surveyed Japanese enterprises, it is recorded a lower collaboration rate with HEIs for HRD activities (16%) than the average (23%). Many companies do not find impressive benefit in cooperation while current recruitment activities go smoothly by referrals or recruitment advertisement on different channels. Top 3 collaboration activities are following the common including: internship & field-practice opportunities for students (84%), recruitment purpose (80%), and knowledge & experience sharing or lecturing (47%).

"Basic recruitment activities such as posting recruitment ads or getting referrals from network are good enough and meet the company's demand. There is lower priority for collaborating strongly with educational organizations in short." _ HR, Industry, Japanese Northern company

From HEIs' perspective, almost shared positive feedback on collaboration with Japanese enterprises. Some challenges may exist due to language barrier or the perception that Japanese enterprises' working manner is less flexible and thus it normally takes longer time or more complicated procedures for setting the collaboration. However, such issues are considered as very minor concerns.

The intention for future collaboration with HEIs from Japanese enterprises is high. When being asked for future intention for collaborating with HEIs, 73% Japanese enterprise show enthusiasm in having collaboration with HEIs in near future, 4 times higher than the current collaboration rate (only at 16%). Regarding future collaboration activities, the feedback is similar to other enterprises. Japanese enterprises also want to have more complex & customized collaboration, such as technology transfer, R&D and training by businesses' order.

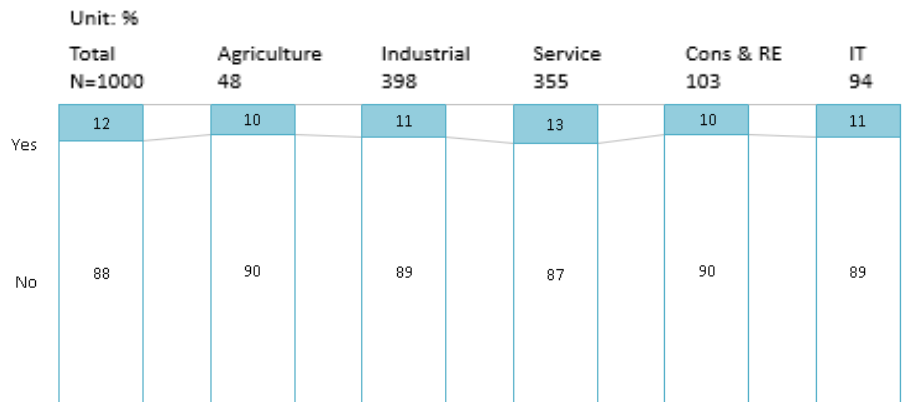
2.4.2 Collaboration of TVET with enterprises

(a) Popularity of collaboration

Almost all TVET institutions are active in collaboration with enterprises, but from the side of enterprises, collaboration with TVET is much less popular and skewed to service, large – sized companies

Results show that 94% of TVET institutions have collaboration activities with enterprise sector. Meanwhile, only 12% of 1000 enterprises joining the research respond that they are having collaboration with TVET. It seems that in the central region, the collaboration between companies and TVET is more popular, as the result records 22% enterprises in the central provinces having collaboration with TVET compared to 11% in the north and 9% in the south.

Figure 72. Current collaboration of enterprises with TVET, by industry

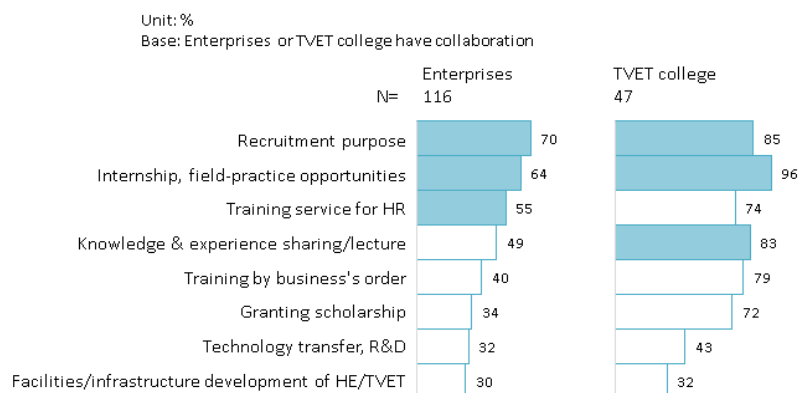


(b) TVET – Enterprises collaboration activities

Collaboration activities with TVET colleges are mainly for the demand of recruiting workers

Generally, popular collaboration activities mainly are recruitment purpose (70%), providing internship, field-practice opportunities for students (64%), training service for HR (55%), and knowledge & experience sharing (49%) thanks for visible and measurable results, easy and less time consumption in organizing activities. Interestingly, training by business’s order also considerably popular amongst current collaboration activities with TVET (40%).

Figure 73. Current collaboration activities between enterprises and TVET



By nature, TVET schools need to focus heavily on practicing for students. Therefore, the collaboration with enterprises is essential. A TVET institution cannot afford investing in all technology and equipment for the practice activities of its teaching program. Sending students to enterprises is the best way to provide students with up-to-date knowledge and skills as well as practicing opportunities. Students can also learn about real working environment and how a business unit operates.

Moreover, not only students but TVET teachers are also required to work in an enterprise for 4 weeks per year as a way of enhancing knowledge and teaching capacity. Therefore, the collaboration with enterprise sector is also expanded to sending teaching staff to enterprises. During this time, the TVET lecturers can update their knowledge about the industry, the new technology, which in return will help them refresh and enrich their teaching content and design.

According to the handbook in cooperation between enterprises and TVETIs published by DVET, the cooperation between TVETIs and enterprises is facing limitations in terms of perception, resources and expectation gap in training outputs, which make enterprise less consider to join hand with TVETIs.

Figure 74. Difficulties in cooperation between enterprises and TVETs

Difficulty	Enterprises	TVET
Limited perception of collaboration	<ul style="list-style-type: none"> Reluctance to change; Have prejudice that the training system is very complicated and difficult to connect 	<ul style="list-style-type: none"> Reluctance to change; Enterprises haven't seen the benefits of cooperation thus no interest in collaboration with TVET
Limited resources for collaboration	<ul style="list-style-type: none"> Financial constraints while collaboration takes time to be effective Small and medium-sized companies often prioritize short-term goals (work effectiveness) instead of spending resource for long-term goal (such as developing future HR from collaboration with TVET) 	<ul style="list-style-type: none"> Time, cost and effort required to build strong relationships, cannot be effective immediately Small & medium-scale TVEITs do not spend enough resource for building long-term relationship with enterprises, because they need to prioritize operating existing training courses (short-term issues) Difficulties in choosing the right partners
Existing gap between training requirements and output	<ul style="list-style-type: none"> Lack of confidence in the training system, consider training content in TVET is not effective and not linked with the actual requirement of enterprises 	<ul style="list-style-type: none"> Cannot meet enterprises' requirement in providing training service for HR of enterprises since it's not effective to organize training for too few number of learners Difficulties in identifying skills needs and accessing technology due to limited number of enterprises in the same field of training with TVET, or enterprises are too small with backward technology

Source: Handbook to connect vocational training institutions with enterprises, co-developed by DVET and project "Reform TVET in Vietnam" (GIZ)¹²⁵

(c) Intention for future collaboration between TVET institution with enterprises

TVET-Enterprises collaboration is more perceived to bring benefit for TVET than to enterprises, thus the willingness for collaboration from enterprises is limited

Many TVET schools believe that enterprises can contribute to the development of high-skilled technical workforce by participating more actively in sharing knowledge through the form of visiting lecturing. It would be valuable if enterprises can send their representatives to school and participating in the knowledge sharing of the training activities or providing more fieldtrip activities for students and TVET

125 Vietnamese document: <https://daotaocq.gdnn.gov.vn/cam-nang-gan-ket-co-so-giao-duc-nghe-nghiep-voi-doanh-nghiep/>

lecturer to learn through on-site observation and practice.

However, not many enterprises provide this support, and not many enterprises show willingness for such support. The TVETs perceive that most enterprises see this form of collaboration is a one-way support instead of perceiving it as a mutual benefit. In fact, the companies really concern for the inefficiency in terms of time and material, equipment usage when receiving internship from TVET institutions. Unlike some developed countries when supporting vocational interns is perceived as common code of conduct for businesses, in Vietnam, enterprises, especially Vietnamese ones, do not pay positive attention to this collaboration. Meanwhile, there has not been a clear legal framework that specify responsibilities as well as benefit for businesses to actively take part in vocational education.

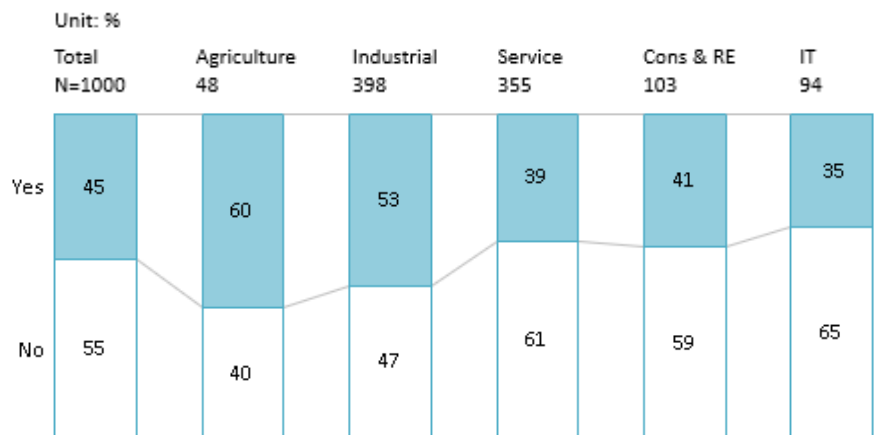
However, among enterprises that are currently having collaboration with TVET institutions, evaluation of enterprises' satisfaction is high; similar high satisfaction is recorded from TVET perspective

Generally, both TVET and enterprises who are having collaboration are satisfying with current activities results. Low percentages of dissatisfaction from enterprises' opinion toward the collaboration with TVET (6%). Average satisfaction score archive 3.7 point out of 5 in total and being similar across all different groups of industry, location, company labor size, and company origin.

"Honestly, I contacted different TVETs near our company in Binh Duong. And I highly appreciate the active and great support from only one TVET. I believe this should be the leading TVET in town. The TVET was very supportive leading an effective collaboration. We save lots of effort and time in recruiting workers." _ HR, Industry, Southern company

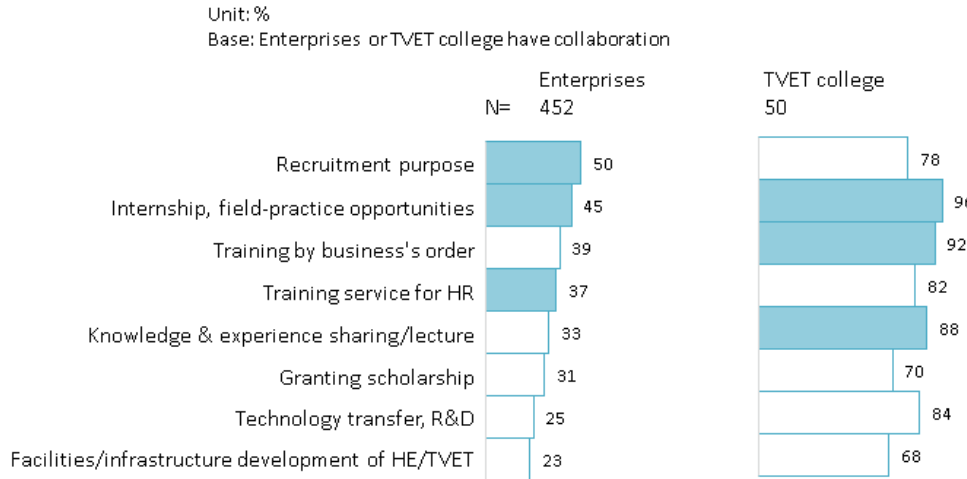
High intention for future collaboration between enterprises and TVET college across all groups; especially in agriculture, manufacturing and big sized company

Figure 75. Enterprises' intention for future collaboration with TVET



More selective and careful in future collaboration activities with TVET from enterprise's opinion. Meanwhile, TVET institutions are open for all type of collaboration

Figure 76. Expectation for future collaboration activities between enterprises and TVET



Regarding collaboration with TVET in future, enterprises seem being more selective in activities for collaboration, not doing as many as possible as currently. On the average, each company having collaboration tend to implement about 3 activities with TVET in near future; compared with about 4 activities currently. Top popular activities for collaboration still are recruitment purpose (50%), internship field practice opportunities (45%), training by businesses' order (39%) and training for HR (37%).

(d) Collaboration between Japanese enterprises and TVET institutions

The ratio of collaboration between Japanese enterprises and TVET currently is 7%, lower than average (12%). However, there is an impressive increase in willingness, about 50% of Japanese enterprises having intention to collaborate with TVETIs in the next 5 to 10 years.

Currently, top collaboration activities are following the common including: internship & field-practice opportunities for students, recruitment purpose, and knowledge & experience sharing or lecturing, and training service for HR. In terms of future expectation for collaborations with TVET, there is no difference between Japanese enterprises with other enterprises.

From TVETIs' points of view, as there are many Japanese enterprises in Vietnam from the technical and engineering fields, TVET institutions have high demand to strengthen the collaboration Japanese companies. The interviewed TVETIs have established some level of collaboration with Japanese enterprises in the nearby areas, from which students and lecturers can organize field-trips to observe or practice and with positive feedback from the TVETIs. It is recorded that Japanese enterprises also provide paid internship opportunities or scholarship for gifted students. Many of these support would later result in official recruitment upon graduation.

(d) Government support for industry -TVET collaboration cooperation

Engagement with businesses is identified as one of the most important solutions to innovate and improve the quality of TVET, the Government stakeholders have engaged in support activities to activities to enhance the linkage between businesses and vocational training system Directive No. 24/CT-TTg dated May 28, 2020 of the Prime Minister on promoting skilled workforce development to contribute to improvement of productivity and national competitiveness in new situation has affirmed: “Strengthening the development of skilled workforce, thereby improving labor productivity and national competitiveness in the new situation.

With regard to policy framework, Article 18 of the Law on Vocational Education 2014 and Article 42 of Decree 15/2019/ND-CP regulate the “rights” and “responsibilities” of enterprises to involve in TVET activities. However, without any specific incentive or compulsory regulations for companies, these documents mainly serve as a base for enterprises to recognize various way to take part in or collaborate with TVET sector, but not truly as encouragement policies.

Some other related documents seem regulating incentives to encourage enterprises’ participation in TVET: such as tax incentives for enterprises when participating in training activities¹²⁶, business investment conditions and administrative procedures in the field of TVET. However, stakeholders also feedback that encouragement policies are not practical enough. For example, the regulation on tax incentives is for training activities for employees recruited to work for enterprises but not specify for the participation of enterprises in vocational education activities (at all levels from elementary, intermediate to college). Vocational training for employees recruited to work for enterprises is understood as training activities for enterprises' own employees (only training at the elementary level for short-term training and retraining), and thus this regulation does not practically encourage enterprises to really take part in collaboration with TVETs.

At practical collaboration level, MOLISA issued a master plan to organize annual business engagement activities (2018 - 2020), in collaboration with the Vietnam Chamber of Commerce and Industry (VCCI) to set up “The working group to link vocational education with the labor market and decent work” in 2018. The group consists of representatives from different parties like DVET (MOLISA) as the host, the Bureau for Employer’s activities in Vietnam under VCCI, other departments within MOLISA include the Department of Employment (DOE), the Department of Overseas Labor (DOLAB), the Department of Industrial Relations and Wage, and representatives of vocational schools and enterprises. The working group has responsibility to promote cooperation programs with professional/industrial associations and businesses, in order to enhance the linkage of TVET with the labor market.

126 Regarding the corporate income tax (CIT) incentive policy: the Law on CIT stipulates that incomes exempt from tax for vocational training activities include: Income from vocational training activities exclusively for ethnic minority people, people with disabilities, children in extremely difficult circumstances, subjects of social evils, people undergoing detoxification, people after detoxification, people living with HIV/AIDS. Article 9 of the Law on CIT stipulates that expenditures on vocational education activities are deductible when determining enterprise income. For all enterprises of all economic sectors that incur expenses for vocational education activities for employees, they shall be included in the deductible expenses when calculating CIT.

There are activities such as guiding vocational schools to engage with enterprises, proposing engagement model. For examples, cooperation programs have been promoted and signed with VCCI, associations, foreign and domestic corporations and enterprises like Samsung, Denso, Vingroup, Trung Nguyen, FLC, Vietjet, Sun Group, BIM, Mat Bao BPO, etc. as a basis for TVET institutes to promote cooperation with businesses. Besides, the role of enterprises in TVET is also promoted, enterprises actively participated in the establishment and issuance of 180 output standards¹²⁷ of 90 key occupations in 2020. Public-private partnership (PPP) in TVET, vocational training under contract/order of enterprises are also promoted.

In terms of cooperation with foreign donors, projects to support activities related to business engagement and solutions on effective linkages between schools and businesses are promoted. ODA projects have been designed to cover support on cooperation between businesses and TVETIs. Multi-stakeholder models such as Quality Advisory Board at vocational school or Vocational Training Advisory Board at Industrial sector are piloted, as being presented in the next parts.

(e) Multi-stakeholder collaboration model - Role of industry association, enterprise associations

Vietnam's Chamber of Commerce and Industry (VCCI) is an organization representing the employers in Vietnam, its agency - The Bureau for Employer's Activities (BEA/VCCI) specializing in activities relating to labor relations in Vietnam. The agency signed Cooperation agreement with DVET in strengthening the connection between businesses and vocational education institutions in 2017 and has proactively participated in related activities in the recent years. For example, VCCI has coordinated with DVET to promote communication about responsibilities and rights of businesses when participating in TVET activities. Besides, VCCI coordinated with DVET and DOLISA to organize seminars, workshops, and forum, and to implement pilot programs to improve vocational training through promoting cooperation between schools and businesses. Among those activities, some notable programs are:

(1) *Launching of the first provincial coordination committee on cooperation between businesses and schools in training and recruitment in Vinh Phuc in 2019 with the support of Confederation of Norwegian Enterprises (NHO)*: The Committee has participation of the vice president of Vinh Phuc as the Head of the committee, representatives from other provincial government agencies, 5 vocational schools and 5 enterprises¹²⁸ and Vinh Phuc Business Association as the standing agency. In this program, VCCI aims to accompany enterprises to build mechanisms and policies to link businesses career with the school; at the same time, support enterprises to build models, curriculum of lectures to attract cooperation from schools.¹²⁹ In the future, BEA/VCCI plans to consult and support to set up the Automotive Technology Quality Advisory Board in the context of the developing automotive industry in Vinh Phuc.

(2) *Launching of the Quality Advisory Board in Dong Nai High-Tech Vocational College with support of Confederation of Norwegian Enterprise (NHO)*: In 2012, the College established the Automotive Quality

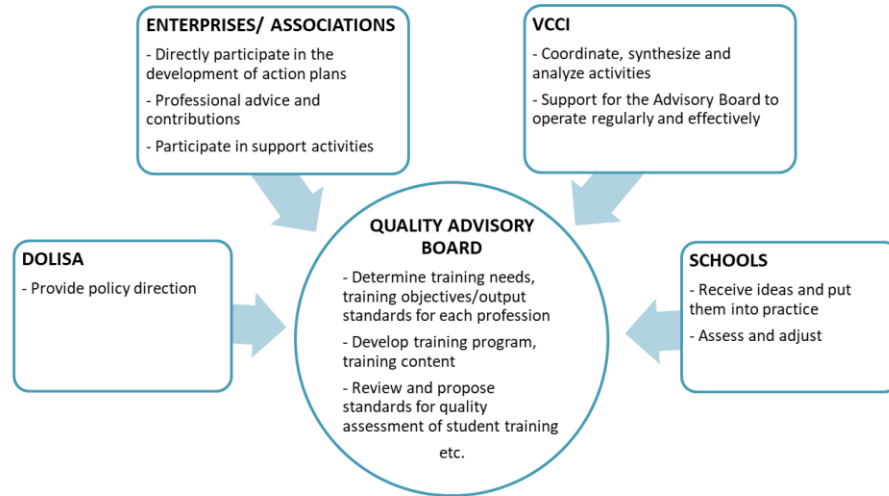
127 - See explanation in list of terminology for chapter 2 (Appendix 1)

128 - 5 enterprises including: TOYOTA Vietnam, COSMOS Technology, PRIME GROUP, Piaggio Vietnam, Vietnam Precision Mechanics No.1 with 05 vocational training institutions including: Vinh Phuc Technology - Economic College, Vinh Phuc Vocational College, Viet Xo College No. 1, College of Agricultural Mechanics, Phuc Yen College of Industry and Commerce

129 - BEA/VCCI - <https://beavccivietnam.com.vn/en/detail.asp?id=13509>

Advisory Board, including teachers of the VETs and technical experts from Toyota Bien Hoa, Ford, Hyundai Do Thanh, and Chu Lai - Truong Hai Vocational College. In 2013, the Advisory Board on Quality of Kitchen - Restaurant profession was established with the participation of Saigon Tourist School, Rex Hotel, Riverside Renaissance Hotel and Pandanus Resort. This is an industry-led model with participation of different stakeholders as shown in the chart below

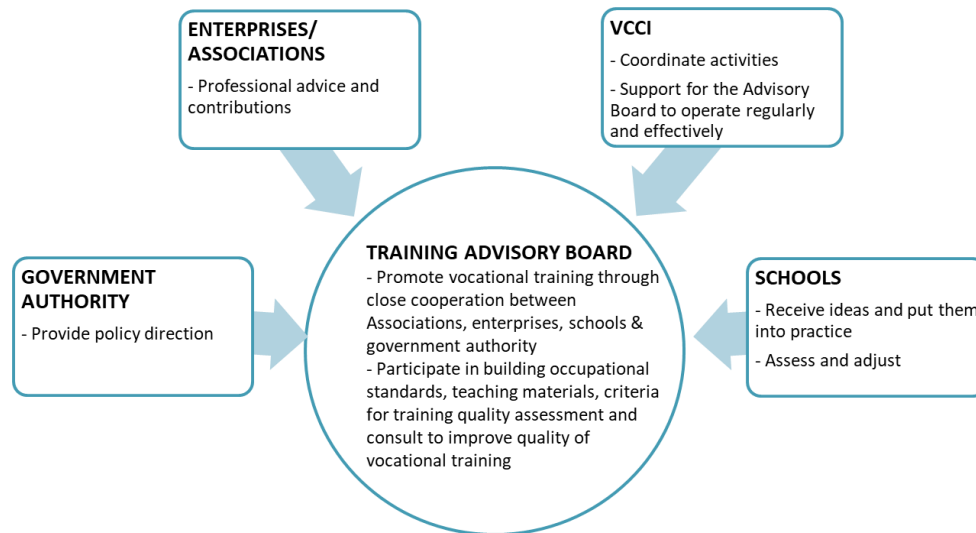
Figure 77. Collaboration model at TVET school level: Quality Advisory Board



(3) *Piloting the Training Advisory Board in logistics sector in coordination with Aus4skills:* In 2017, the Board is set up on the basis of the Australian Logistics Industry Reference Council (LIRC) model, with an aim to strengthen the linkage between schools, businesses and state management agencies in developing vocational education system in the transport and logistics sector. Through this program, vocational occupation standards and vocational skills standards have been developed and applied in practice at enterprises for recruiting & assessing job performance, and by VETs as standards of training students.¹³⁰

130 VCCI - <https://vcci-hcm.org.vn/tin-tuc/tin-hoat-dong-vcci-hcm/dien-dan-quoc-gia-nang-tam-ky-nang-lao-dong-viet-nam-doanh-nghiep-dong-hanh-doi-moi-va-nang-cao-chat-luong-giao-duc-nghe-nghiep/25651/>

Figure 78. Collaboration model at industry level: Logistic vocational training advisory board



Competency-based training and assessment (CBTA) approach has been applied to increase capacity for participating teachers and trainers. The program has been piloted in Dong Nai, HCMC and Vung Tau. In the next period to 2025, this program will be extended to the north in Hai Phong and Dien Bien.

CHAPTER 3. THE DEMAND OF HUMAN RESOURCE FROM ENTERPRISE SECTOR

Research Methodology

Research methodology	
This Chapter is created based on analysis fieldwork result from (1) Online quantitative survey (mass survey) and (2) In-depth interview with enterprises (IDI)	
Understanding quota	
Size definition	<ul style="list-style-type: none"> • Small-sized enterprises: 0 – 50 employees • Medium-sized enterprises: 51 – 100 employees • Large-sized enterprises: > 100 employees
Location definition	<ul style="list-style-type: none"> • The Northern/North: from Ha Giang to Ninh Binh province • The Central/Center: from Thanh Hoa to Binh Thuan province • The Southern/South: from Binh Phuoc province to Can Tho City
HR Group definition	<ul style="list-style-type: none"> • Managers • Professional/ Technical staff (trained specifically such as lawyer, nurse, doctor, researcher, mechanic, engineer, etc.) • Office workers (including sale, marketing, HR, administrative, banker, accountant, etc.) • Worker (Blue – collar workers)

Quota Sampling: The figure below shows the total quota sample being analyzed for this report

Method	Sub-group	TOPICS to cover		Planned number	Interviewed number	Location coverage (%)			Type/Industry coverage (%)
		HR demand	IHRD support			North	Center	South	
In-depth Interview	Japan	O	O	40 - 45	41	56%	7%	37%	<ul style="list-style-type: none"> • Manufacturing/Processing: 49% • IT: 17% • Service: 32% • Construction & Real estate: 2% • Agriculture: 0%
	Non-Japan	O	O	35 - 40	36	53%	8%	39%	<ul style="list-style-type: none"> • Manufacturing/Processing: 31% • IT: 19% • Service: 17% • Construction & Real estate: 14% • Agriculture: 11% • Others*: 8%
Mass Survey	Japan	O	O	300-400	390	50%	9%	41%	<ul style="list-style-type: none"> • Manufacturing/Processing: 53% • IT: 13% • Service: 26% • Construction & Real estate: 7% • Agriculture: 1%
	Non-Japan	O	O	600- 700	610	58%	12%	30%	<ul style="list-style-type: none"> • Manufacturing/Processing: 31% • IT: 7% • Service: 42% • Construction & Real estate: 12% • Agriculture: 8%
	Total			1,000	1,000				Reach ~ 10,000 companies Get 1050 surveys, clean 1000 results

Understanding skills set data

This chapter will discuss the skill requirements from enterprises perspective. The quantitative survey analysis will apply skill grouping, in order to see the requirement trends by both skill groups and individual skills. The grouping of skill set is as below:

Skill Groups		Specific Skills – Mass survey
Specialty	Skills/Experience	Job-specific Technical/ Specialized Skills
	Knowledge	Specialized/ Industry Knowledge
Soft Skills		Creativity
		Teamwork & Cooperation
		Ability to work independently
		Effective communication
		Negotiation
		Organization management
		Leadership & Coaching skill
Advanced cognitive skills		Emotional intelligence
		Active learning
		Problem solving
Basic cognitive skills ¹³¹		Logical thinking
		Foreign language skill
		ICT knowledge & skill
Attitude		Others (Motivation, Discipline, Responsibility, etc.)

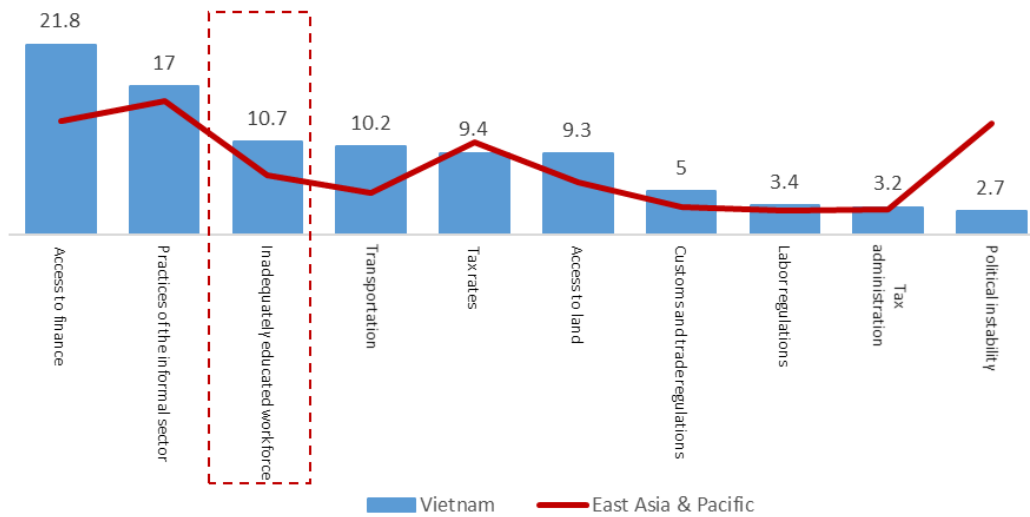
¹³¹ Basic cognitive skills would also include literacy, numeracy, and those skills are included in general education which is compulsory for citizens. Therefore, in the case of interviewing with enterprises in recruitment activity, the research team would focus on Language skills and ICT knowledge & skill

3.1 Background of requirement from enterprises in current context

Inadequate workforce is perceived a major barrier for doing business in Vietnam

According to World Bank Enterprises Data, an inadequately educated workforce was the third biggest constraint to doing business in Vietnam. Similarly, this data also found that large companies with more than 100 employees also expressed their concerns over the underqualified workforce, with more than 23% of firms¹³².

Figure 79. Top 10 business environment constraints in Vietnam 2015



Source: World Bank Enterprise survey, 2014

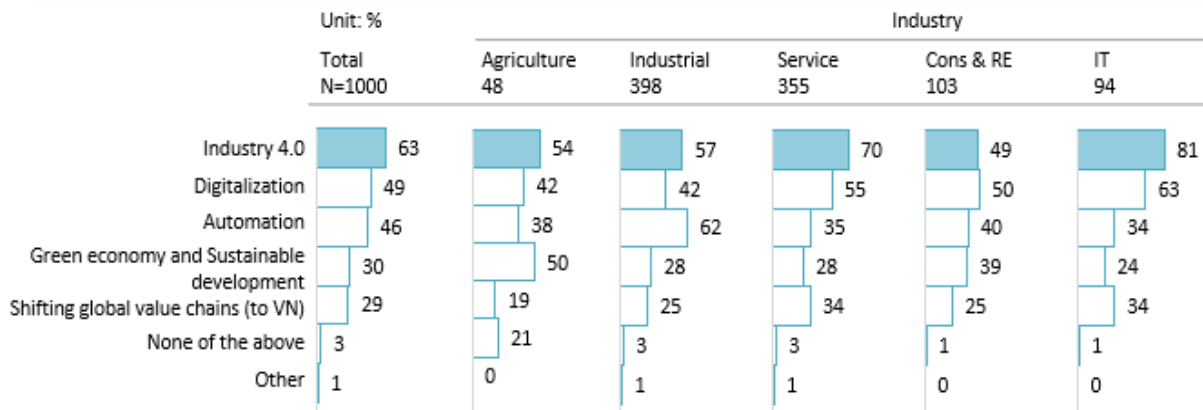
The trend of changing the global economic order in the context of the COVID-19 epidemic has caused many countries to restructure their economies to adapt, along with emerging industrial development trends. As one of the most open economy in the world, Vietnam cannot help but being affected by the global economy. As discussed in the first chapter, the labor market in Vietnam will witness considerable change in requirements for laborers. This survey has recorded the perception of companies regarding the impact of changes in the labor market requirements towards their demand for human resource.

Global Industrial development trends are perceived to affect all industries, set the context for enhancing skills for the workforce, especially in IT, Service and Manufacturing industries

The rapid development of Industry 4.0 of markets is also accelerating the diffusion of digitalization and the pace of automation. Thus, these dominant trends are expected to significantly impact on requirement of HR quality. In which, Industry 4.0 (63%) joins the first rank, followed by digitalization (49%) and automation (46%).

132 World Bank – Enterprise survey: Vietnam 2015 Country Profile (2015)

Figure 80. Perception impact by global industrial trends by industries



Industry 4.0 technologies and digitalization have the greatest influence on IT and Service industry

As for IT Industry, more than 60% of respondents implied that the HR requirement quality will be refined in the era of these trends. Specifically, different skills will be needed, and staff will need to be more skilled to avoid being eliminated in the IT market place.

“Employees need to upgrade some skill-sets following the world’s trends such as machine learning, AR/VR, data science, data processing, block chain, etc. to fulfill the job requirements” – Founder, IT, Southern Company

“Industry 4.0 and digitalization are becoming increasingly popular throughout the world. It necessitates the company’s regular updating of the trend to compete more effectively in the market. Employees must be able to quickly adapt to new trends and programming languages in order to meet project requirement.” – HR Dept, IT, Central Company

In Service industry, many new technologies are also being digitized, requiring employees to improve ICT knowledge and skill, and adaptability and flexibility skills

“The enterprise has changed a lot in the direction of applying technology to the management, and it will be ready to implement new technologies and application as needed. In the future, we prefer to hire young employees who are eager to learn and keep up with rapidly changing technology trends” – HR Dept, Service, Southern Company

“In our securities industry, the influence of digitization has been around for a long time, many tasks have changed from hand-made to be fully digitized. In the future, ICT knowledge and skill is extremely essential for employees to be able to adapt more effectively to the digitization trend.” – HR Dept, Service, Northern Company

HR requirement quality in industrial manufacturing industry is most likely to be affected by automation

As for manufacturing industry, automation is considered as a great driver to boost efficiency in both increasing production capacity by machines and reducing all kinds of expenses, including HR costs. As a result, automation will make the significant shift on requirements for workforce and capabilities as upskilling and reskilling. In which, in terms of upskilling, staff will need to learn new skills to operate complex and most updated machines. Regarding reskilling, staff need the capabilities to take on new job roles such as maintaining these complex machines.

“The enterprise is currently utilizing many complicated machines that need high-skilled staff to operate. It’s the reason why upgrading skills for staff in manufacturing industry will be compulsory under the impact of automation” – HR Dept, Manufacturing, Northern Company

“In the future, the enterprise is oriented to apply automation more, which leads to the reduction in the number of workers” – HR Dept, Manufacturing, Northern Company

According to Vietnam Association of Supporting Industry (VASI), the supporting industry in Vietnam will be definitely affected by automation process, leading to changes in production process, management practice as well as in skill requirements of laborers. In particular, lean management will be more popular and factories can reduce the number of labors by optimizing arrangement of factories. Machines can operate more correctly and higher productivity, thus leading to a decrease in the number of laborers. Besides, automation also goes along with digitalization trends for supporting industry. Even the cost for digitalization is high, enterprises will still prefer to apply digitalization gradually as it will help to reduce mistakes and, thus, will reduce operation cost.

Global Value Chain shifting: Competition in recruiting low and middle-skill HR will increase

It will be more competitive for recruiting low and middle-skill laborers because many enterprises open new factories in Vietnam. In IT industry, the increasing number of enterprises relocating to Vietnam will make competition fiercer than ever in the labor force. This is also the opinion from Japanese enterprises in Vietnam.

“Many enterprises are setting up their business in Vietnam, resulting in greater competition among workers.” – HR Dept, Manufacturing, Northern Company

“The recruitment situation is increasingly competitive due to the increasing demand for personnel, the salary will also increase” – HR Dept, IT, Northern Company

Japanese enterprise: digitalization may raise competitiveness in recruiting high-skill HR; green economy trend will slightly affect the enterprises but impact on HR requirement is not yet clear

According to Japanese enterprises in Vietnam, automation may lead to reducing the number of workers but this trend seems not very clear because most organizations are now semi-automated, and many have reached their minimum staff numbers. However, because machines have substantially supported many complex steps in manufacturing, recruitment criteria reduce. In terms of digitalization, this trend will not have much impact on situation of low and middle-skill laborers, however it may necessitate the need to hire additional high-quality personnel and will lead to raising in competition.

Regarding green economy development trends, Japanese manufacturers place a premium on producing and developing environmentally friendly products, therefore, green economy will have positive impact towards the enterprises, however, how it affects HR requirement is still unclear.

“In the future, we will provide sustainable products (energy, products, electrical consumables, etc.) and solutions towards the Vietnamese market.” – HR Dept, Service, Southern Company

3.2 Requirement of Skills and Skills Gaps

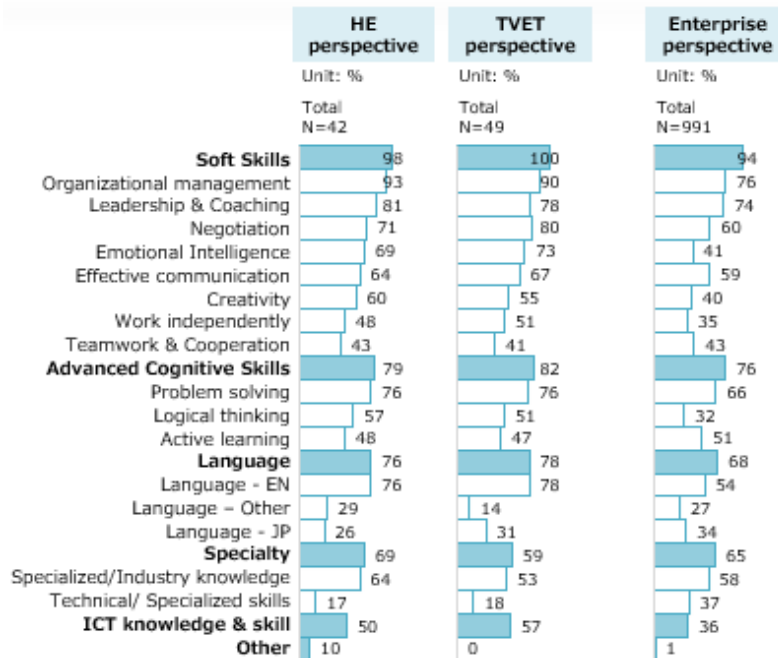
3.2.1 Current requirement of skills and capacity of laborers by HR Groups

(a) Comparing the perception of skill requirements between HR supply side and employers side

Both supply side and demand side perceive that soft skills are top prioritized requirement for employees, regardless of positions. There seems to have slight difference regarding the importance of advanced cognitive skills and technical/specialized skill

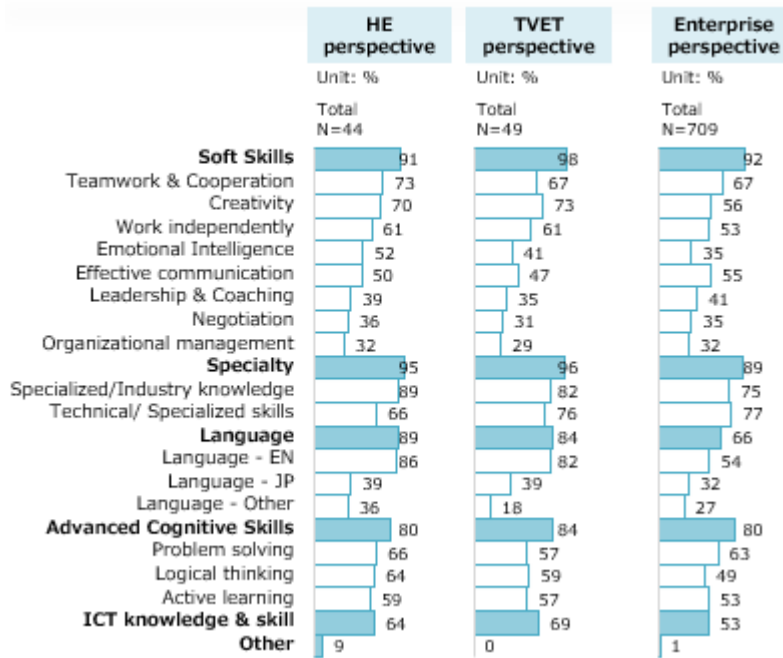
In term of manager level, both HE/TVET and enterprises share the similar perception toward required skills. The most prioritized skill is soft skill, in which management-related skills are the TOP requirements such as organizational management, leadership and coaching. However, it seems that technical/specialized skill is more focused by enterprises, while, HE & TVET perceive that specialized/industry knowledge would be more important.

Figure 81. The perception of HE/TVET and enterprises about skill requirement, manager level



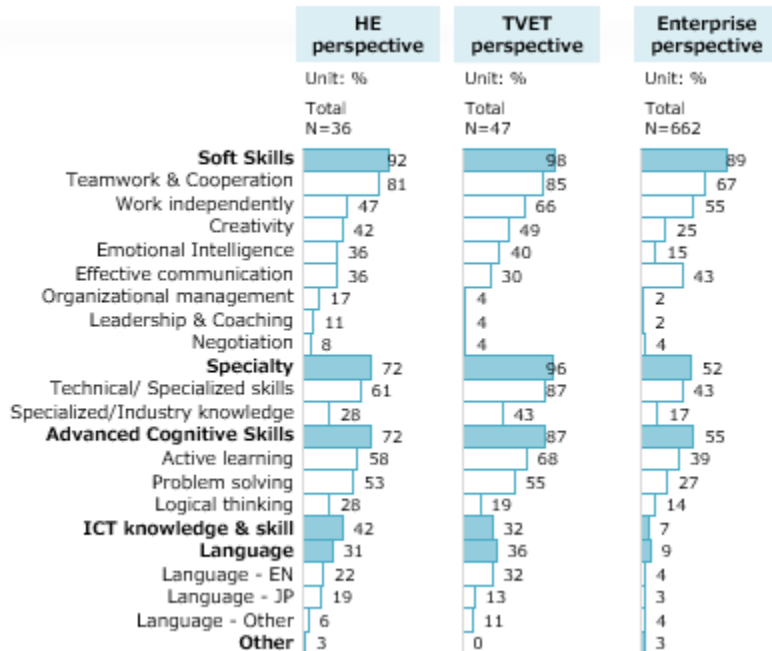
Regarding technical positions, there seems to be no big difference between HE/TVET perception and enterprises' requirements. However, in HE's perception, specialty skill is considered to be the most important requirement (95%, ranking the 1st important requirement). Meanwhile, in the view of enterprises, soft skill is the most important requirement (92%), followed by specialty (89%) and advanced cognitive skill (80%). Language skill is less prioritized.

Figure 82. Perception HE/TVET and enterprises about skill requirement, technical staff level



Regarding worker group, there is still consistency that soft skills group is recognized as the most requirement, followed by specialty and advanced cognitive skills. However, in term of ICT knowledge & skill and language skill, it seems that HE and TVET are emphasizing those skills for worker group more than the need of enterprise.

Figure 83. The perception of HE/TVET and enterprises about skill requirement, worker level



Even though it seems to be not such a huge difference or gap in the perception toward skill requirement between supply side and demand side in any HR level, there still exists a mismatch which is that HE and TVET appear to be putting their focus more in theoretical knowledge.

Besides skills, enterprises also evaluate that low practical experience, lacking of career directions and insufficient working attitude are the most prominent gaps in HE/TVET graduates compared to enterprises' requirements

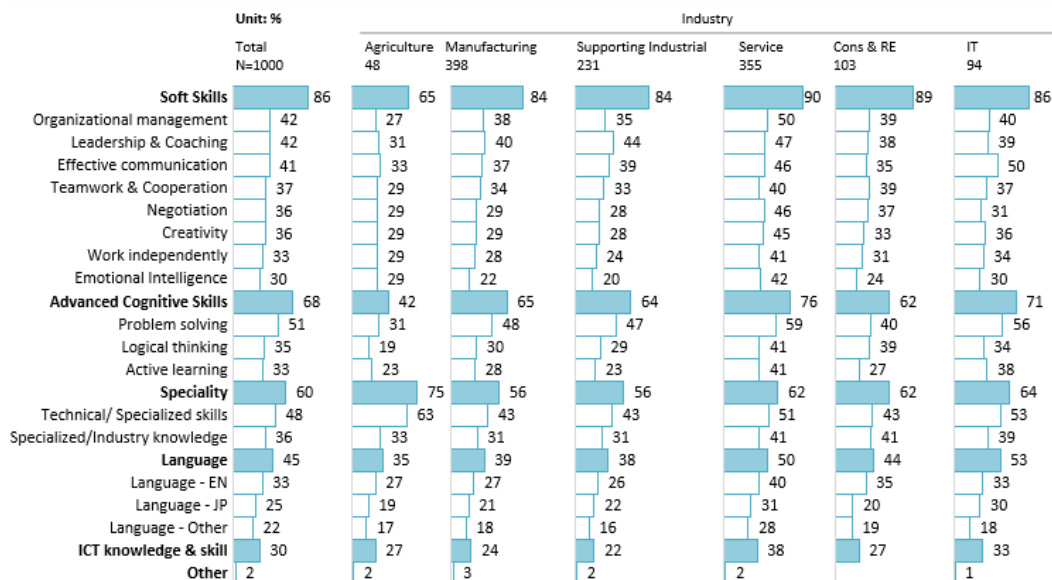
The hearing from in-depth interviews with enterprises show further concerns about the weaknesses of graduates from HE or TVET when these fresh graduates newly join the working environment.

Practical experience	Lack of updated practical experience after graduation, mainly know the theory thus slow to adapt with working environment, need more training
Career orientation	Fresh graduates from HE/TVET have not yet been serious in setting career goals and career path, they do not understand practical nature of job, do not consistently follow goals then easy to switch or quit job when facing difficulties
Soft skills	Soft-skills of fresh graduates are not enough for working environment especially communication skill, task management, ability to work independently and logically
Working attitude	Unfamiliar to working environment, general new graduates are not enough serious & professional in working, and inactive in learning

(b) Enterprises' perception on skill gaps of HE graduates

Soft skills, Advanced cognitive skills - especially problem solving skills are the biggest weakness of HE graduates, mostly experienced by service industry and IT industry; while, the biggest gap in agriculture enterprises is specialty

Figure 84. Perception of enterprises towards skills gap of HE graduates, by industries



Generally, 86% of surveyed firms think that graduates from HE system are lacking soft skills, such as organizational management (42%) and leadership (42%). Advanced cognitive skills and industry speciality skills of HE graduates are also evaluated as not matching with employers' requirement. In terms of individual skills, problem solving (51%) and technical skills (48%) are the top 2 skills that enterprises concern most about HE degree holders. Besides, those skills gaps are actually the skills to be prioritized in the next 5-10 years (mentioned in the next part).

By industry, enterprises in service industry seem to have higher concerns about HE skill gaps in soft skill group and advanced cognitive skills. Furthermore, IT and service enterprises show lower evaluation of communication skills of HE graduates. While, in agriculture industry, a majority of surveyed companies (75%) notice that the biggest gap is candidate's specialty, especially the technical/specialized skills. This, somehow, points out that HE training activity for agricultural subjects still mainly focuses on theory and doesn't provide enough practical skills for students.

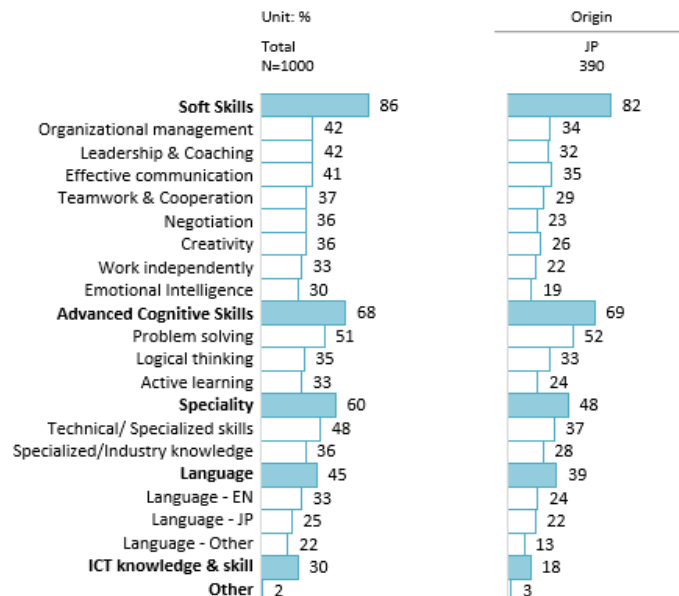
"Most of the knowledge at university is theoretical and very general, so students have not had the opportunity to experience the real-life environment, leading to unsatisfactory work." – HR Dept, Service, Northern company

Green and sustainable business firms are having more concerns about the skill gap between the training of HE system and the requirements of their businesses

When looking at enterprises that involve in special industries, we can see that green and sustainable business firms are having more concerns about the skill gap between the training of HE system and the requirements of their businesses. Nearly all (89%) of the firms in the green and sustainable business industry agree that HE graduates are not meeting their demand regarding soft skills, and a majority of the firms also think that HE graduates should improve their advanced cognitive skills (78%), specialty (61%) and their language skills (57%), which are much higher than the average perception.

Japanese enterprises evaluate that biggest skill gap of HE graduates is soft skills

Figure 85. The perception of JP enterprises towards skills gap with HE graduates

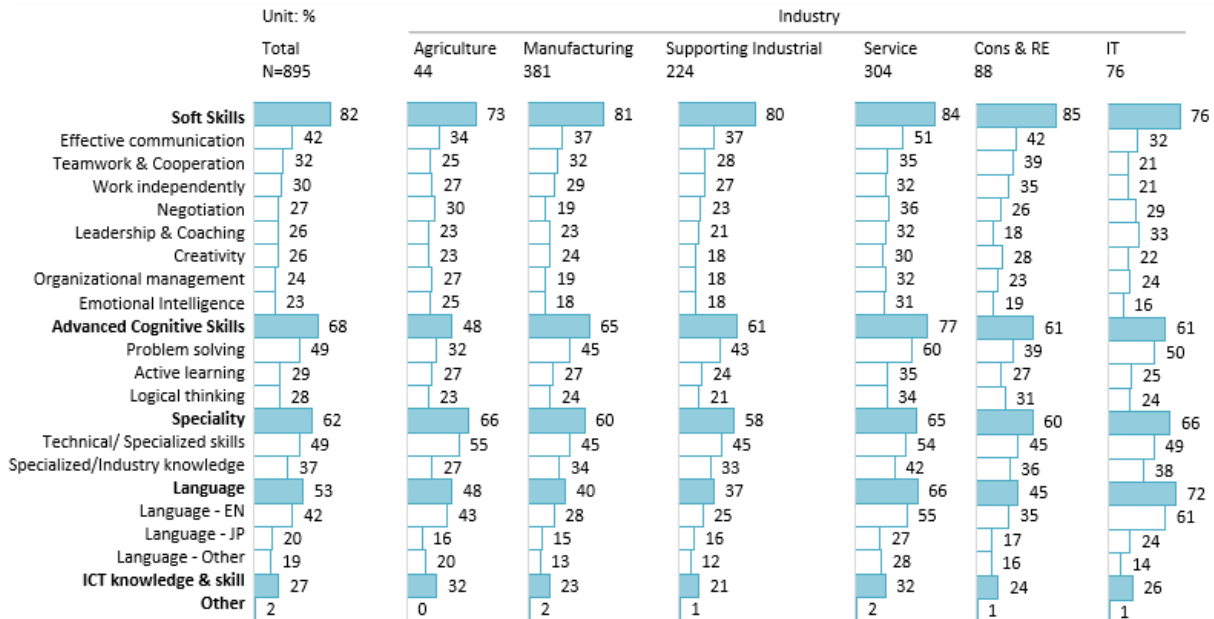


Perception of Japanese enterprises about skill gap of HE graduates is not much different from the overall, with emphasize on the gap in soft skills, and advanced cognitive skills. Problem solving skill of HE graduates (52%) is concerned the most.

(c) Skill gaps perceived for TVET graduates

Problem solving and technical skills are perceived as the most prominent gap of TVET graduates compared to actual enterprises' requirement

Figure 86. The perception of enterprises towards skills gap with TVET graduates by industries



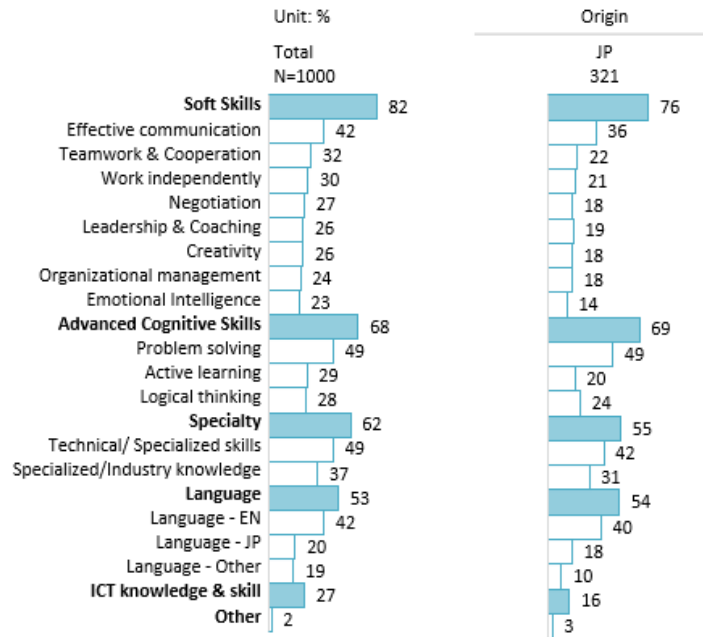
Gaps between skills trained by TVET schools and skills required by enterprises are mainly soft skills (82%) and advanced cognitive skills (68%). Among those, problem-solving (49%) and technical/specialized skills (49%) are still the top 2 skills that bother many firms. Communication (42%) and language English (42%) are the next two dissatisfied skills of TVET graduates. Representatives from many enterprises who were in-depth interviewed have said that TVET graduates are short of practical skills, especially technical skills related to the working environment as the schools still concentrates too much on theoretical lessons.

“Students after graduating from TVET cannot start working immediately and independently. They are lacking problem solving skill as well as technical skills. Honestly, they lack practical techniques skills for working environment. They also do not know how to communicate effective in working environment, for example what and how to report issue to manager” - HR, Manufacturing, Northern company

TVET graduates need to improve their language skills especially if they have the intention of working in IT or service industry, as the majority of enterprises in these two sectors (72% and 66% respectively, compared to 53% in total) have concerns about the quality of TVET training regarding English, Japanese or other types of languages.

Japanese enterprises also perceive their biggest gaps towards the skills of TVET graduates are problem solving and technical skills

Figure 87. The perception of enterprises towards skills gap with TVET graduates by industries



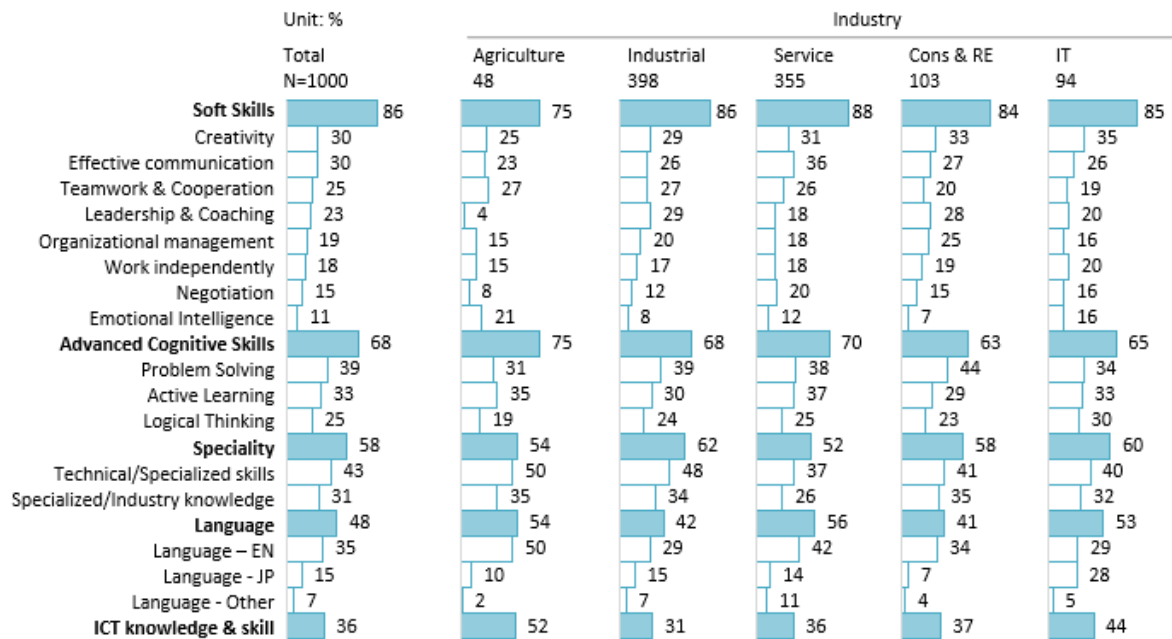
There's similarity between the perception of Japanese enterprises and overall perception toward the skill gaps of TVET graduates. Problem solving (49%) and Technical skills (42%) are still noticed to be the biggest gaps for Japanese enterprises. Besides, English language skill is considered to be the 3rd biggest hindrance of TVET graduates. Through the in-depth interview with Japanese enterprises, it's observed that English skill is becoming an essential skill not only for the back-office staffs but also for manufacturing staffs such as QC/QA, engineers who are mostly required TVET qualification.

"In our company, engineers and QA staffs are required to know English. Poor English skill leads to incomprehension at work. And, we notice that English ability of those current staffs are very poor, we often have to have a group of back-office staffs to support them in the communication." - HR, Manufacturing, Northern company

3.2.2 Future requirement of skills and capacity of laborers

Under the influence of global trends, technical specialized skills remain as top priority; creativity emerged as one of the most important requirements

Figure 88. Future requirement of skills and capacity of laborers



As mentioned in previous part, Industry 4.0, Digitalization and Automation are perceived as the top industrial trends that affect strongly to HR requirement in the future. Under these global trends, technical specialized skills will be most prioritized in the future (43%). Following technical specialized skills, problem solving (39%) and active learning (33%), ICT knowledge (36%) and English (35%) will be among the most in-demand skills in the next 5 – 10 years. It can be explained that a strong ability on technical skills can greatly help in performing the tasks with the assistance of complex and automated machines. To keep up with AI's developments, obviously ICT knowledge and skills play an indispensable role in the digital marketplace. Besides, problem-solving and active learning are important because the technology development will change continuously, it requires the ability of laborers to continuous learning and adapting with new development context. Therefore, future laborers need to develop problem solving mind-set as well as ability to self-learn to master their jobs, avoiding to be eliminated from highly changing working environment.

Among group of soft skills, creativity skill doesn't rank high as current required skills but turns out to be the foremost preferred skill, regardless of industries. Especially in IT sector, creativity is the top 2 important skills to be required in the future, after technical-specialized skills. There may be a combination impact of different developments of Industry 4.0, including digitalization and automation, to explain for future shifts in this skill upward. Digitalization and automation are predicted to eliminate many repetitive jobs, employees will need to carry out more creative tasks, or tasks that require more imaginative ability. Compare current and future, effective communication stays as one of the most important required soft

skills in the future, especially in service industry. In manufacturing & industrial sector, creativity and leadership & coaching skill are the two most important soft skills to be required.

The in-depth interviews with enterprises also show that, under the global trends, these following skills are considered to be prioritized: (1) ICT knowledge and skill, (2) Adaptability/Flexibility, (3) Active learning on new technology, (4) Language (EN), and (5) Self-management. In which, Adaptability/Flexibility and Self-management are required under the influence of the Covid-19 pandemic.

“Employees need to continuously foster new skills (Internet of Things, Artificial Intelligence and Block Chain, etc.) in line with the rapid development of Industry 4.0 and digitalization” – HR Dept, IT, Northern Company

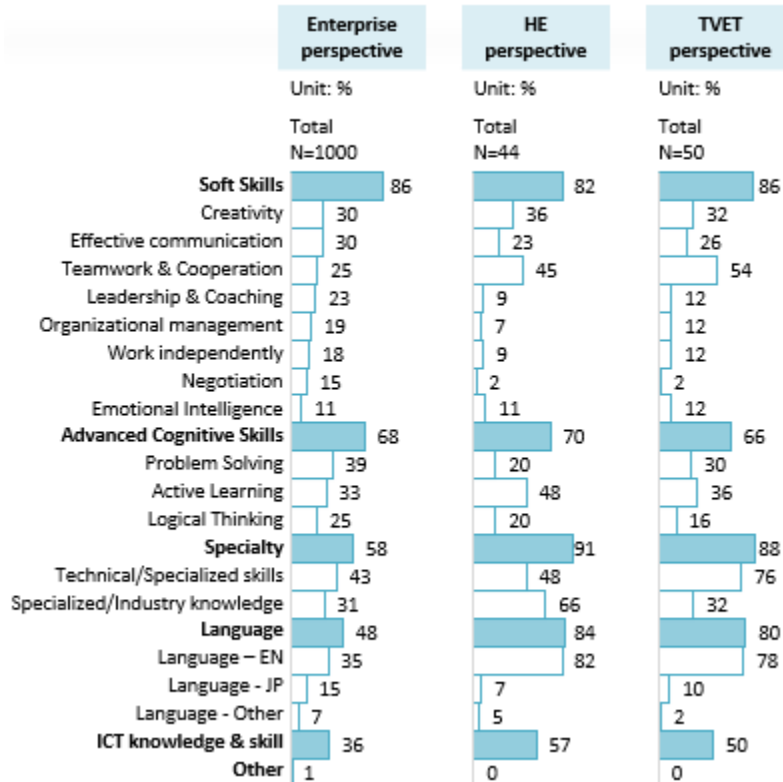
“Due to the impact of the Covid-19, employees need to be self-management as they work from home. For managers, they are more required on higher management skills, as they can only manage remotely” – HR Dept, Service, Northern Company

Apart from providing specialty knowledge & skills, HEIs and TVETs seem paying more attention to language and soft skills trainings, in order to meet with future labor market requirements

The global trends, according to HE sector, would require new approach in education and training activities. A teaching program with interdisciplinary content has become popular, which means a student with science and technology major should also have basic understanding about social science matters. That is believed to provide learners with holistic point of view and knowledge, which would enable them to tackle future emerging issues. From the perspective of TVET sector, the rapid growth of technology innovation and autonomy have indeed raised concern about the disappearance of some jobs being trained by many TVET schools. Nevertheless, it is believed that the changes would happen gradually and there would be enough time for schools to adapt and adjust, as long as they can keep a close connection with the market to update trends.

Under the impact of global and industrial trends, besides specialized knowledge and skills, both HE & TVET said they would pay more attention to the training on language and soft skills. Besides, basic understanding on information technology and its applications should be available for students from all majors as it is now applied in all fields of social-economic life.

Figure 89. Future requirement of skills and capacity of laborers from HE & TVET’s perspective



There is little difference between current and future requirements across industries; but foreign language ability, especially Japanese, is considered as a major priority for IT sector in the future

By industry, Agriculture, Manufacturing and Construction and Real Estate industries are more focus on “Specialty skill” group, mostly require technical skills as important future requirement, representing 50%, 48%, and 41% respectively.

The IT industry, especially, Japanese language is a preferred skill in the future, 28% companies select it as a future requirement, compared to 15% currently, which might be because current IT enterprises are lacking Japanese-speaking employees. Besides Japanese, it is predicted that IT employees will need to combine ICT knowledge and skill (44%), technical skills (40%), creativity (35%), and logical thinking (34%) to fulfill job requirements. IT employees will need to use these skills in exploring and learning cutting-edge tools/technology derived from the fast changing working environment.

Changes in high-demand skills of Japanese Enterprises: Besides technical skills and specialized knowledge, ICT knowledge and skill is more required in the future

Japanese language is preferred to be improved in the future, particularly among Japanese manufacturing enterprises. Currently, some enterprises additionally provide (1) language allowances, and (2) Japanese language classes for their employees, but there seems to be too little change in their employee's abilities. For Japanese businesses, mastering this language, particularly Japanese in communication and business,

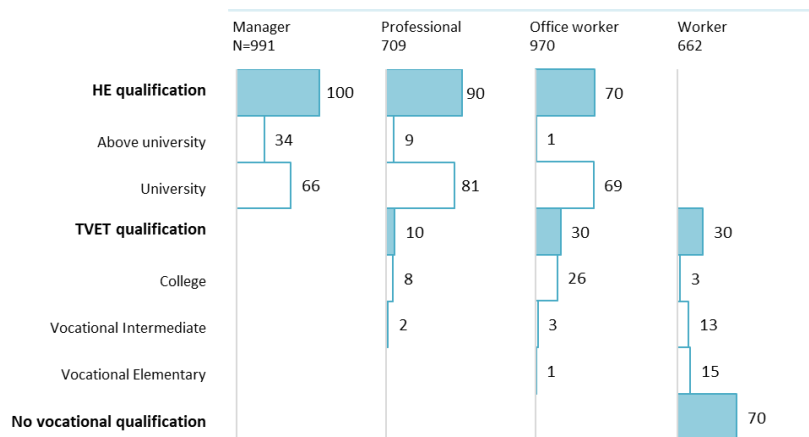
is becoming a major concern, Furthermore, Japanese businesses are increasingly requiring employees to develop their ICT knowledge and skill to fulfill the requirements of tasks under impact of industry 4.0.

“The ICT knowledge and skill is essential for employees to be able to better respond to the trend of digitalization”
 – HR Dept, Service, Northern Company

3.3 Requirement of Qualifications

Currently, university degree is most popular requirement for levels of manager, technical/professional staff and office worker; Meanwhile, TVET qualifications is not well-perceived among current employers as most of the surveyed companies don’t require any vocational qualifications when recruiting workers

Figure 90. Popularity of level of education by employee levels.



Among surveyed companies, employees graduated from TVET are much less common than those with HE degrees and who have no vocational degree. In general, the popularity of TVET qualifications is only 10% among technical staff, 29% among office workers and 30% among workers.

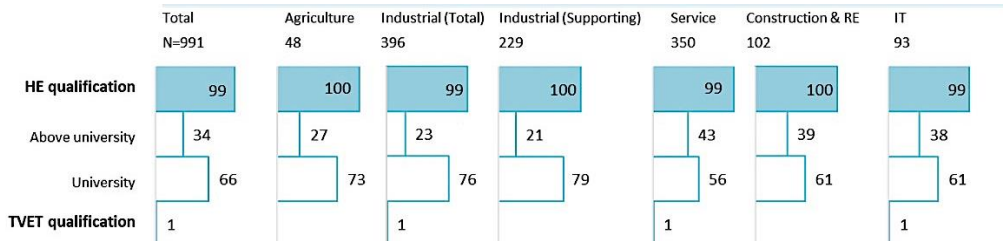
University degree stands out as the most popular qualification required in recruiting manager, professional/technical staff, and office worker. For manager positions, university degree is a conditional level of education (66%), while above university degree is considered as an advantage.

College degree which seems to be a bit more popular in requirement of office worker (26%); Enterprises are likely to hire workers with no vocational qualification, reported by 70% companies.

“We only require our workers to graduate from high school, be under 35 years old and take a calculus test in order to apply to our company” – Operation Dept, Manufacturing, Northern company

Firms in service, construction & real estate and IT sectors have the tendency to employ managers and workers with higher-than-average qualifications

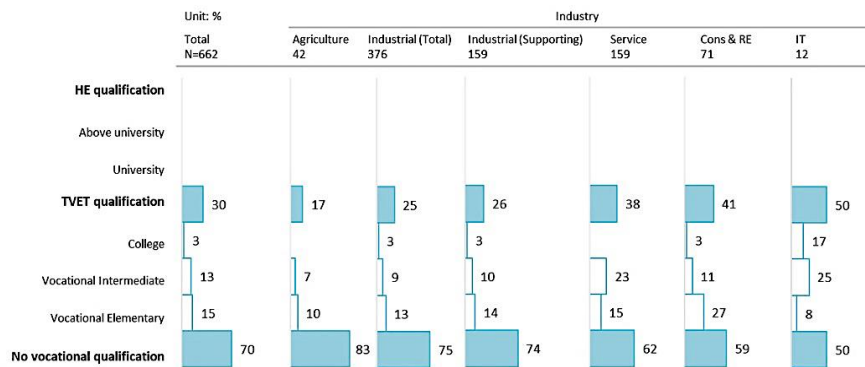
Figure 91. Popularity of qualification of manager level, by industries



The figure above shows that managers in service, construction & real estate and IT sectors (43%, 39%, 38% respectively) seem to have a higher percentage of above university graduates than managers in agriculture and industrial sectors (27% and 23%).

“Managers are required to have several advanced skills such as management and market adaptability, risk management and are necessarily owning an university-or-above degree”- HR dept, IT, Northern company

Figure 92. Popularity of qualification of worker by industries



In addition, service and construction & real estate and IT enterprises are more likely to hire workers with vocational qualifications. The popularity of vocational degree among workers, including vocational intermediate and vocational elementary, are 38% in both service and construction & real estate sectors, which is comparatively higher than the average popularity of 28%. Firms involved in sustainable and inclusive business also have a higher preference of managers with above university degrees (46%) compared to firms in other special industries.

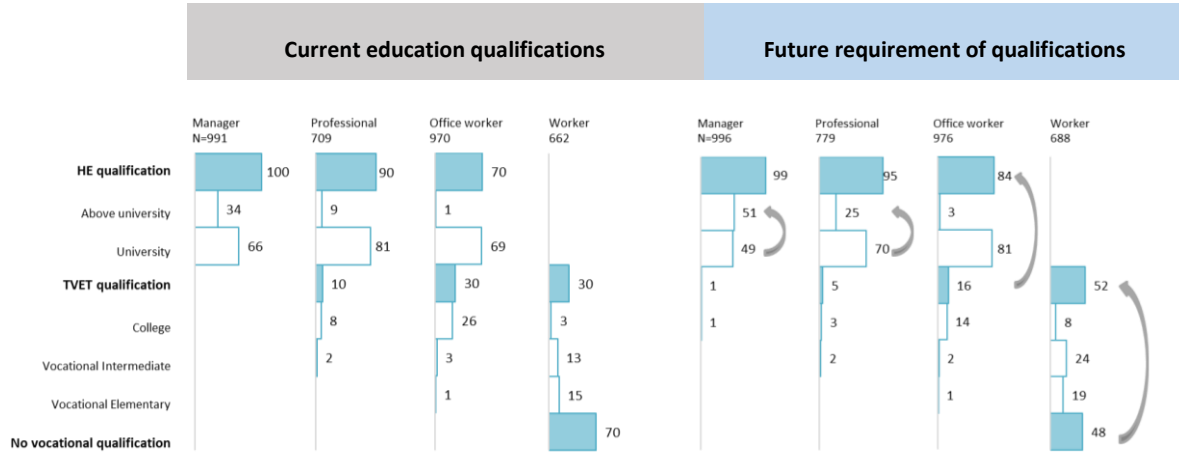
University degree is more popular in the North

There is a noticeable point that the popularity of high-level employees (including professional/technical staff and manager) with above university degrees is higher in Northern Vietnam compared to other regions. Furthermore, for the level of office worker, university degree also takes up a larger percentage in Northern Vietnam (73%) compared to Central (58%) and Southern Vietnam (66%). Based on the results of the population and housing census by GSO (2019), the Red River Delta, which is the major part of Northern region, has the highest percentage (38%) of educated employees with qualifications. Combining

with regional culture of degree-loving, Northern Vietnam is expectedly having a higher percentage of higher qualifications for not only manager but also for professional/technical staff and office worker.

In the next 5-10 years: enterprises show higher requirement of qualifications across all HR group; above university degrees are more required for managers, TVET qualifications are more required for workers

Figure 93. Preference for qualification by employee levels at the moment and in the future

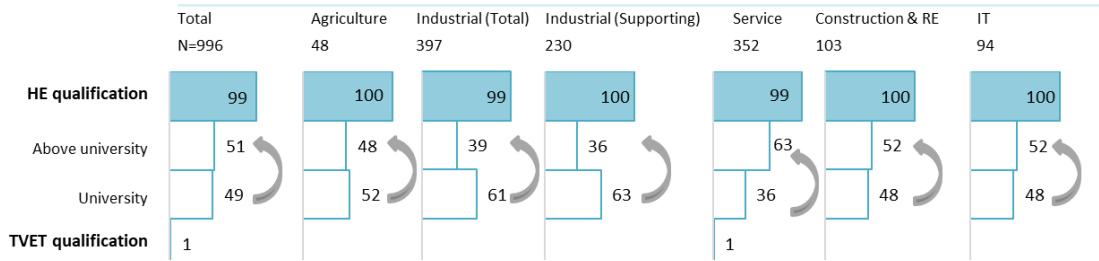


In general, enterprises will be likely to increase their demand for qualifications of employees irrespective of levels. The ratio of above university qualification as a requirement for the level of manager will increase in the future, ranging to 51% from 34% as current status. With regards to professional/technical staff and office staff levels, enterprises show slight preference of higher qualifications in the future 5- 10 years: requirement of above university degree increases from 9% to 25% for professional/technical staff, requirement of university degree increase from 69% to 81 % for office staff level.

Interestingly, there is quite clear tendency of increasing preference for vocational training qualification when recruiting worker level. 70% companies currently don't require vocational qualification but in the future, but the percentage of companies responding that they don't require vocational qualifications in next 5- 10 years is only 48%. In other words, enterprises are going to demand their blue-collar workers to go through at least vocational education (specifically vocational intermediate with 24% and vocational elementary with 19%). The fact reconfirms the findings by desk review that labor market in Vietnam will require higher skill-trained laborers in the future.

In the next 5-10 years, managers who have the intention to join service enterprises may need to equip themselves with above university qualifications

Figure 94. Preference for qualification of manager level, current and future



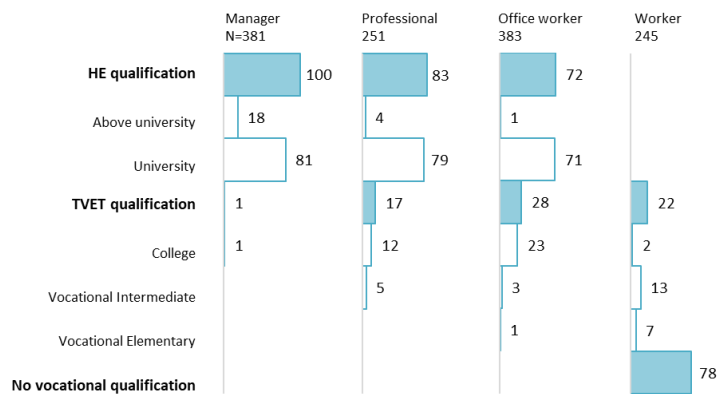
When it comes to different industries, we can clearly see that all industries have raised their requirement for managerial qualification. Especially service industry, preference of above university degree has remarkably surpassed university degree. According to the report on labor and employment by GSO (2021), service sector in Vietnam has experienced a relatively higher number of working people (17.1 million) than that of agriculture (14.5 million) and industry & construction (15.7 million).

“In the future, we expect our workers to have basic mechanical and electrical knowledge (which are not taught in high schools, so they have to at least take vocational trainings to acquire this knowledge)” – HR Dept, Industry, Southern company

Besides, 61% of 71 surveyed firms who defined themselves as sustainable and inclusive business are much likely to hire a manager with an above university degree in the future.

Japanese enterprises don’t often require vocational qualifications for blue-collar workers but expect university qualifications for other HR groups

Figure 95. Popularity of HR qualification in Japanese enterprises by employee levels



In general, Japanese enterprises are similar to other enterprises with university degree being the most popular qualification of office workers, technical/professional staff and managers at over 70% for all 3 levels. Besides, currently, most Japanese enterprises (78%) also don’t require workers to possess any vocational qualification.

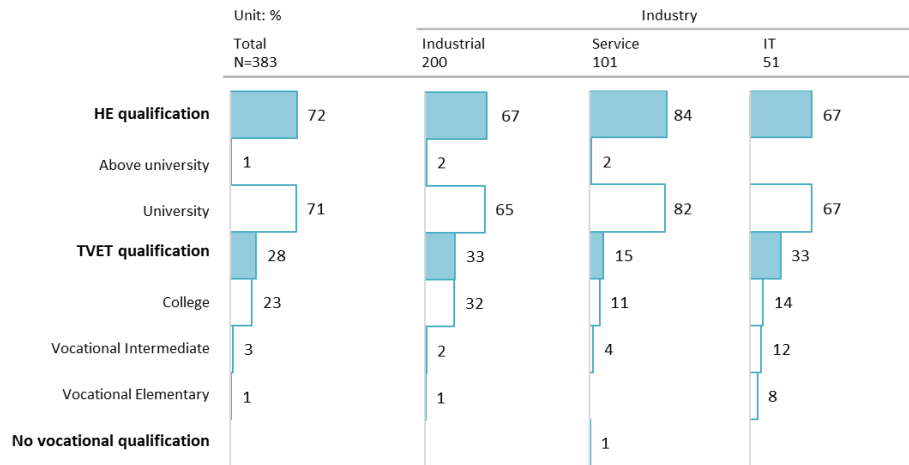
Two large Japanese firms in the manufacturing industry clarified during in-depth interviews that for the position of blue-collar worker level, they only require their employees to be under 35 years old and to have high school qualifications, as they are willing to specifically and professionally train those persons as long as they have good health and good attitude.

“We have no entry requirements for our workers, they only have to graduate high schools and then if they work at our company, we can re-train them from the beginning” – HR Dept, Precise Mechanics, Northern company

Other characteristic: currently Japanese enterprises in manufacturing sector are less demanding on qualifications when recruiting office worker; Japanese SMEs seem require higher standards for educational degrees of office worker

Considering specific industries, enterprises in manufacturing industry are generally demanding less in their staffs, compared to those in the service industry. The most noticeable difference stays within the level of office worker, where the gap between preference of university and college degrees of industrial/manufacturing firms is approximately three times smaller than that of service firms.

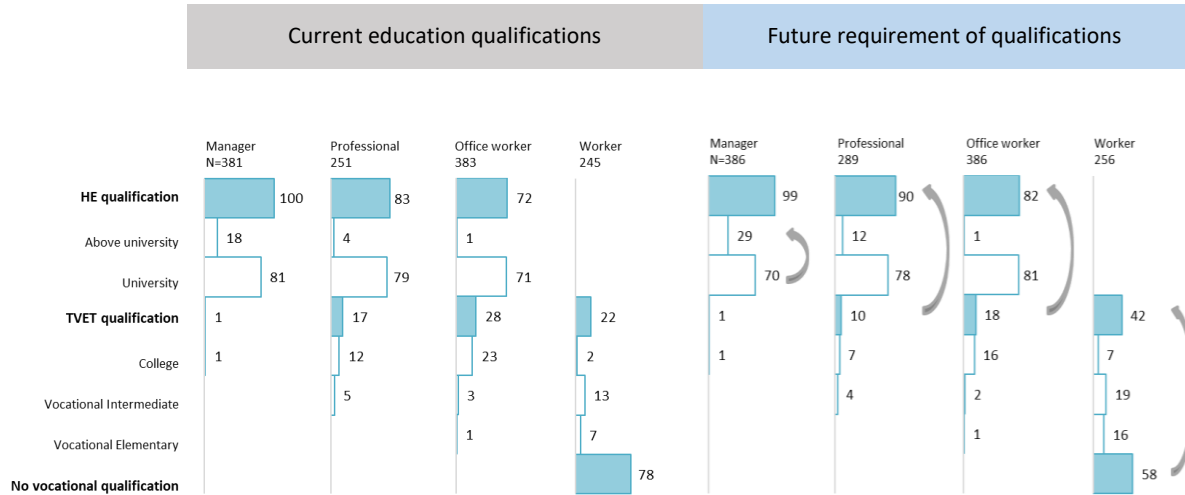
Figure 96. Popularity of qualification of office worker in Japanese firms by industries



Besides, small Japanese enterprises tend to have higher preference for qualification of their employees compared to medium and large firms, especially for the level of office worker.

Japanese enterprises, in the next 5-10 years, expect to have higher demand for qualifications of all levels of staff, especially for workers

Figure 97. Japanese enterprises' preference for qualifications, current and future



On the subject of comparing current and future requirements for education qualifications, Japanese companies seem to be slightly more demanding in qualification levels. More enterprises will require above university degree when recruiting managers. The most significant change comes from the group of blue-collar workers, as the preference for no vocational qualification has fallen by 20%, leading to an increase in demand for workers graduating from at least vocational elementary education.

3.4 Company Situation: Recruitment, HR Challenges, In-house training

3.4.1 Recruitment Practice

Via the sharing of enterprises in in-depth interviews, outsourcing headhunt agency is the most popular way to recruit manager level because of limited supply and being hard to approach via any other sources. While, for staff level, it's more popular and cost-effective that companies use offline or online sources to recruit by themselves, rather than outsourcing to headhunt agency.

Worker is normally recruited from local people who live near/surrounding factory with a view to having a stable quantity and having loyal worker. Therefore, offline sources or traditional recruitment method is mainly used for worker, including (1) posting/hanging recruitment notices in front of companies/factories or information board of industrial parks and (2) cooperating with local authorities, local unions.

“The company usually contact women's unions, youth unions to spread the recruitment announcement. Besides, we also provide grants, scholarships to local authorities, army barracks, or cooperating with university in extracurricular activities, such as building roads in the western countryside. This help to promote our company's image to local people and graduated students as a good company to work at.”, HR Dept, Manufacturing industry, Southern company

For professional/technical and office staff, companies usually use online sources such as company website, social media or paid recruitment website. In term of industries, especially in industries that needs to judge about specialized skills or with specific characteristics such as IT, hospitality, internal referral is considered to be the most useful way in recruiting suitable candidate.

Regarding Japanese companies, the recruitment source for worker, professional/technical level and office staff is similar with other companies. Nevertheless, the companies don't usually recruit managers in Vietnam because management HR would be transferred from Japan to Vietnam branches.

"For manager, our company absolutely don't recruit in Vietnam. They are all Japanese and transferred from Japan in the form of internal transfer", HR Dept, Manufacturing industry, Northern company

There's no fixed timing in enterprise's recruitment activity. Normally, recruitment activity is conducted when the company is in the need of HR, especially when employees quit or when company is in peak season. There's a common that for manufacturing company, the time right before and after Tet holiday, around December to March, is seen as a peak time for recruitment activity, because a number of workers tend to quit job in order to find a higher-paid temporary job before Tet holiday or switch to a new job after receiving Tet Holiday's bonus. Therefore, despite high cost, some companies resort to using headhunt agencies so as to recruit big quantity of workers during this time.

In term of cooperating with HE/TVET in recruitment activity, it is not such a popular source, regardless of any HR level. Some companies are cooperating with TVET/HE, mainly for joining job-fair or receiving interns. However, this source is evaluated as less effective:

"To help company's recruitment activity, we join job-fairs, and cooperate with TVET and HE. However, this source is not so effective" - HR Dept, Manufacturing industry, South

"We also cooperate with TVETs in order to recruit their students right after they graduate, or to receive them, first, as interns, then recruit as a staff. This number is just 7-10%/year in our total HR needs" - HR Dept, Manufacturing industry, South

3.4.2 HR Challenges

Overall, HR challenges of the enterprises mostly include the increase in HR cost, insufficient supply of qualified HR, and lack of skilled or experienced human resource. Besides, some companies face difficulty in recruitment due to company's characteristics such as if they are in niche industry, remoted location, or inflexible working environment.

A detailed review into the percentage of companies who are agreeing with each below challenge, the most popular challenge recorded in almost companies (about 57%) is the increasing in HR cost, followed by the insufficient HR supply of management-level (52%), and the 3rd common challenge is the evaluation of HR quality which cannot reflect appropriately or low relevant based on TVET qualification (49%). Those detailed challenges are classified in 3 groups: HR cost, HR supply and HR quality. Further examination into each industry, shown in below table:

- HR increasing cost happens in all sectors and ranks as the most popular challenges of companies, with an intensely happening in IT industry.

- In term of HR supply challenges, manufacturing and construction industry mainly face the insufficient of HR supply and the unsatisfaction of newly recruit HR quality compared with practical working requirement, especially in worker group. While, service and IT industries mostly experience the lack of skilled HR for advanced task and management HR, both middle-level and senior managers.
- Regarding HR quality, a higher proportion of service and IT enterprises notices that HE qualification cannot reflect appropriately the capability of HR and the current training has not effectively adapted to industrial changes. While, agriculture, manufacturing and construction & real estate industries are concerning more about TVET graduates' quality which is mostly seen to be low relevant to companies' practical requirement

Figure 98. Overall HR challenges perceived by surveyed enterprises (by % agree)

Group	Detailed Challenge	Total	Agri.	Manufacturing	Service	Cons. & Real estate	IT
HR cost	Increasing HR cost	57%	56%	59%	56%	51%	61%
HR supply	Insufficient supply of skilled worker	40%	42%	47%	34%	44%	36%
	The industry lacks high-skilled HR for advanced field/tasks	45%	42%	43%	45%	46%	54%
	Insufficient/ Ineffective capacity building for middle-level manager	48%	38%	45%	50%	54%	53%
	Lack of high-level/senior managers	52%	29%	48%	57%	60%	55%
HR quality	HE qualification cannot reflect appropriately the capability of HR for recruitment	49%	40%	46%	52%	49%	52%
	TVET qualification is low relevant to practical working requirement	36%	38%	37%	36%	39%	34%
	Training from HE/TVET in Vietnam has not effectively adapted to industrial changes	46%	44%	43%	49%	47%	50%

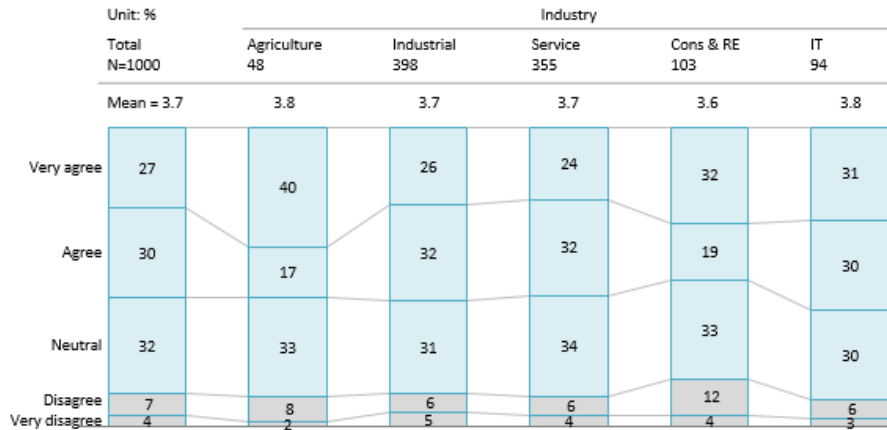
Increasing HR cost is the most popular challenge for companies, stronger impact in IT industry and relatively higher pressure in central region

Interviews with companies show that the increasing HR is mainly caused by the high competition in salary and bonus rate with other companies. It seems that competition in salary and bonus in IT industry is relatively higher than in other industries, said by 61% of surveyed IT enterprises facing the increasing HR cost.

“IT industry is a hot industry, and the company has to compete with offshore companies and large companies in the industry to recruit candidate, so the salary is competitive.” - IT, Northern company

“IT companies compete with each other in recruiting candidates, leading to too high salary offers” - HR Dept, IT, Central company

Figure 99. 5-scale agreement on “Pressure on Increasing HR cost”, by industry



In term of region, there are more companies in the Central region saying that they are facing the increasing in HR due to that salary competition in the central region is higher than in the north and in the south due to the fact that graduated students mostly want to seek job opportunity and work in big cities like Hanoi and HCMC. Survey result also shows that about 64% of surveyed companies in the central region facing the increase in HR cost, compared with 54% in the north and 60% in the south.

“The rate of IT students who stay to work in Hue after graduating is only 3-4% due to having better opportunities in big cities” - HR Dept, IT, Central company

“Salary and bonus of candidates and employees are increasing” - HR Dept, Service, Central company

In order to recruit candidate in the context of increasing HR cost, many companies have tried to adjust their salary range and allowances. In turn, it has led to a phenomenon that HR cost is more than actual delivered quality and it’s difficult for enterprises to control HR cost & budget. Some companies suggest that there should be some public sources of average salary range in the industry, so that companies can refer to each other, which relatively could help them to understand and control the situation of highly competitive in terms of HR salary.

“Our clients always ask to reduce prices, but employees' cost increase every year while our business do not require such high HR capacity. Our company must balance HR cost with the revenue. Therefore, it is difficult to recruit workers” - HR Dept, Manufacturing, Northern company

“In order to solve or reduce the salary gap between companies, our company regularly update and refer to the salary and bonus regime of other businesses in Da Nang. Based on that, we would adjust our regime to better meet the expectation of staff” - HR Dept, Service, Central company

Lack of skilled/trained staff, especially in manufacturing and IT industry

One of the reasons that lead to the increasing HR cost is the lack of HR supply, especially in manufacturing industry. About 45% of surveyed companies recognize that their industry lacks high-skilled HR for advanced/technical tasks, 40% experience the insufficient supply of skilled workers.

Recently, the development and expansion of industrial zones have led to the increasing in worker demand, and skilled or experienced workers tend to switch job easily. Besides, workers would prefer to apply to light-manufacturing industries such as electronics, electronic component, etc., rather than heavy-manufacturing industries. Therefore, it seems that there's higher percentage of companies in manufacturing and construction saying that the industry lacks skilled HR, compared with other service industries. The below figure shows that the percentage of companies in manufacturing/processing industry facing the lack of skilled workers is 47% and that of construction is 44%, compared with 32% of agriculture companies, 34% of service industry and 37% of IT industry.

“The industrial park gradually expands, and there would be more companies established. Therefore, the competition in HR recruitment is getting more competitive. Besides, young workers tend to prefer light-manufacturing companies such as technology, electronics, etc.” - HR Manufacturing, Northern company

Figure 100. 5-scale agreement on “Insufficient supply of skilled worker for factories” by industry

	Unit: %					
	Total N=1000	Agriculture 48	Industrial 398	Service 355	Cons & RE 103	IT 94
Mean = 3.2	3.2	3.4	3.1	3.3	3.1	
Very agree	17	17	19	17	22	10
Agree	23	25	28	17	22	27
Neutral	37	31	35	39	35	39
Disagree	12	17	11	14	5	11
Very disagree	11	10	7	14	16	14

Figure 101. 5-scale agreement on “The industry lacks high-skilled HR for advanced field/tasks” by industry

	Unit: %					
	Total N=1000	Agriculture 48	Industrial 398	Service 355	Cons & RE 103	IT 94
Mean = 3.4	3.3	3.4	3.3	3.4	3.5	
Very agree	17	17	15	19	19	17
Agree	28	25	28	25	26	37
Neutral	37	38	40	33	42	34
Disagree	10	15	11	13	3	6
Very disagree	8	6	7	10	10	5

Additionally, according to the sharing of VASI, it is believed that mechanical industry requires solid knowledge of physics and math while the requirement of jobs is heavier; hence, it is very hard for companies to recruit suitable employees. Besides, the companies also prefer employees with both technical background and good soft skills, especially for admin and sales positions; however, students in industrial majors are weak in soft skills due to lack of training.

As for IT industry, most of the interviewed companies shared that the turnover rate of skilled or experienced IT staff is relatively high because this industry is emerging and many companies are willing to offer better salary to recruit skilled staff. Besides, according to VECOM, another reason for high turnover rate in IT industry is that employees who have 1 or 2 year-experience have tendency to leave the companies to start their own business in IT sector such as coding or e-commerce solution.

“Staff tend to change job quickly, and do not stay to work at the company for a long time. Especially freshers, on average of 1.5 year, based on already having experience, they would switch job if they have a better offer” - HR Dept, IT, Northern company

Regarding company size, large companies seem to experience the lack of skilled HR more than smaller company size. It's recorded that large company mainly has fixed salary range and it's not easy to change or increase in order to recruit HR. While it's easier for small and medium company to modify salary range case-by-case based on the quality of HR. In term of the lack of skilled worker, about 20% of large don't find the lack of this HR, compared with 28% of small enterprises and 24% of medium enterprise. Besides, about 15% of large companies don't notice the lack of high-skilled staff, and that of small and medium enterprises is 20% and 23%, respectively.

“After a duration of training-on job, staff already have experience, so they tend to request a higher salary. There are some cases that it's 2-3 times as much as company's salary range. However, it's difficult to deal a higher salary range than existing company's range. Therefore, staff would change jobs to get a better salary” - HR Dept, IT, Northern company

Lack of either middle-level manager or high-level/senior manager in all industries, especially in the north and the south

Recently, it is much easy for staff to switch or change job, while, it takes time for training staff to middle manager level, especially in the north and the south where exist plenty of job-opportunities. As a result, it causes the lack of either middle-level manager or high-level/senior manager. As shown in the result of survey below, just about 20% have enough high-level/senior managers, and just 14% of surveyed companies say that they have sufficient of middle-level manager or have effective capacity building for middle-level manager.

“It is difficult to recruit management-level staff, due to the specific experience requirements of the industry and the scarcity of human resources in the industry” - HR Dept, Service, Northern company

“For manager level, the company uses both ways: recruiting new staff to meet the project's HR needs, and promoting internal staff who have worked for 1-2 years and have enough experience as a leader. However, internal staff don't have long commitment as after having experience, they would seek for a better opportunity, such as higher salary, more flexible working environment, etc.” - HR Dept, IT, Northern company

Figure 102. 5-scale agreement on “Insufficient/ Ineffective capacity building for middle-level”, by region

Unit: %	Region			
	Total N=1000	North 549	Central 112	South 339
Mean = 3.5	3.5	3.2	3.5	
Very agree	18	18	19	17
Agree	30	31	20	33
Neutral	38	39	38	37
Disagree	9	7	13	9
Very disagree	5	5	10	4

Figure 103. 5-scale agreement on “Lack of high-level/senior managers”, by region

Unit: %	Region			
	Total N=1000	North 549	Central 112	South 339
Mean = 3.5	3.5	3.2	3.5	
Very agree	23	22	19	24
Agree	29	30	27	28
Neutral	29	28	29	29
Disagree	11	11	14	10
Very disagree	9	9	11	8

Companies are experiencing insufficient HR quality, especially the issues of HR lacking practical experience and soft skills

Most companies still depend their evaluation of newly recruit staff based on education qualifications, however, it seems that qualifications do not reflect the true capacity of candidates, even for technical major, thus causing difficulties in recruitment for enterprises. When being surveyed about the judgement of reliability of HE/TVET degree in reflecting the quality of fresh graduate, almost 50% find that the qualifications of fresh graduates cannot help them to evaluate the quality of candidates. Even in technical industries, HE/TVET degrees are not much helpful to evaluate the quality match of fresh graduates with the skill demand of the companies. In fact, slightly more companies in industrial manufacturing and IT industry evaluate that HE/TVET qualification, to some extent, cannot reflect the capacity of candidates.

Figure 104. 5-scale agreement on “HE qualification cannot reflect appropriately the capability of fresh HR”, by industry

Unit: %	Industry					
	Total N=1000	Agriculture 48	Industrial 398	Service 355	Cons & RE 103	IT 94
Mean = 3.4	3.3	3.4	3.5	3.4	3.6	
Very agree	17	15	13	21	18	21
Agree	31	25	33	30	30	31
Neutral	36	40	40	31	33	35
Disagree	10	17	9	11	10	12
Very disagree	6	4	5	7	9	4

Figure 105. 5-scale agreement on “TVET qualification is low relevant to practical working requirement”, by industry

Unit: %		Industry				
Total N=1000	Agriculture 48	Industrial 398	Service 355	Cons & RE 103	IT 94	
Mean = 3.2	3.2	3.2	3.1	3.2	3.3	
Very agree	13	15	10	13	16	19
	24	23	27	23	23	15
Agree	42	35	46	37	38	46
Neutral	13	25	10	16	12	13
Disagree	9	2	8	11	12	7
Very disagree						

It appears that a majority of enterprises find that qualification cannot reflect the actual quality of HR, especially in terms of working skills and soft skills. This, in turn, points out the current situation of recruitment practice, in which most of companies are using their own evaluation test to classify candidate, and, qualification is also used as another tool after company’s evaluation test.

“The company is using a test which is compiled and evaluated internally by the company for all HR level in recruitment. As for technical or production team, the company also test their technical skills, professional skills and basic calculation skill” - HR Dept, Manufacturing, Northern company

“Candidate must pass company’s professional test and the soft skill interview round. Besides, they need to having the appropriate experience, and it’s not necessary to have any qualification in the same industry/profession with the position they apply. The company doesn’t take qualification into much consideration as long as candidate can prove that their skills are suitable for company’s operation and production” - HR Dept, Manufacturing, Southern company

From companies’ opinion, freshers are evaluated as lack practical experience and soft skills because training from HE/TVET in Vietnam is considered to be mostly theoretical and not up to date with practical working requirement, not equip students with necessary working attitude.

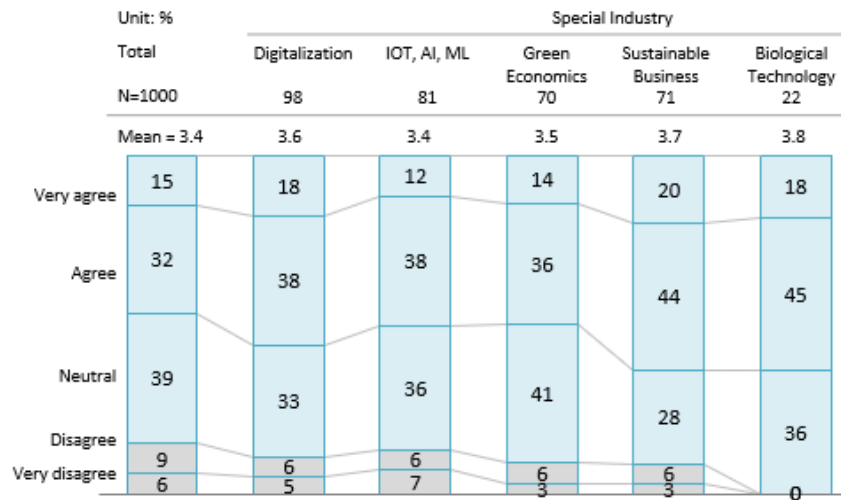
“Many students do not have a clear direction, so they are easily disappointed after graduating and working for a while” - HR Dept, Service-Logistics, Northern company

“Current training lack of soft skills training so that students cannot integrate quickly with the company. Besides, the students lack stamina, patience, and can't stand high pressure. Technical schools are weaker in soft skills compared to schools in the social sector” - HR Dept, IT, Northern company

In addition, current HE/TVET training is seen not effectively adaptive to industrial changes, especially, for new emerging industries such as Green and circular economy, Sustainable and inclusive business or Biological Technology.

“There’s no major in E-logistics in Vietnam, so our company have to recruit related major such as e-commerce, and then we have to train them from the scratch” - HR Dept, Logistics, Northern company

Figure 106. 5-scale agreement on “Training from HE/TVET in Vietnam has not effectively adapted to industrial changes”, by new emerging industry



HR Challenges in Japanese companies also face challenges of increasing HR cost, insufficient HR supply, especially middle level managers

Figure 107. Overall HR challenges perceived by surveyed Japanese enterprises (by % agree)

Group	Detailed Challenge	Total (N=390)	Agri. (N=3)	Manu- facturing (N=206)	Service (N=101)	Cons. & Real Estate (N=28)	IT (N=52)
HR cost	Increasing HR cost	58%	33%	59%	54%	57%	64%
HR supply	Insufficient supply of skilled worker	37%	33%	43%	28%	32%	35%
	The industry lacks high-skilled HR for advanced field/tasks	37%	33%	36%	38%	28%	49%
	Insufficient/ Ineffective capacity building for middle-level manager	48%	33%	47%	59%	71%	58%
	Lack of high-level/senior managers	52%	-	46%	56%	71%	64%
HR quality	HE qualification cannot reflect appropriately the capability of HR for recruitment	43%	33%	42%	45%	25%	48%
	TVET qualification is low relevant to practical working requirement	31%	-	27%	37%	25%	40%
	Training from HE/TVET in Vietnam has not effectively adapted to industrial changes	37%	33%	36%	38%	28%	49%

Further look into Japanese companies, the same difficulties are recorded. The most popular challenge is the increasing in HR cost, followed by the insufficient HR supply, especially the lack of middle-level manager. HR lacking of soft skills and experience is also among the top three common challenges facing by Japanese enterprises.

There's no statistic in comparing the salary range between Japanese enterprises and average market practice. However, it is information through interviews with Japanese enterprises, shared by Vietnamese HR managers who have to be in charge of salary negotiation, that Japanese companies mainly have fixed salary range and it's normally slightly lower than the market practice, regardless of company size. This is mostly seen in middle level managers, there is almost no difference for lower level such as staff and workers). As a result, together with the easily switching job of staff, it's harder for Japanese companies to recruit, especially middle-level managers. Nevertheless, it's also shared that even though salary base of Japanese companies is not high, they still can attract and retain staffs with their good welfares.

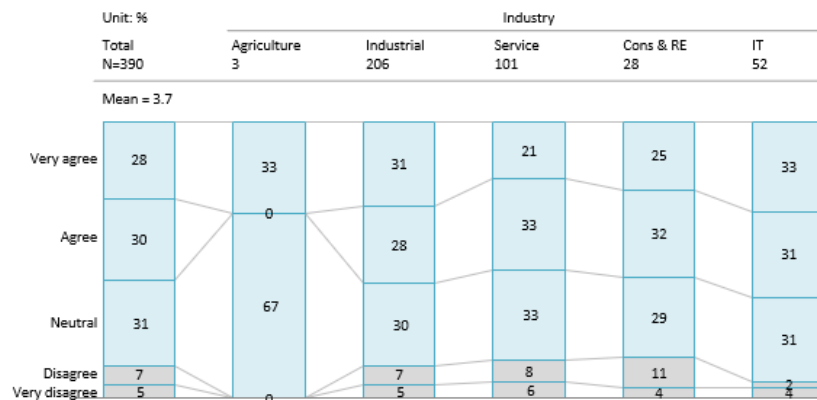
Moreover, Japanese companies tend to have relatively high HR requirements. For example, for professional/technical group, companies often require experience, which make it tough to find qualified candidates.

"The job requirements for professional knowledge and soft skills are quite high. The recruitment requirements of the enterprise are high, but the salary is not commensurate with the requirements, which make it difficult for us to find candidates." - HR Dept, Service, Northern company

"Because applicants all expect promotion. However, our enterprise has a relatively high stability of promotion, and salary increase rarely happen, so many staff quit" - HR Dept, Manufacturing, Northern company

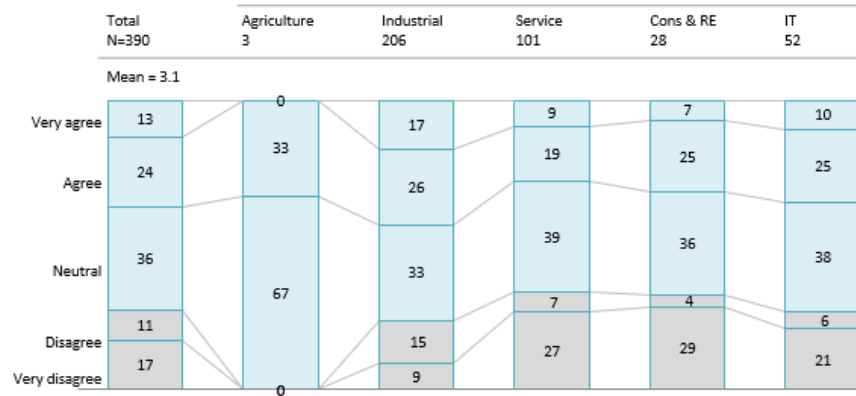
"IT staff tend to switch job quickly and demand high salary. However, Japanese companies have a fixed salary bracket, so it is difficult for employees to negotiate to that high salary" - HR Dept, IT, Central company

Figure 108. 5-scale agreement on "Pressure on Increasing HR cost", Japanese company by industry



A majority of Japanese companies face the lack of skilled HR, especially in manufacturing industry, construction and IT industry. Just approximately 28% of Japanese companies said that they don't face difficulty in the supply of skilled workers and 25% don't lack high-skilled HR.

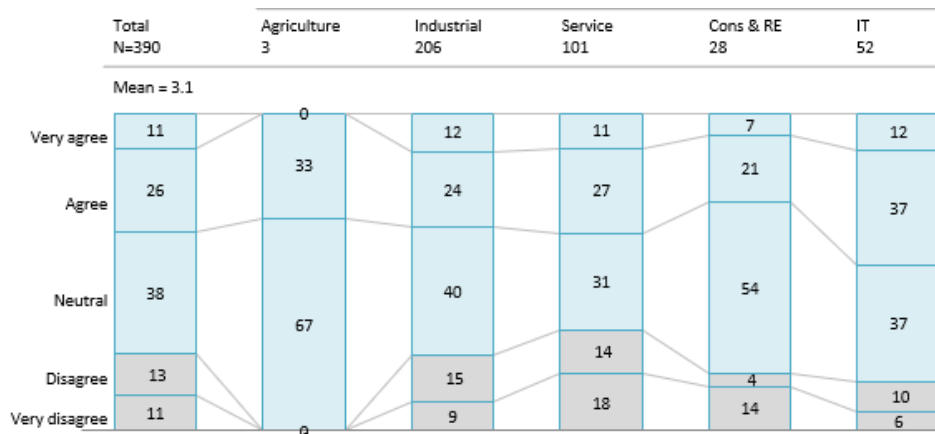
Figure 109. 5-scale agreement on “Insufficient supply of skilled worker for factory’s area”, Japanese companies by industry



Most of manufacturing Japanese enterprises operating in Vietnam are large ones, the demand of workers is relatively large. The companies mainly face the difficult of worker supply due to the large recruitment quantity, especially recruiting during peak time. It’s said that male employees who are prioritized in recruiting worker group have a tendency to change jobs more easily than female employees, because male employees prioritize higher wages than stability. Furthermore, the digitalization trend provides numerous high-paid freelance job, such as shipper or taxi driver in big cities. Thus, workers do not want to work in factory which limits their freedom. Consequently, there exists a lack of not only skilled workers but also unskilled workers.

With regard to IT jobs, there’s a fact that IT has diverse applications in industries that need digitization such as manufacturing, commerce, and transportation. Therefore, the demand for IT personnel is not only found in companies specializing in IT, but also in other companies. Additionally, due to the large number of IT companies, which make recruiting competition is much fiercer, companies are willing to pay high salary for headhunting. As a consequence, this puts companies into the HR cost increase.

Figure 110. 5-scale agreement on “The industry lacks high-skilled HR for advanced field/tasks”, Japanese companies by industry



In addition, it's slightly more difficult for Japanese companies to recruit middle-level manager, with more than half of surveyed Japanese companies (54%) respond their agreement with that fact. Candidate who is fit for middle-level manager normally expect high salary and fast promotion opportunity, but Japanese enterprises mainly have a very low annual salary increase policy, about 10%/year. Moreover, Japanese companies have relatively stability in manager-level HR, and manager-level HR is mostly transferred from parent company or head quarter in Japan to Vietnam branches so promotion opportunity for middle-level is relatively low.

Figure 111. 5-scale agreement on “Insufficient/ Ineffective capacity building for middle-level”

	Origin		
	Total N=1000	JP 390	Non JP 610
	Mean = 3.5	3.6	3.4
Very agree	18	18	18
Agree	30	36	27
Neutral	38	35	40
Disagree	9	7	10
Very disagree	5	5	6

Figure 112. 5-scale agreement on “Lack of high-level/senior managers”

	Origin		
	Total N=1000	JP 390	Non JP 610
	Mean = 3.5	3.4	3.5
Very agree	23	24	22
Agree	29	28	30
Neutral	29	25	31
Disagree	11	12	10
Very disagree	9	11	7

With a view to overcoming those challenges, without increasing their salary range, most of Japanese companies focus on improving their welfare regimes to attract and retain staff. For worker group, particularly, companies would encourage current workers to work overtime so as to increase their income. In term of improving HR quality to meet company's requirement, in-house training is organized, covering both job-related skills and soft skills.

Opinion of Japanese organizations: Lacking of local HR management level in Japanese companies will become more seriously in the near future

Japanese organizations (JETRO, JCCI, JCCH, VJCC) well understand the current situation and challenges for Japanese enterprises in Vietnam. HR quality especially related to blue-collar workers or handful skills in Vietnam is strong and remarkable.

However, from these organizations' opinion, increasing HR cost is one of the most popular and practical issues that almost Japanese enterprises in Vietnam are facing with. This issue is inevitable and unavoidable by the time. However, this challenge is still not aggressive and serious in other neighboring countries thanks to the gradual increase. Regarding this issue, the companies have different options to consider pros and cons with long term vision of attracting and retaining staff. It is usually considered to improve the whole receivable package for staff (including increasing income, offering better welfare regimes,

providing better working environment, tightening colleague relationship) rather than directly increasing salary. Also, increasing beneficial package is usually parallel with more contribution for the company in any forms (including increasing workload or responsibility, over time working ability, long-term commitment...).

Lacking local management level is forecasted to be more seriously for Japanese enterprises in near future. Impacted by different reasons, it seems that Japanese companies are changing management system, reducing the number expatriates working overseas and transferring to local HR management tasks. The localization progress will require more quantity as well as new capability of local management positions. Hence, current situation of lacking management level in Japanese companies will become more seriously and need counter measures urgently.

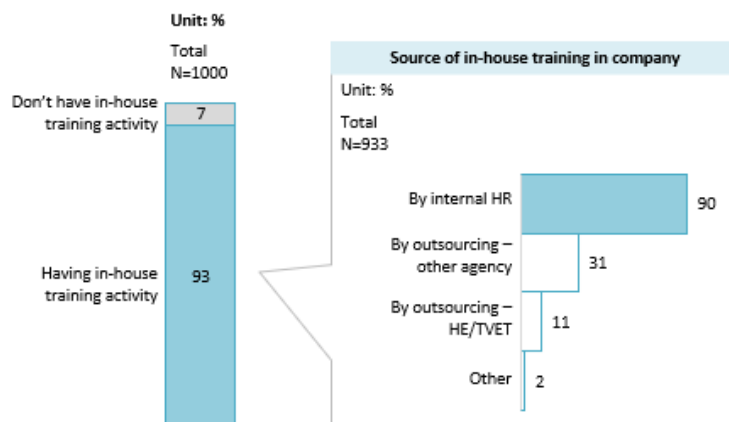
Noticed by Japanese organizations, another challenge related to human right has not been equally perceived and addressed generally in Vietnam. Many enterprises are aware of human rights issues. However, the situation of being unfair to workers, for example forcing workers to work for long time with low wages, is still happening in some companies. This issue impacts on developing industrial human resources in Vietnam in the ways of raising awareness and consciousness for current and future staff generations as well as for enterprise side. It is believed that the more aware of protecting human rights in working environments, the better quality of HR will be and thereby improve labor productivity.

3.4.3 In-house Training

Companies mostly conduct in-house training activity by internal HR source, with a certain proportion of outsourcing to outside agencies; however outsourcing training to HE/TVET is not popular

In order to develop the capability of HR, almost all companies (93% of surveyed companies) organize in-house training activity. Using internal HR is the most popular source of enterprise’s in-house training, followed by outsourcing to an agency. Outsourcing to HE/TVET is not such a popular source, only 11% of surveyed companies saying that they are using this source.

Figure 113. In-house training activity



Further look into industry, agriculture enterprises seem to outsource in-house training to agencies more than other industries. Besides, new emerging technology industries like IoT, AI, Machine learning or biological technology also outsource their in-house training to other organizations, including both HE/TVET and agencies, more than other industries.

Figure 114. Source of in-house training activity, by industry

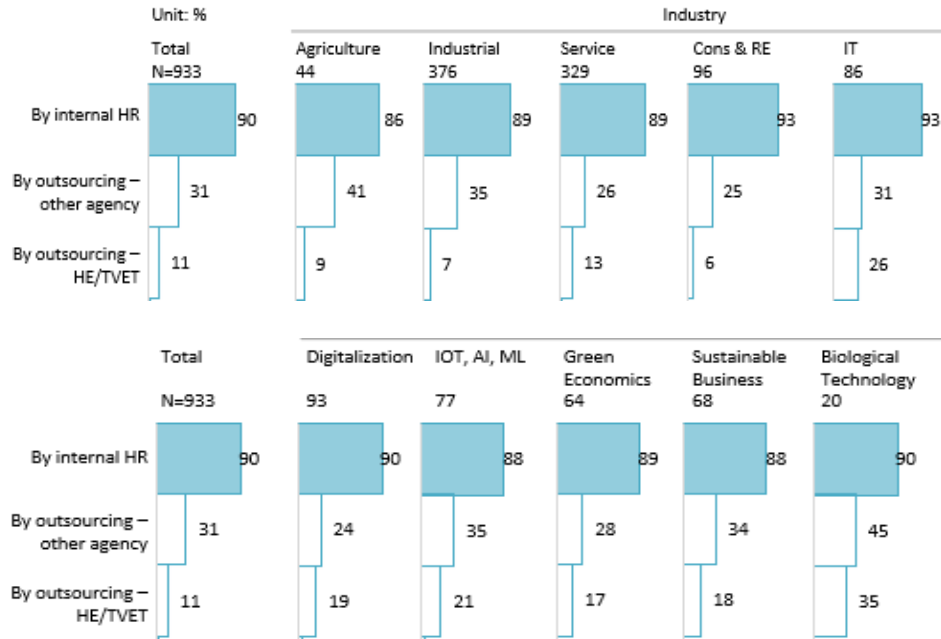
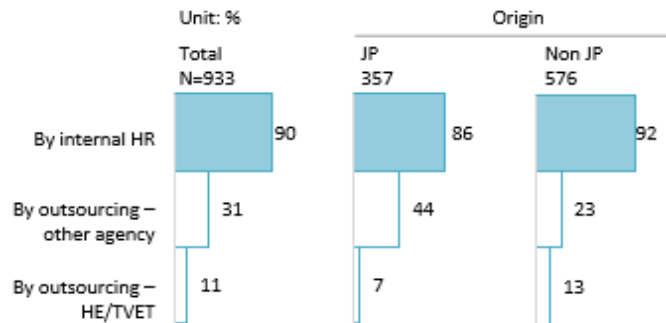
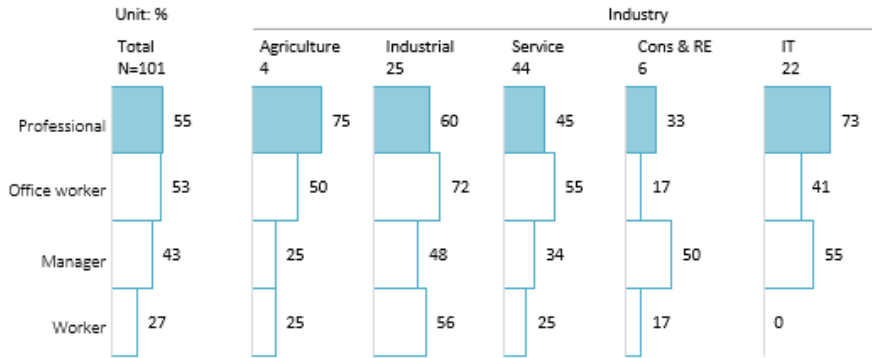


Figure 115. Source of in-house training activity, by origin



The most popular source of in-house training activity is by internal HR. Regarding to outsourcing to HE/TVET, there's relatively small percentage of companies using this source, and the training courses are mostly catered for technical/professional staff, followed by for office staff.

Figure 116. HR groups are using HE/TVET for in-house training, by industry

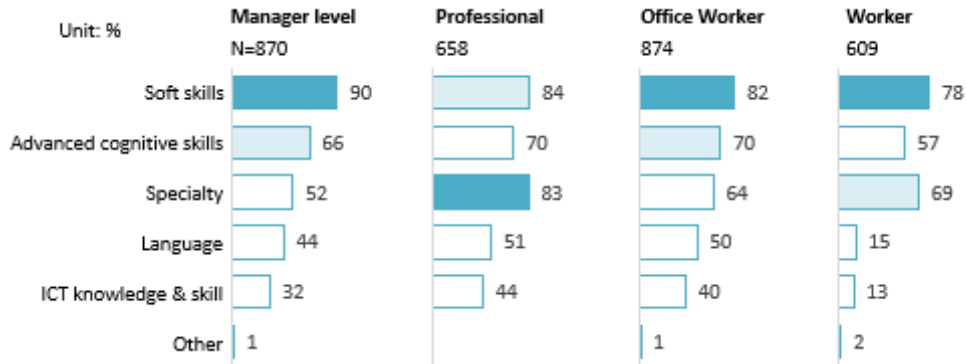


In term of industry, manufacturing/processing industry uses HE/TVET for in-house training activity more for worker than other industries due to the lack of skilled worker supply in this industry, 56% of surveyed manufacturing companies compared with about 17%-25% of other industries.

Prioritized skills for in-house training activity include soft skills for almost all positions, more in-house training on speciality skills is provided for group of technical/professional staff

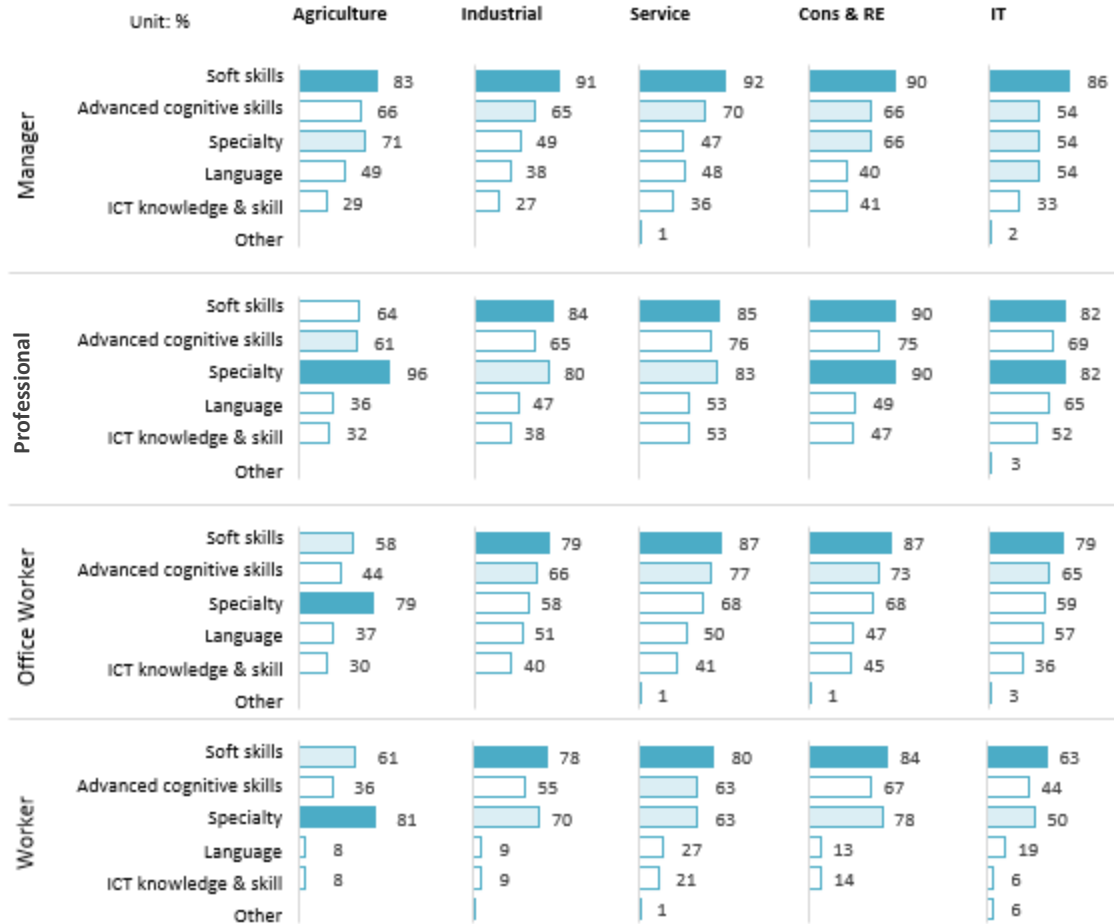
In general, that most enterprises find HR quality insufficient, especially soft skills, is the reason why soft skills are the most prioritized course for developing in-house HR for all position, followed by speciality, and advanced cognitive skills.

Figure 117. Prioritized knowledge & skills for in-house training activity



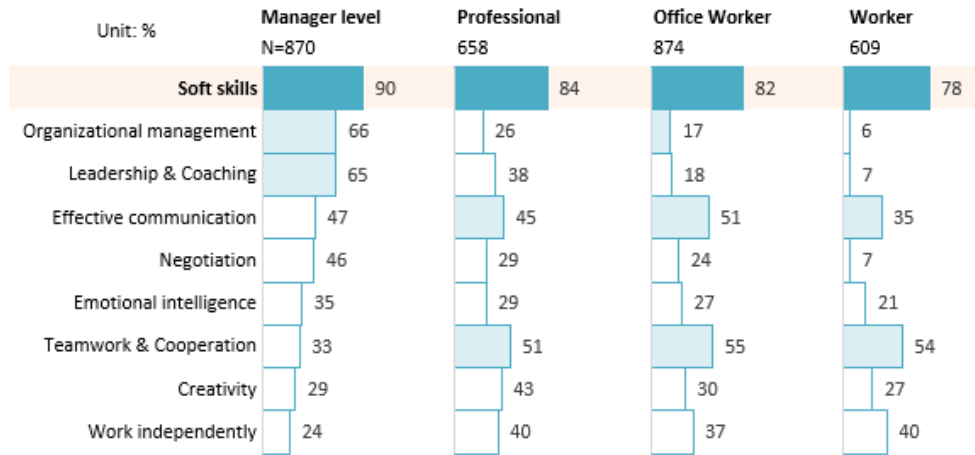
Agricultural enterprises concern more about specialty and less focus on soft skills. For professional, office staff and worker in agriculture industry, specialty is the most focused item for HR development.

Figure 118. Prioritized knowledge & skills for in-house training activity



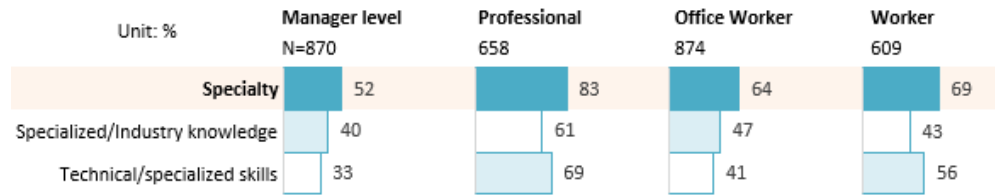
Soft skill training for manager level will focus on management-related skill, such as organization management, leadership & coaching, followed by communication skill, negotiation skill, and emotional intelligence. For staff levels, TOP prioritized soft skills are teamwork & cooperation, communication skill, creativity, independent working ability.

Figure 119. Soft-skill training



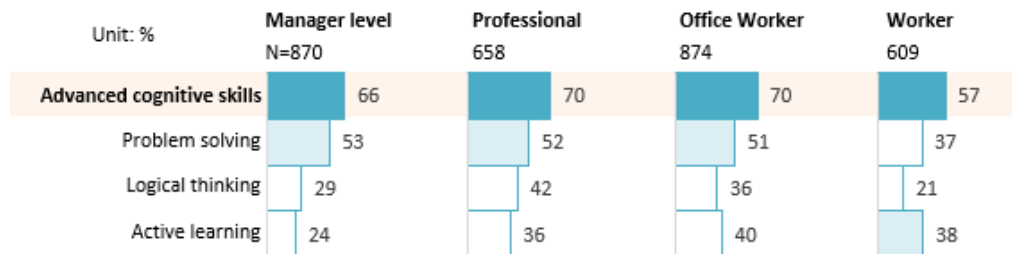
In term of specialty training, practical skills are prioritized for professional/technical HR and worker more than knowledge. While for manager-level and office level, industry knowledge is more focused than practical skill.

Figure 120. Specialty training



Regarding advanced cognitive skills, the most prioritized advanced cognitive skills for both manager-level and professional level and office staff is problem solving. While, for worker, more simple skill, active learning, is focused.

Figure 121. Advanced cognitive skill training



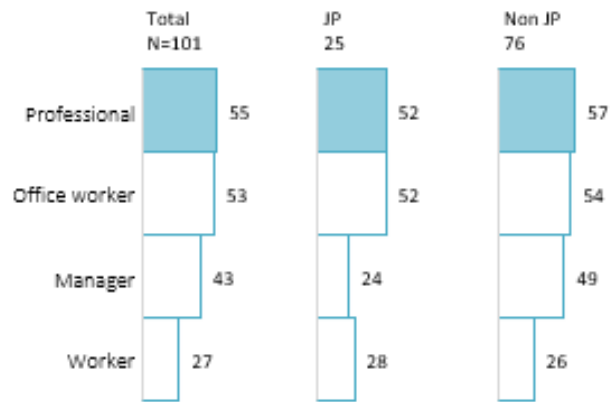
English skill is the most popular training language. However, in the aspect of company origin, Japanese companies organize Japanese skill training more than other companies.

Similarly, most of Japanese companies hold in-house training to improve HR soft skills, together with technical skills and language skill, mainly focus on training staff-level

A majority of Japanese enterprises (92%) also hold in-house training courses to build their HR capability, and the most popular source of in-house training is by internal HR. Besides, there's a higher percentage of Japanese companies that are outsourcing their training activity to agencies, compared with other companies (44% and 23% respectively).

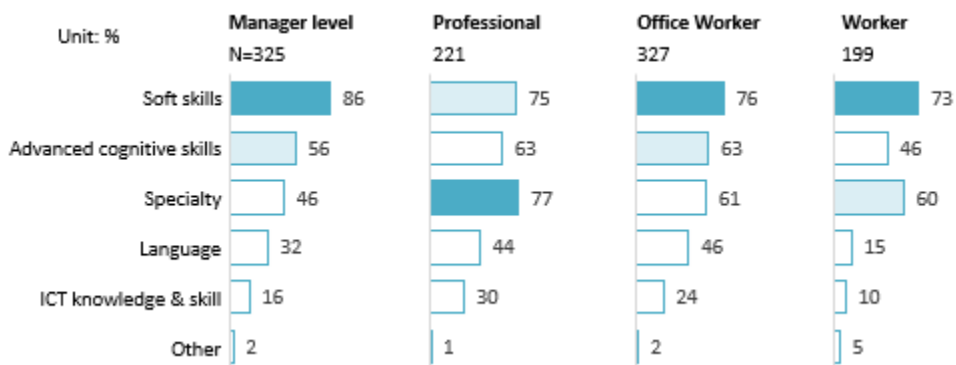
For Japanese enterprises, managers are mainly transferred from Japan head quarter to Vietnam branches, thus, it seems that Japanese ones put less priority on in-house training in Vietnam for manager-level (24% in Japanese enterprises, compared to 49% in other enterprises), in-house training for other HR group (i.e. technical/professional staff and office worker equally about 52%) is quite popular.

Figure 122. HR groups are using HE/TVET for in-house training, by industry



Similarly, a majority of Japanese enterprises prioritize to develop soft skills, one of the top 3 prioritized skills of in-house training, for all position, and followed by specialty, and advanced cognitive skills.

Figure 123. Prioritized knowledge & skills for in-house training activity



As for language training, apart from English skill, Japanese enterprises also encourage their HR to learn Japanese more than English or other languages, especially it's prioritized to be learned by management level HR, professional and office staff.

CHAPTER 4. INTERNATIONAL DONORS SUPPORT SITUATION

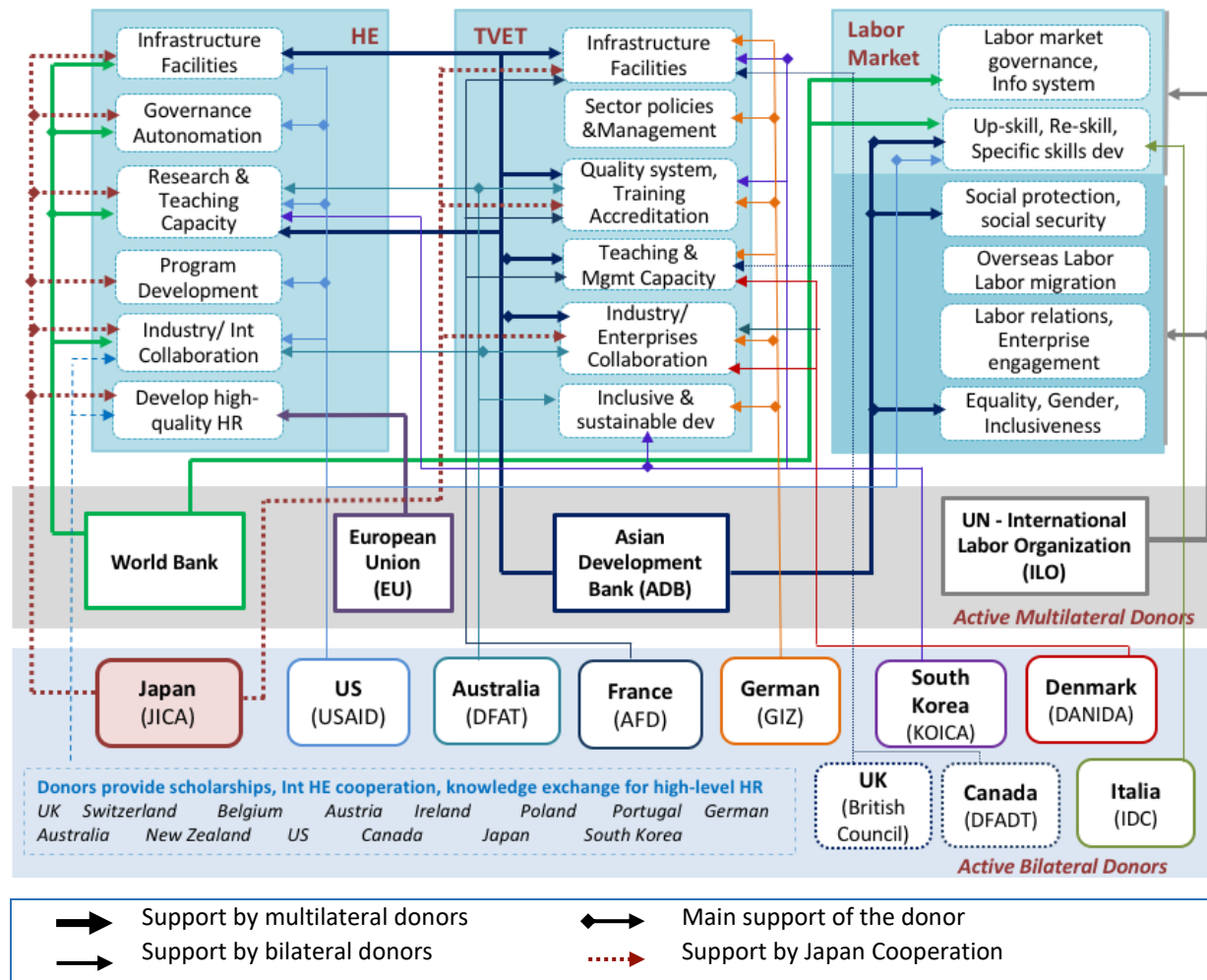
4.1 International donors strategies and actions

4.1.1 Mapping of various donors’ strategies for HRD support in Vietnam

Both Vietnam’s Socio Economic Development Strategy (SEDS) in 2011-2020 and in 2021 - 2030 determine human resource development as one key priority area to drive Vietnam’s development towards an industrialized country and sustainable development. Therefore, many donors have committed their cooperation strategies in the last 10 years and in the future period to strengthen human resource development in Vietnam under various development approaches.

The matrix below presents the main active donor stakeholders in HRD support, by matching each donor’s main actions with the major thematic issues in (i) higher education; (ii) vocational education and (iii) labor market & employment.

Figure 124. Mapping of key Donors’ actions in main HRD thematic issues



Source: Developed by the research team

The situation of donors support in HRD for Vietnam are briefly described in some main characteristics

(i) Human resource development support is perceived broadly, realized by diversified scope of actions

There is no common definition of human resource development support among different donors. HRD is less perceived as an independent assistance purpose but more as intervention aspects to achieve broader development themes. Looking at different country partnership strategies, HRD support programs often go under broader thematic commitments aiming to aid for socioeconomic development of Vietnam.

At program level, HRD support mostly can be categorized i.e. either towards tertiary education, higher education system (HE), or vocational education system (TVET) or towards existing laborers and labor market system. In terms of development logic, some donors perceive HRD broadly as human development, considering HR as a comprehensive theme with various interrelated aspects that could not be separated, including general education, TVET and HE as education overall theme, and together with healthcare, social security, etc. HRD is also commonly approached broadly as skill development and capacity building for related stakeholders; thus the support towards up-skilling the labor force is generally considered as HRD.

Besides, almost donors' assistance projects regardless of technical industries, often include capacity building activities for project implementation partners. Such technical assistance if exist as a major component with clear objective in an ODA project, it can also be considered as human resource development project for a specific field. One example is the USAID's project on supporting for enhancing rehabilitation human resource in target provinces¹³³ in Vietnam.

A few big donors (including JICA) commit comprehensive assistance towards systemic HE reform

Other than JICA, there are a few major donors focus on efforts to assist the reform of higher education system in Vietnam via boosting resources for HE autonomy progress and implementing of new university models. Most prominent donors include the WorldBank (e.g. Support for Autonomous Higher Education Project – SAHEP 2017-2022; Vietnam National University Development project 2020 - 2025); USAID (e.g. Fulbright University Vietnam project since 2016; USAID-Vietnam Partnership for Higher Education Reform 2022- 2026), and ADB (a future project: Advancing Higher education in Vietnam since 2022¹³⁴) . These assistance projects often commit big investment scale in order to provide enough resources for the benefited universities to critically upgrade infrastructure, management and teaching capacity to achieve autonomy and expansion.

Projects often target to solve systemic issues of HE sector, such as:

133 Hanoi, HCMC, Quang Tri, Dong Nai, Thua Thien Hue province

134 The project has not been published on website yet at the time of making this report; information was shared from interview with expert from ADB Vietnam

<i>Infrastructure Facilities</i>	Financing for infrastructure, teaching facilities, equipment of HE institutions, mainly come via ODA loans, some also include funding for establishment phase of HE projects
<i>Governance, Autonomy</i>	Support address to overall HE management system including consulting for system policies, HE network governance; Support to advance the autonomy progress via developing autonomous university role models
<i>Research & Teaching Capacity</i>	Various types including loans, grants, or technical assistance to advance the academic and teaching quality of HEIs, capacity building for the HEIs in terms of teaching pedagogies, curriculums, research capabilities etc. towards matching with requirements of labor market, upgrading to regional standards, and HE expansion
<i>Program development</i>	Support for internationalization of program or develop new training programs, curriculums for new sectors, in order to meet with demand of the market for new jobs, new skills and new emerging industries
<i>Universities – Industry linkage & Technology Transfer</i>	Strengthen collaboration and connection of HE system to industry stakeholders as overall strong connection will increase the relevancy and ability of HE graduates to the market demand

Almost all donors engage in higher education sector via supporting high-quality human resource and enhancing international cooperation of HE.

As support to HE human resources also benefit for knowledge exchange, technology transfer, higher education cooperation between countries, although not invest strategic cooperation support in the HE systemic issues, many countries still provide practical support via scholarship and exchange programs. Almost the bilateral donors in Vietnam are offering (1) capacity building for high-level management human resources of government-related agencies, research & development facilities; or (2) open-call government scholarships attracting potential experts and leaders; or (3) fostering international cooperation between universities in Vietnam and the home countries etc. (see list in table figure)

Up-skilling the labor force by investing in TVET system has been a common priority of various multilateral and bilateral donors in the current period, and this support topic will still thrive in the future period .

Different from HE sector, TVET sector witnesses the proactiveness of various bilateral donors who are engaging in many aspects of TVET development both addressing large-scale systemic issues level and support specific issues at selective TVET schools, big scale and small scale projects, with the ultimate aim to enhance the growth of TVET sector and close the gap with the labor market demand.

<i>Infrastructure Facilities</i>	Provide loans or funding aid to advance infrastructure development of TVET institutions, equip modern training facilities, which is most critical for TVET to meet with labor market demand, especially in manufacturing, supporting industries, heavy industrial sectors
<i>Sector policies & governance</i>	Similar to HE system, TVET in Vietnam is also facing ineffectiveness and inefficiency in governance system and policy at national level, as well as at organizational level. Specific donors are providing consultancy and support for the TVET reform in Vietnam in recent years via assistance project to the government or directly advance quality of management at the TVET institutions
<i>Quality system, Training accreditation</i>	Support to systemize and improve TVET qualifications system, to enhance quality of teaching that can meet requirement of employers, to meet with regional and international skill standards; develop high-quality TVET institutions in response to the demand of more highly-skilled workforce
<i>Industry – enterprise collaboration with TVET</i>	Most popular theme for donors’ support Multiple stakeholder engagement to strengthen the connection and active engagement of enterprises with TVET, to improve the relevance of training output and to ensure demand-based training provision
<i>Inclusive & sustainable development</i>	Equip vocational skills is one solution to address unemployment and livelihood issues in disadvantaged communities. Some donors aim to address social development challenges via supporting TVET system, such as effort to increase access to vocational training of disadvantaged communities; or towards sustainable development themes

Digitalization, green economy, gender equality and other sustainable development issues could be embedded objectives but not yet a dominant objectives in HRD cooperation projects.

For example, sustainable aspects will be embedded into ADB’s projects as an additional component but not the main criteria of the project. Other donors are also aware of the trends and relatively engage this topic in program design, but not yet a major specific design program, except for the case of GIZ. GIZ supports TVET institutions to implement capacity building for future labor force towards green economy, for example, supporting for vocational training program for TVET graduates to work in environment and waste management jobs.

Lacking of central facilitation role for HRD overall; Support for HE is more demand-based, leading by universities meanwhile donor supports for TVET sector are more centralized via facilitation of DVET.

At country level, for any stakeholder to consider strategic interventions, human resource development (HRD) needs to be assessed comprehensively as an overall complex system having inter-connected development dynamics. However, donors normally are not able to provide cutting-through solutions touching comprehensive HRD aspects but have to decide specific entry points and different sector-focus priorities in the overall HRD map. On the other hand, as mentioned in previous part, there has been certain

fragmentation between government bodies in HRD planning and execution, i.e. between MOET for higher education and MOLISA for TVET, as well as the transition of government bodies for college level between the two ministries, which leads to changes in management and execution practice of donor support programs. This leads to a fact that many donor supports exist but overall the HRD system still lacks of central advice and coordination for the HRD development assistance to be allocated effectively and in a more strategic manner. However, it does not necessarily mean that there exist conflicts between Ministries in governing donors' projects.

Programs that aim for supporting HE autonomy and HE training system normally base on the demand of universities, and universities are pro-active as independent project implementing partners. There are role of the International Cooperation Agency of MOET as the focal point agency to receive information, reports but the HEIs still keep active roles. Besides, donors support in HE sector for system-level issues or policy issues can be directly with the related Ministry's agency, depending on supporting purpose.

Meanwhile, in TVET sector, DVET plays a very central role in coordinating resources from donors toward the overall system demand. It is popular that DVET will suggest the TVET institutions to receive donors support.

As a result, donors cooperation support in HRD is less regional-focus. The regional focus of projects could be determined based on recommendation from DVET (with TVET projects), or by evaluation of demand and feasibility of Universities.

There has been a tendency that bilateral donors have stronger consideration of industry focus in HRD

Industry-led, sector-based interventions seem to be more popular approach of bilateral donors. It is also a fact that as Vietnam has turning to medium income country, there is a tendency that international donors change the partnership strategy with Vietnam as "from aid to trade". Each country donor, therefore will consider the demand for economic partnership with Vietnam in specific sectors, in order to meet dual goals in country partnership cooperation.

There has been mainly effort from multilateral donors regarding issues of labor market

Specifically, the International Labor Organization (ILO) as part of the UN system, as its mission, is the most active support player dedicated towards the objective of promoting rights at work, encouraging decent employment opportunities, enhancing social protection and strengthening dialogue on work-related issues. Another theme is to build capacity and support for skill raising for disadvantaged groups, which mostly recognize the role of ADB in the last 10 years. The WorldBank in its country partnership strategy with Vietnam also emphasizes supports towards enhancing labor market information systems & reform labor and regulations.

4.1.2 Brief introduction of major multilateral and bilateral donor directions and actions in HRD

a. Multilateral donors

As multilateral donors are global facilities to support for nations to achieve global sustainable development goals, the supporting scheme of these donors for each country often broadly address long-term sustainable challenges of the country, and support strategies determined by systemic diagnostic of

country situation and defined by periods. In which, human resource development could be embedded objectives in broader sustainability intervention objectives or supporting themes.

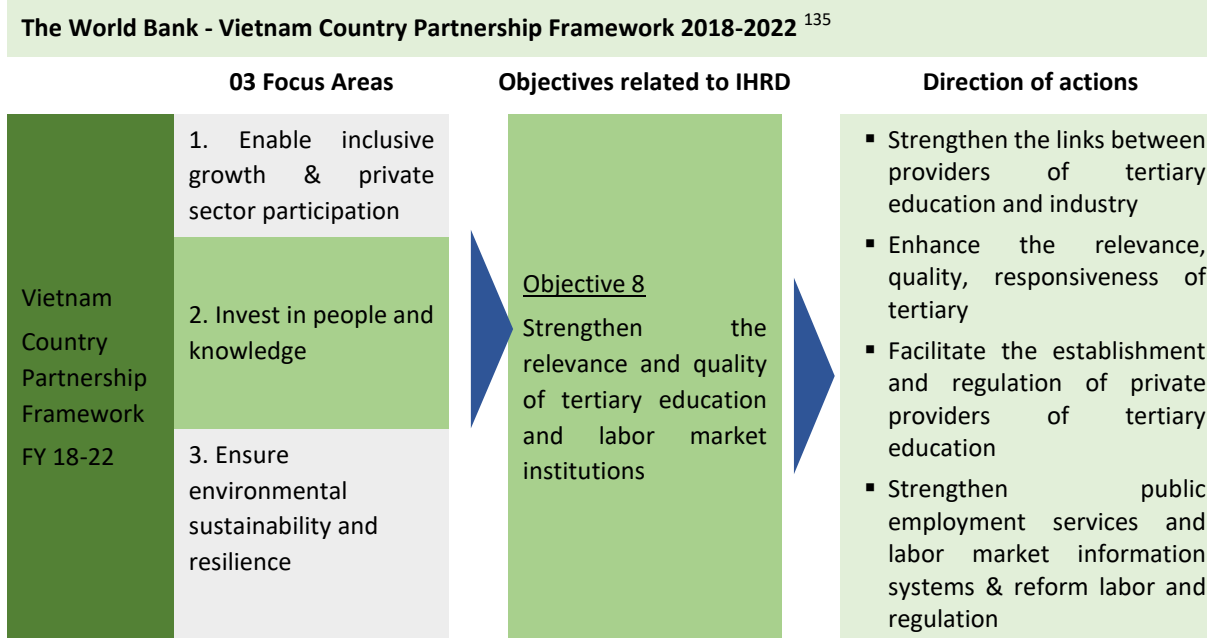
The leading 3 multilateral donors in Vietnam in HRD theme include the WorldBank, ADB, and ILO under United Nation system. The World Bank has recently shifted the related support strategy from general education to tertiary education meanwhile. ADB has been always the biggest donor for skill improvement for the labor force and maintain holistic support programs for improving TVET capacity in Vietnam, but also having focus on project in higher education in future period.

However, as being banks, these two donors World Bank and ADB face growing challenges in providing ODA loans for HRD projects due to tight consideration of public debt issue in Vietnam.

The World Bank

After graduated from the International Development Association (IDA) at end-FY17, Vietnam will have less access to financing from the World Bank from IDA and IBRD loans. Due to the national debt ceiling regulation, Vietnam's borrowing capacity is also limited. Therefore, it is necessary to select the area of support more carefully and to ensure that all support is based on the country's demand. The Country Partnership Framework (CPF) 2018 – 2022 represents a new period in Vietnam and World Bank Group relations since then. This CPF document is built to closely follow Vietnam's development strategy, specifically the Socio-Economic Development Strategy 2010-2020 and the Socio-Economic Development Plan 2016-2020. Research findings and constraints on development outlined in the report Vietnam 2035: Towards Prosperity, Innovation, Equality and Democracy and Vietnam National Systemic Diagnostic Report 2016 were also taken into consideration.

World Bank focuses on policy and system transformation in Vietnam education. Most of its projects aim to improve Vietnam policy framework and management system, which is in relation to its Country Partnership Framework (CPF) for Vietnam. The human resource issues are addressed to be more than just a single trait which links with Vietnam's economic, social and demographic development. Since 2017 the WB has shifted its focus to tertiary education (academic and technical streams) to support the development of a stronger and more competitive labor force with skills that match the needs of employers.



World Bank is among the leading development partners in higher education sector with total investment of around 730 million USD in four projects in the past decade: University Development of VNU-Hanoi, VNU-HCM, and UD Project (2020–2025), Support for Autonomous Higher Education Project (2017–2022), Viet Nam Enhancing Teacher Education Program (2016–2021), Viet Nam-Germany University (another New Model University) (2010 – 2020)

As having certain limitation in direct support for education, World Bank’s recent supports focus only in higher education sector and mainly to finance infrastructure and equipment. Also, a strategic shift in intervention of World Bank has been realized through integrated and multi-sectoral support including advisory, policy and operational support. Non-infrastructure support and soft activities are also included in some projects to support higher education, aiming to enhance quality assurance system, promote employment for graduates, support research and partnership of universities with the private sector and the NGOs, and improve teaching and the recognition of university in Vietnam.

The new Country Partnership Framework of World Bank in Vietnam is still under progress but skills development seems to be put at the center with an aim to adapt the country to potential environment challenges and to support for the country transition. Medium level skills are prioritized although the higher level is considered also important. Policy reform for skills development is supposed to be necessary, however, the financing instrument, which faces apprehension of the government, seems not to be an appropriate approach for Development Policy Operation. However, co-financing could be a channel for World Bank to continue supporting Vietnam in upskilling the labor force in the future.

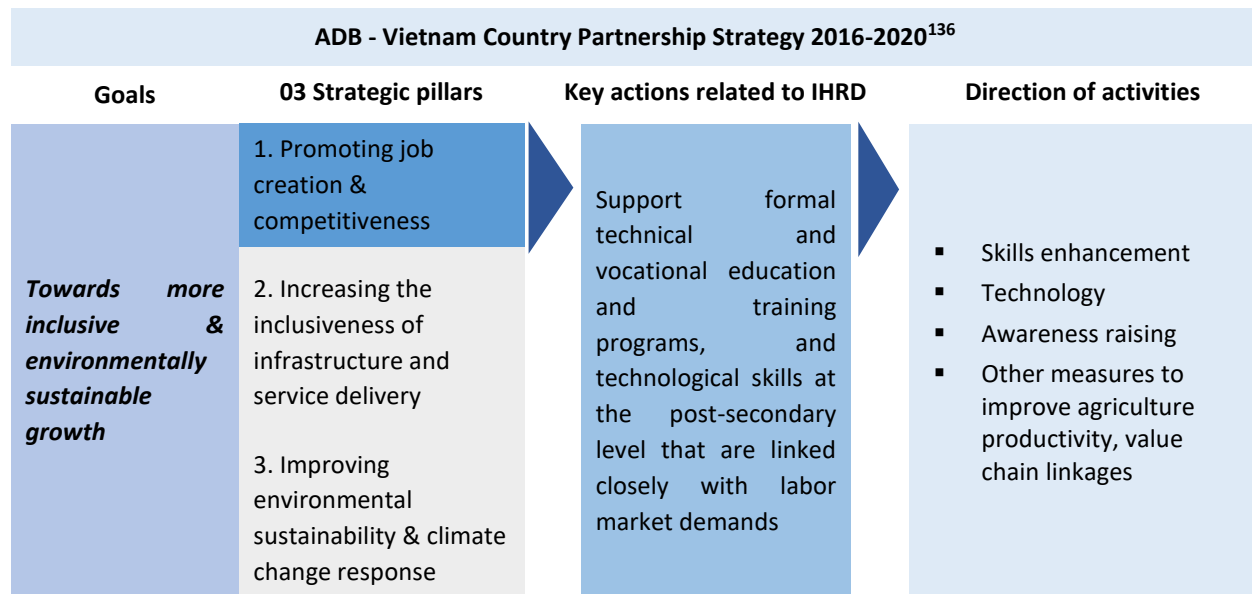
135 World bank – Vietnam country partnership Framework 2018-2022

The Asian Development Bank (ADB)

ADB has been a major development partner supporting both TVET and HE sector in Vietnam since 1997. The latest ADB Country Work Plan for Vietnam 2020–2022 is consistent with the priorities outlined in the National Socioeconomic Development Plan 2016–2020 of Vietnam, and follow the ADB Country Partnership Strategy 2016–2020.

ADB has 7 priorities in its 2020-2030 strategy, in which one of the key strategies is poverty reduction, which is directly related to improving the productivity of human resources. Human resource development is perceived broadly as effort under the goal of poverty reduction, therefore the programs by ADB not only associated with the goal of creating human resources such as higher education and TVET, but also associated with social security issues, jobs creation, health assurance to participate in labor force.

Supporting TVET is still the most major commitment of ADB. The ADB’s Vietnam Country Partnership Strategy (CPS) 2016–2020 on three pillars: (1) promoting job creation and competitiveness, (2) increasing the inclusiveness of infrastructure and service delivery, and (3) improving environmental sustainability and climate change response. Efforts of supporting human resource development mainly fall into the objective (1).



The Country operations business plan (COBP) 2021–2023 for Vietnam remains consistent with the priorities of ADB’s Country partnership strategy (CPS) 2016–2020 even when the COVID-19 pandemic situation is taken into consideration. Expected committed capital for the period 2021-2023 in education is \$100 million (regular OCR source) and \$13 million (co-funding), and the main area of support remains TVET.¹³⁷

136 ADB - <https://www.adb.org/countries/viet-nam/strategy>

137 ADB - Country operations business plan 2021-2023

In terms of TVET sector, ADB's first TVET project (1997–2008) was to improve the TVET quality assurance system, modernize vocational training curricula, and upgrade facilities of vocational secondary schools. The second TVET project (2008–2017) supported standards and curriculum development for 15 occupational areas and upgraded public and private vocational institutions by increasing management capacity, rehabilitating facilities, and strengthening partnerships with private sectors. The third TVET project (2020–2024) will upgrade the teaching and learning environments of 16 national high-quality TVET institutions with up-to-date technology.

ADB supported higher education since 2012 with a project for University of Science and Technology of Hanoi (USTH). The project will help a high-quality new model university that generates industry-relevant science and technology teaching and research with a new campus in Hoa Lac High-tech Park by 2023, tentatively. Currently, ADB is also implementing a Second Health Human Resources Development Project that will design and operationalize new campuses of Hanoi Medical University and University of Medicine and Pharmacy at Ho Chi Minh city.

International Labor Organization (ILO) – as a facility under United Nation¹³⁸ system

All the UN bodies in Vietnam work based on the UN-GOVN One Strategic Plan. The One Strategic Plan 2017-2021 establishes the programmatic and operational framework for the UN's support to the Government, outlining how the UN will work collaboratively to advance national development priorities. The Plan is consistent with the Socio-Economic Development Strategy 2011-2020, the Socio-Economic Development Plan 2016-2020, the United Nations Sustainable Development Goals (SDGs), and Vietnam's international human rights obligations.

Among the UN system in Vietnam, ILO is the facility to support for labor force development issues. The Decent Work Country Programme for Vietnam is the main framework for ILO co-operation with the Government, workers and employers over the 2017-2021 period, which is in line with the Vietnam United Nations One Plan for the same period. Three countries priorities are addressed: (1) Promoting decent employment and an enabling environment for sustainable entrepreneurship opportunities; (2) Reducing poverty by extending social protection and eliminating unacceptable forms of work, especially for the most vulnerable; and (3) Building effective labour market governance compliant with fundamental principles & rights at work.¹³⁹

The DWCP for the 2022-26 period is in formulating process and expected to come into effect at the end of the first quarter of 2022¹⁴⁰.

Unlike these two development banks, ILO is more an implementing organization with strong expertise and strong partner base in Vietnam for its mission. Below is one example of project by ILO:

138 The United Nation - One strategic plan 2017 - 2021 - 2017

139 Decent Work Country Programme for 2017-2021 - https://www.ilo.org/hanoi/Whatwedo/Publications/WCMS_630293/lang--en/index.htm

140 ILO website - https://www.ilo.org/hanoi/Informationresources/Publicinformation/newsitems/WCMS_833619/lang--en/index.htm

A case project of ILO – Project “Sustainable Supply Chains to Build Forward Better”

Background: The EU Programme for Employment and Social Innovation (EaSI) has partnered with International Labour Organization (ILO) for a joint intervention to advance decent work in global supply chains. The program focuses on five supply chains in different countries which is important to the EU. Vietnam is one of the biggest exporters of ICT goods to the EU and electronics accounts one third of total exports in the country. During Covid-19 pandemic, electronics manufacturing has also suffered from disruption of global supply chain and loss of orders.

When considering various factors of the industry, including level of development, the industry complexity when entering the global supply chain as well as the intrinsic capabilities of the industry and the current challenges of decent work, electronics manufacturing is an interesting case study which may offer many lessons related to support and ensure rights related to decent work in the global supply chain.¹⁴¹

Objectives: The overall goal is to support e-businesses recover from the pandemic and integrate deeper with the global supply chain by helping businesses understand the situation, have the ability to meet international standards and share industry experience for faster global integration. In addition, the ILO helps higher authorities understand businesses so they can better support them.

Intervention: There are 3 main modules:

- (1) Enhancing understanding of industry realities and enforcement of labor laws in the industry for industry partners;
- (2) Strengthening direct capacity for electric enterprises, especially during consultation sessions;
- (3) Assisting stakeholders to provide guidance on appropriate policies

The European Union¹⁴²

Since 2012, the signing of the EU-Vietnam Framework Agreement on Comprehensive Partnership and Cooperation (PCA) marked the EU’s commitment to widen the scope of the mutual benefit partnership with Vietnam, in which, education has been included. The EU developed the Erasmus+ for higher education in Vietnam to offer excellent study options with an aim to nurture Vietnam human resource. The Erasmus+ has 3 main types of funding, also be called as Key Action. Among those, Key action 1 is directly related to human resource development, stated as: *Learning Mobility of individual by means of Scholarship for learners (students, trainees, apprentices, young people and volunteers) and staff (professors, teachers, trainers, youth workers, and people working in education organizations, training and youth fields).*

In principle, Erasmus+ supports activities that are closely matched with the EU’s priorities for cooperation policy with partner countries and regions, who have strategic bilateral relations with Vietnam.

b. Strategies of key bilateral donors

Bilateral donors often determine cooperation strategies in order to achieve dual goals of development support. On the one hand, almost bilateral donors target to support Vietnam Government to achieve

141 In-depth interview and Project Overview Fact Sheet https://www.ilo.org/sector/Resources/publications/WCMS_791244/lang--en/index.htm

142 The European Commission - <https://erasmus-plus.ec.europa.eu/>

Socio-Economic development plans or related sustainable development goals; on the other hand, each country donor puts priority of support strategies towards areas that can enhance the economic and diplomatic relations with Vietnam, and also considers the strength of the donor country towards providing added values to the development progress of Vietnam.

Germany (GIZ)

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is the entity represented for official German cooperation support to Vietnam, GIZ has been active in Vietnam for more than two decades and is one of the most prominent donor players in vocational training sector in Vietnam, as this is one of three priority areas of GIZ in Vietnam¹⁴³, including Environment & natural resources; Energy, and Vocational Training.

GIZ has committed to a long-term and holistic support strategy base on comprehensive understanding of the TVET sector's problems; it collaborates closely with Vietnamese authorities to create and implement policies and framework conditions to increase the demand-driven nature of technical and vocational education and training (TVET), and with an emphasis on business sector collaboration.

Besides, GIZ assists institutions to increase the quality and practice-oriented training, combining with support in terms of facilities as well as management capacity to enhance the supply of qualified workers to meet green and sustainable economic requirements.

During period 2010 – 2020, GIZ has assisted the MOLISA in developing a national vocational training strategy, drafting the Law on Vocational Training, as well as opening vocational training schools according to Germany's dual vocational training model, known as "TVET Centre of Excellence".

In terms of sector focus, support program from GIZ has some priorities on high growth industrial fields such as construction mechanics, metal working (cutting/CNC), mechatronics and industrial electronics. Despite having no priority on location, its school partners tend to locate in the Southern Key Economic Region.

The Programme Reform of TVET in Vietnam started from 2015 with an aim to support demand-driven education and training in order to ensure education and training to meet demand of labour market, and to enhance quality of vocational training in associated with digital transformation and global trends.

For future directions in period 2021-2023, GIZ continues the Programme Reform of TVET in Viet Nam – II, remaining key direction and with some extended priority to digital transformation TVET 4.0, green skills TVET and promote better inclusion in TVET system. One among future activities is advocating for the establishment of an industry skills advisory council, which is a dialogue mechanism between universities and enterprises in each specific industry. Representatives of enterprises and association will participate in the council to build career forecast from the actual needs of the labor market. Based on that, standards of occupational skills will be built in associated with job positions, then becomes the foundation to develop appropriate training programs for students. This activity aims to shorten the gap between vocational training outputs and labor market demand.

143 GIZ- <https://www.giz.de/en/worldwide/357.html>

A support model of GIZ - Cooperative Training Model

Cooperative training model has been piloted in the framework of the program reform since 2015 at 11 high quality vocational schools nationwide, in which 3 schools in Dong Nai: College of Mechanery and Irrigation, Lilama2 International Technology College and College of Technology II. This model is set up on the basis of the famous “Dual VET” model in Germany.

The key factor of this model is the close interconnection between government, enterprises and social partners, in which the enterprise plays a key role in the training cycle. In this program, 60% of training is to study at vocational schools and the rest 40% is to get practical experience at enterprises. Enterprises cooperate with TVET to develop demand-oriented standards and training programs, recruit students, conduct joint training at enterprises and at TVET institutes, and evaluate and recognize graduates. Besides, industry advisory board and skills council have been established as systematic coordination mechanism between TVET institutions, cooperative enterprises, relevant business associations and state management agencies.

Up to now, 7 training occupations have been recognized by German Chambers of Commerce with equivalent qualifications, including: Sewage and wastewater treatment technician (College of Technology II), Metal cutting, Construction mechanics, Mechatronics, Industrial electronics (Lilama2), Electronic technology and building energy and Mechanical technology, heating and air conditioning (College of Mechanery and Irrigation). 13 industry advisory boards including over 40 companies and 6 professional associations have been founded at the supported colleges, contributing to the implementation and further development of the cooperative training and assessment approach.

South Korea¹⁴⁴ (KOICA)

Korean support has taken a variety of forms since the bilateral relationship was upgraded to a strategic cooperative partnership in 2009, with a particular emphasis on administrative reform, education, water resource management, and infrastructure.

KOICA has had long-term commitment since the last 20 years to support vocational training, skill training access for the vulnerable communities and ethnic minorities, with a priority in the central local provinces of Vietnam which is considered as the most historical disadvantaged and high potential of development areas such as Bac Giang, Nghe An, Dak Lak, Binh Dinh, Da Nang, Thanh Hoa, Quang Binh. A lot of investments have been put in establishing and upgrading vocational training centers in terms of infrastructure, facilities and capacity building.

The Republic of Korea’s development cooperation strategy for Vietnam in period 2016 – 2020 stated priority on 4 objectives: (i) Strengthen transport infrastructure, policy, and management capacities for balanced regional development; (ii) Improve basic health services and sanitation; (iii) Strengthen public administrative capacities; (iv) Training for skilled professionals in the areas of science, technology, and other key areas.

144 The Government of the Republic of Korea - The Republic of Korea’s Country Partnership Strategy for the Socialist Republic of Vietnam 2016-2020 - 2017

One of the priority cooperation areas in this country partnership framework is education & human resource development, which has 2 main purposes: (1) Develop advanced human resources in various industrial areas; (2) Support vulnerable group's education opportunity for social integration

KOICA has three main approaches in cooperating with different parties in partner country:

- Fellowship program (Capacity Improvement & Advancement for Tomorrow (CIAT) scholarship): To support partner countries securing the needed human resources for their development, KOICA launched a capacity building program which provides short-term training for government officers, and master or doctoral education for students. The program is a cooperation between Vietnamese universities and Korean universities in 20 selected industries;
- Cooperation with Korean NGOs: Among projects which are proposed by the grassroot organizations based on Vietnam demand basis, KOICA selects projects which align with its Country Partnership Strategies (CPS) to invest in;
- Cooperation with Korean enterprises: KOICA co-fund with enterprises to connect them with local universities with an aim to improve human resources for Korean enterprises. The fund may vary from 30% to 70% based on the purposes of the initiatives and the companies' size and profit.
- For example, in the Inclusive Business Solution (IBS) project, Visang Education supplies the Korean language smart solution (Klass) to Vietnam-Korea Industrial Vocational Technology College located in Nghe An province. The college adopts Visang Education's Klass and Korean language textbooks for the official curriculum, apply it to Korean language classes from fall semester 2020

Beside bilateral activities, KOICA also cooperates with other donors, NGOs such as GIZ, ILO in some projects which are aligned with its CPS and the indeed demand in Vietnam. In June 2019, KOICA signed Memorandum of Understanding with GIZ, one of the most prominent donors in vocational education system in Vietnam, to cooperate and support the development of this sector.

Though KOICA has not released the country partnership framework in the next period, this donor has the tendency to expand its support towards higher education sector from 2020 towards 2025 and 2030, with specific focus on developing human resource for agriculture sector. Two notable projects have been recently announced: a project of \$12.7 million USD to support Vietnam National University of Agriculture to strengthen human resources in the livestock industry in Vietnam; and a project of \$9.00 million USD to support An Giang University and Vietnam National University – HCMC to strengthen human resources in agriculture sector.

The United States¹⁴⁵ (USAID)

USAID collaborates with the Vietnamese government and private sector to assist Vietnam in modernizing its higher education system. Private sector partnerships are crucial in helping top institutions reform their curricula and teaching processes to generate globally competitive graduates. The objective is to develop

145 USAID - <https://www.usaid.gov/vietnam/higher-education>

skilled, job-ready graduates who possess the required skills to compete in an increasingly global economy, with a particular emphasis on three areas:

- **Technology and Engineering:** To enhance students' learning performance in Vietnam through new technology, leadership development, the establishment of an international accrediting plan, curricular innovation, and long-term relationships with the business sector.
- **Medicine:** To provide training in contemporary teaching methods, the use of technology, and the integration of clinical content; to develop university leadership capable of continuous innovation; to increase access and outcomes for students who are socially and economically disadvantaged, and to integrate interdisciplinary education in Vietnam's medical schools.
- **Liberal Arts:** to establish world-class university standards in Vietnam and contribute to the education sector's immense potential, known as the mission to establish and develop Fulbright University Vietnam (FUV)

Most prominent running projects in Education sector include:

(1) The Partnership for Higher Education Reform (2021-2026, USD14.2 million)

It is a five-year initiative to modernize leading universities and strengthen the higher education system in Vietnam. The project's strategy focuses on 4 key programs: Governance Excellence, Teaching and Learning Excellence, Research Excellence, and University-Industry Linkages and targets 3 universities: Vietnam National University-Hanoi, Vietnam National University-Ho Chi Minh City, and the University of Danang.

In the program for University-Industry Linkages, Indiana University and private-sector partners will create incentives and develop guidelines on university outreach and building and sustaining prosperous partnerships, between universities and industries, in curriculum and teaching reform, preparing students for the workforce, research, and innovation.

(2) Fulbright University Vietnam (2020 - 2024, \$21.1 million)

Established in 2016, Fulbright is the first fully independent non-profit university in Vietnam. Besides supporting FUV to achieve accreditation and develop education programs, USAID also supports to enhance the university's capacity to build partnership with government, the private sector, other academic institutions, and the general public in technology, manufacturing and service sector in Vietnam.

(3) Building University-Industry Learning And Development Through Innovation And Technology (BUILT-IT) (2015 - 2023, \$8.7 million)

In BUILT-IT, the university-industry partnerships and industry advisory boards are fostered to directly link outcomes of higher education to the needs of the private sector. Students gain in-demand skills, professional and technical competencies through curricular partnerships, mentorships, and industry-sponsored practical opportunities developed by BUILT-IT to prepare for careers in technology and engineering. Large businesses¹⁴⁶ in the IT sector contribute to the program under various activities like

146 Saigon Hi-Tech Park, Siemens, Autodesk, AWS Educate, DOW Vietnam, eSilicon, Microsoft, National Instruments, Oracle Academy, Pearson Education, Rockwell Automation, Intel and Wiley

hosting workshops and sponsoring conferences, hardware and software discount or donation, funding annual innovation award and scholarship, providing faculty train-the-trainer courses, curriculum materials, training and advising.

Australia¹⁴⁷ (The Australian Embassy, Aus4Skills program)

Australia and Vietnam's partnership extends across political, security, economic and people-to-people activities. The strong relationship is reflected in the Declaration on Enhancing the Australia-Vietnam Comprehensive Partnership, signed in March 2015, in which, three key sectors that affirmed to have made differences: economic reform, transport infrastructure, and education.

Australia committed to engage closely with the private sector to ensure training meets industry's needs, provide technical support to improve organizational capacity for skills utilization. Main activities of Australia in Vietnam in skill development are placed under the Aus4Skills program. Besides, the Australia Awards Scholarships is also very well-known scholarship which aims to improve the quality of human resources in Vietnam through long term study in Australia.

Aus4Skills is a 5-year program started from February 2016 to support Vietnam in accessing and using high level professional and technical knowledge skills and competencies to contribute to the country's sustainable economic and social development. The program consisted of 5 components, in which the component "Promoting industry linkages with vocational education and training" started since April 2017.¹⁴⁸ Total funding under the program in the period of 2016 – 2020 is AUD 146 million for all areas¹⁴⁹.

In the period 2016 – 2020, Australia's human resource development supports in Vietnam are selective, and seek to build on areas where Australia has well established expertise and experience.¹⁵⁰ The latest announcement of Australia cooperation strategy in Vietnam contains of 03 main pillars: (1) Health security; (2) Stability and (3) Economic recovery. Among which, objective (3) specify supports for industrial human resource development through developing skills, especially through vocational education and training. In particular, activities aim to strengthen vocational education and training; strengthen university governance standards and quality assure of higher education qualifications, including online delivery.

Since 2018, the Australia skill support program has prioritized the logistic sector, by the partnership with Vietnam Chamber of Commerce & Industry (VCCI) to promote the participation of businesses in vocational education activities in the field of transport and logistics. This priority resulted from the real demand of Vietnam's vocational training schools to establish a formal training program in logistics and the Australia's strength in the sector. The program has been piloted in Dong Nai, HCMC and Vung Tau. Competency-based training and assessment (CBTA) approach has been applied to increase capacity for participating teachers and trainers.

147 Australian Government - <https://www.dfat.gov.au/geo/vietnam/Pages/australia-viet-nam-comprehensive-partnership>

148 <http://australiaawardsvietnam.org/>

149 Aus4skills - <https://www.dfat.gov.au/about-us/publications/Pages/vietnam-aus4skills-fact-sheet>

150 Australia-Vietnam Human Resource Development Program, 2016-2020 - <https://www.dfat.gov.au/sites/default/files/australia-vietnam-human-resource-development-program-2016-2020.pdf>

In the next period to 2025, this program will be extended to the north in Hai Phong and Dien Bien. The cooperation model in logistics sector between vocational and training institutions, logistics enterprises and Vietnam Logistics Business Association (VLA), with the formation and operation of Logistic Vocational Training Advisory Board (LIRC), is expected to provide a valuable experiment and lessons learnt to apply to the whole vocational training system.

Regarding higher education, the component “Improving the quality of universities in the northern mountainous region” has been implemented to improve quality of three target universities¹⁵¹, including to develop a model of university autonomy, to enhance governance capacity of school leaders, strengthen the quality assurance and to provide advanced teaching methods to minority students. In the 2nd phase, the program will collaborate with MOET to improve university governance capacity, develop the University Council model and support in the implementation of Vietnam’s National Qualifications Framework of university education.

In 2021, Australia has announced its new partnership strategy with Vietnam called Australia Vietnam Enhanced Economic Engagement Strategy (EEEs). All support programs of Australia to Vietnam will have to contribute to this EEEs, in other words, design of program focus, and evaluation of effectiveness of all current and future programs (including HRD) will be driven by EEEs’ principles.

Denmark¹⁵² (DANIDA)

Vietnam and Denmark have more than 10-year cooperation in the field of education and training. Under the global program “Partnering with Denmark”, education is selected as the strategic area of cooperation between the two countries. Technical and vocational education and training is decided to become the strategic sector, with the launch of the “Danish-Vietnamese Strategic Sector Cooperation (SSC) project in Furniture and Graphic design sector (2017 – 2019).

The project addresses the gaps between outcomes of TVET schools and the skills and competences required by enterprises. Its aim is to support the development of TVET system in Vietnam in order to meet skills and qualification needs of the labour market by enhancing industry linkage with TVET schools and promoting work-based learning in the Vietnamese TVET system. The project consists of four key measures:

- (1) Establishing local occupational skills councils (LOSC) to facilitate the close and systematic school-enterprise cooperation and dialogue on skills needs and TVET programmes.
- (2) Developing and adapting TVET curricula to knowledge, skills and competences needs of the local enterprises, promoting work-based learning
- (3) Enhancing the engagement of enterprises in education by recruitment of enterprises to provide internship opportunities for TVET students

151 Thai Nguyen University, Thai Nguyen University of Agriculture and Forestry, Tay Bac University

152 White paper Promoting Dual Technical Vocational Education and Training in Vietnam, DVET and Ministry of Education of Denmark

- (4) Capacity building for enterprise representatives, TVET school managers, teachers and HR of enterprises.

This project is implemented in four colleges selected by MOLISA, including North-Eastern Vocational College of Technology, Agriculture and Forestry (Lang Son) and South Vocational College of Technology and Agro-Forestry (Binh Duong) in Furniture sector, Hanoi Industrial Vocational College (Hanoi) and Ho Chi Minh City Vocational College (Ho Chi Minh City) in Graphic Design sector. Representatives from colleges, more than 19 enterprises (Vietnamese, Danish and other foreign owned), VCCI and relating business associations have joined to form and operate the local occupational skills councils (LOSC).

A Steering Committee has been responsible for the overall governance of the project, with the participation of Embassy of Denmark, MOET and MOLISA of Vietnam and Ministry of Education and Ministry of Higher Education and Science of Denmark.

The 2nd phase of the Project (2020-2023) supports 12 colleges in 3 professions: graphic design, interior design and food sectors. Various objectives are aimed in this phase, including (1) to promote close linkages between schools, government authorities and businesses; (2) to enhance autonomy, to promote the governance of TVET institutions; (3) to provide capacity building for staff and teachers on TVET development and change management in TVET; (4) to strengthen cooperation between TVET institutes and enterprises in related fields and strengthen activities to attract young people to study TVET; (5) to promote cooperation and exchange of teachers and VET administrators between Vietnam and Denmark.

Agence Française de Développement (AFD)

Viet Nam is a strategic partner for France and is one of the main beneficiaries of ODA allocated by AFD. AFD is also a recognized operator within Vietnam's donor community, with 27-year experience in supporting the country. AFD's aid for 2016-2020 is defined in its Country Intervention Framework, in line with the Asian Regional Intervention Framework (2013–2016) and the Vietnamese authorities' development strategy – in particular the SEDS and the green growth strategy. A single purpose is addressed in AFD's strategy for Vietnam "to support Vietnam on its pathway to green and resilient growth"¹⁵³. Thus, climate change, green growth and the resilience of territories are the main topics for AFD's interventions. Three operational objectives are indicated:

1. Promote environment-friendly and resilient urban development
2. Support the productive sector in achieving improved performance, particularly in the environmental and social spheres
3. Accompany Vietnam in meeting the challenges posed by climate change and natural disasters

Three objectives break down into 5 activities, in which activity "Supporting vocational training (including higher education) in line with the needs of the economy" is included under request of the Vietnamese authorities to respond to the demand of the productive sector.

153 Intervention Framework: Vietnam 2016-2020 <https://www.afd.fr/en/ressources/intervention-framework-vietnam-2016-2020>

Project “Support for high quality vocational training centers in Vietnam” (2012-2019, EUR 25 million) is the 2nd project of AFD in vocational training sector. Five schools are beneficiaries of this project, including College of Agricultural Mechanics (Vinh Phuc), Viet Xo College of Electrical Engineering and Construction (Ninh Binh), Nghi Son Vocational College (Thanh Hoa), Dung Quat College of Technology (Quang Ngai) and LILAMA2 International Technology College (Dong Nai)¹⁵⁴. The project aims to renovate 5 schools to become centers of excellence and to enable high-quality training based on the French model. Thanks to this project, equipment has been purchased that suits the needs of the labour market, a building has been built (e-building at Lilama 2 College) and trainers and school managers have benefited from capacity building. Six training courses have been developed: welding, metal-cutting, industrial electricity, automobile mechanics, technicians for installing radiotelecommunications equipment and fibre-optics networks technicians.¹⁵⁵

To continue the success of this project, possibility of promoting the project “Investing in building a system of high-quality vocational education and training to reach out to G20 developed countries” was discussed between representatives of AFD and DVET in June 2021. A focus on investment in future industries, specific occupations such as aviation, space, clean energy, logistics, industries of the Industrial Revolution 4.0 and digital economy is suggested by DVET and would be considered by AFD together with assessment of the current needs of the Vietnamese vocational education system.

Italian Agency for Development Cooperation (IDC)

Vocational training sector is one priority in Vietnam – Italy’s strategic partnership beside environment, water management, flood warning, small and medium-sized enterprise support, and health care.

Three programs were launched in 2015 - 2016¹⁵⁶:

(1) Supporting Employability and Social Inclusion in Vietnam’s Vocational Training Schools

IDC partnered with DVET to upgrade three vocational training colleges in Hanoi, Hue and Quang Nam through construction of workshops and supply of advanced machinery, training of staff, update of training curricula, and development of career guidance services. The program aims to enhance competitiveness of graduates to better meet requirements of the labor market.

(2) Vocational Training Centre for Restoration and Conservation of Cultural Heritage

IDC in partnership with Politecnico di Milano University (POLIMI) and Quang Nam Provincial People's Committee established a vocational training centre specialized in archaeological restoration and a restoration laboratory, and provided training for several restoration techniques,

154 DVET Website - <http://gdnn.gov.vn/AIAdmin/News/View/tabid/66/newsid/37230/seo/TRAO-DOI-VE-BAO-CAO-DANH-GIA-KET-QUA-CUA-DU-AN-DAU-TU-PHAT-TRIEU-CAC-TRUONG-DAY-NGHE-CHAT-LUONG-CAO-SU-DUNG-VON-ODA-CUA-CHINH-PHU-PHAP/Default.aspx>

155 AFD Website - <https://www.afd.fr/en/carte-des-projets/support-high-quality-vocational-training-centres-vietnam?origin=https://www.afd.fr/en/page-region-pays/vietnam>

156 IDC Brochure - https://www.aics.gov.it/wp-content/uploads/2016/05/Brochure-IDC-Vietnam-Oct-2015_FINAL-2.pdf

varying from the most traditional ones to modern forms of restoration, including dedicated IT programming.

(3) Raising Youth Employment through School - Enterprise Connections in Bac Ninh

The program aims to improve the accessibility to the labour market and to increase the average wage level of young people in Bac Ninh. Beneficiaries of this program are two local vocational training schools and a rehabilitation center for disabled people. Main activities were courses formulation, staff training and establishment of linkage between VET and enterprises.

Training component is also included in other program, for example, the programme on the development of SMEs. In healthcare sector, the “Carlo Urbani Health Centre” also provided institutional capacity building, training and high-level education to the Hue College of Medicine and Pharmacy.

Different sorts of training are provided also through other initiatives. For example, the programme to prevent human trafficking between Vietnam, Cambodia and Laos, carried out in partnership with IOM, seeks to mitigate economic vulnerability of migrants and their families in source communities through skill training and job placement.

British Council (BC)

British Council Vietnam has two main missions: (1) to support British Council UK to implement a global education strategy and (2) to support the UK government and stakeholders to promote cooperation with countries around the world within their priority areas, in particular, promoting activities in Vietnam by connecting them with Vietnam's development plan. As DFID has withdrawn most of support for Vietnam, BC can be considered as an extended arm to act for the UK government in development programs in education.

In higher education sector, BC has a global program Going Global Partnership 2021 - 2023, which is also being implemented in Vietnam. This program named as “UK-Vietnam Partnerships for Quality and Internationalisation”, aims at supporting development and strengthening quality tertiary system in Vietnam and internationalisation of higher education strategies in both UK and Vietnam¹⁵⁷.

Main expected outcomes of the program are¹⁵⁸:

(1) Enabling research: supporting research, finding insights for analytical reports or making findings of Vietnam current situation to seek for suitable interventions;

(2) Strengthening system: improving performance of the higher education sector in Vietnam on teaching, research, innovation, and knowledge transfer to prepare for regional and international integration. Activities include offering policy advice, sharing the UK experience in developing quality assurance system

157 Going Global partnership grant guidelines

158 British Council Website - <https://www.britishcouncil.org/education/he-science/going-global-partnerships/about>

and developing performance key indicators and frameworks towards excellence in teaching, research, innovation and knowledge transfer;

(3) Internationalising institutions: providing small fundings to promote the cooperation between universities in Vietnam and the UK

(4) Enhancing student outcomes: improving the qualities of global graduates

Regarding TVET sector, British Council participates in the EU VET Toolbox project as a partner with four other countries. (Further details about the list project are presented in later part)

Irish Aid

Ireland has had a development cooperation programme in Vietnam and the Mekong Sub-region (Cambodia, Lao People's Democratic Republic, and Myanmar) since 2005. The engagement of Ireland in this region is reflected in the new Mission Strategy for the period 2017-2020 which connects trade-development-political-education engagement together (formerly known as Country Strategy Paper which relates to development only). The Mission Strategy is guided by policy on international development, Asian Pacific strategy of Ireland and aligned with National Action Plan on Sustainable Consumption & Production (SCP) of Vietnam. The Mission Strategy also set out 5 outcomes among those building human resource capacity falls into Outcome 4 aiming towards more inclusive and sustainable economic growth and more accountable and transparent institutions in Vietnam.

The Irish development Experience and Sharing (IAEAS) programme was launched in 2009 to support capacity-building and strengthen strategic linkages between Ireland and Vietnam in the education; agriculture; agri-food; and business and economic sectors.¹⁵⁹ The program is flexibly developed time by time and each component is built to meet rising demand of Vietnam.

- Capacity building: Support peer-to-peer institutional links between Ireland and Vietnam through training workshop, joint research, seminar, etc. Agriculture, education, private sector development and economic development have been identified by Vietnamese partners as priority areas for experience-sharing and capacity development
- Scholarship program (2007-2020) to provide targeted scholarships for students from the region to study in Ireland with a focus on labour market skills and science, technology, engineering and mathematics as well as some opportunities for business development and entrepreneurship
- Vietnam Ireland Bilateral Education Exchange (VIBE) programme has been implemented since 2015 to foster links between universities and research institutions in Vietnam and Ireland. The program has supported 19 projects in various areas: curriculum development, joint research, start-up competition, lecturer and student exchange, etc.

Besides, scholarships are also provided through Ireland fellows program under Global Irish Aid.

¹⁵⁹ Mission Strategy of the Embassy of Ireland, Vietnam 2017-2020

The new Mission strategy for the period of 2023 – 2027 will be published in 2022 and will set out the proposed areas of focus and intervention, aligned to Ireland’s development cooperation policy, A Better World.¹⁶⁰ While 2021 is the transition year, 2022 will be a 1-year strategic year due to Covid-19 pandemic and mainly focus on implementing pilot program for the next period.

In the future, it is planned to limit the range of support with an aim to narrow the focus and the partner involved. Under VIBE program, Vietnam National University of Agriculture and Vietnam National University are two targeted universities which have long term partnership and good records. Regarding target sector, agriculture is prioritized since Ireland has the comparative advantage and rich experience in food and agriculture. Besides, agriculture is priority of both development sector and trade sector, thus the program aims to effectively leverage to meet both development and commercial objectives.

4.2 Discussions and Lessons learnt from Donors’ perspectives

a. *Donors strategic approach: (1) systemic sector demand approach; (2) industry demand approach; (3) aid development approach*

Screening through different donors strategies in HRD, there are three main approaches that help donors, especially the bilateral donors to position themselves strategically in HRD support ecosystem. Below is the elaboration based on interview discussions and desk review on donor strategies, which aims to present as lesson learnt for JICA to review the HRD strategic approaches in Vietnam:

Approach Case-study		Advantages
(1) Systemic sector approach (HE/TVET)	<p><i>Priority driven by:</i> HE/TVET systemic sector development issues</p> <p>Donors aim to respond to in-depth systemic issues of either HE or TVET sector as the most important base to identify direction, scope & decision making,</p> <p>Normally large-scope project with multi-interventions or a range of interrelated projects are specifically designed aiming to have in-depth and long-term impact on the sector</p> <p><i>Example:</i> GIZ to holistically support to transform the TVET system reform progress in Vietnam; USAID present a clear positioning as the leader donor to support the HE reform with a series of projects to foster new HE models & HE autonomy</p>	<p>✓ In-depth understanding about HE/TVET sector, project design often has strong base for development, strong M&E</p> <p>✓ Build long-term relationship with local counterparts, especially government counterparts</p> <p>✓ Learning from experience & Better impact assessment</p> <p>✓ Better donor branding towards Vietnam government & mass community</p>
(2) Industry - led approach	<p><i>Priority driven by:</i> Specific Industry HR demand</p> <p>HRD is approached broadly as skill development, Donor aim to respond to specific need of industry based on understanding both HE, TVET and other</p>	<p>✓ In-depth understanding about one industry and better impact towards economic engagement</p>

160 Irish Aid website - <https://www.irishaid.ie/what-we-do/countries-where-we-work/our-partner-countries/vietnam/>

	<p>high-quality HR & labor market issues for long-term development of a specific industry</p> <p><i>Example:</i> Australian Embassy with Aus4Skills program having various interventions both in HE, TVET system, try to maximize the response to development needs of logistics sector in multiple cooperation themes</p>	<p>✓ Better to leverage multiple industry stakeholders both in home country and in Vietnam</p> <p>✓ Positive donor branding towards the industry & related government stakeholders</p>
(3) Aid development approach	<p><i>Priority driven by:</i> social development objectives, target to support the disadvantaged groups</p> <p>Normally support relate to investing in infrastructure for TVET in disadvantage community, provide equality & inclusive education opportunities</p> <p><i>Example:</i> The South Korea donor – KOICA marked their long history of support in infrastructure development and ensuring access to skill training for disadvantaged, vulnerable communities, indigenous communities</p>	<p>✓ Strongly contribute to sustainable development of the target country</p> <p>✓ Positive donor branding towards government stakeholders, and the localities</p>

In fact, all three approaches above could be considered at the same time, however, it is recognizable that major donors in HRD sector in the last decade normally follow one leading approach in determining the cooperation strategy in Vietnam.

b. Being focus and practical in project design & implementation

This is the lesson for small-size support projects, and also recommendations from several donors and government agencies regarding strategic choices of donors, especially in TVET sector. On the one hand, each issue in TVET system needs long-term commitment and enough practical support until TVET institutions are able to develop their capacity and achieve specific outcomes. On the other hand, small-scale projects but being flexible, having clear outputs, and respond to practical demand could be highly appreciated from local counterparts. A project, regardless of financing scale, should be developed based on in-depth understandings on practical challenges of the target beneficiaries.

Case study - VET Toolbox Program

VET Toolbox is a partnership of leading European development agencies, including British Council (UK), Enabel (Belgium), Expertise France (France), GIZ (Germany), LuxDev (Luxembourg) and AFD (France). The project is co-funded by the European Union & the German Federal Ministry of Economic Cooperation & Development (BMZ).

The intervention model in Vietnam is almost short-term projects, with immediate interventions but still have impacts on the system. Core intervention: Benchmarking TVET qualification with international standards

This program consists of 2 phases:

- Phase 1 (2018-2020): The institutional inspection project includes 4 participating schools: Can Tho Vocational College, Nha Trang College of Technology, Dalat Vocational College and Thu Duc College of Technology. Two British experts were invited to conduct a light touch inspection, using the British

guidelines to benchmark the quality of teaching and learning in the four selected colleges to UK standards and assess the robustness of the quality assurance mechanisms in place. Evaluation report is issued for each school and an overall report was delivered as a policy recommendation to the DVET. As part of the project, a tool for self-assessment was developed to help schools to coordinate with the DVET to develop an assessment framework specifically for Vietnam.¹⁶¹

- Phase 2 (launched in Sept 2021): Qualifications benchmarking project supports DVET and 5 colleges, including Viet Nam - Korea Vocational Technology College of Bac Giang (VKTECH); Ha Noi College for Electro-Mechanics (HCEM), Dalat Technical and Vocational College (DALATVTC); Hue Tourism College (HUETC); and Ba Ria Vung Tau Vocational College. Similar to phase 1, Ecctis, an UK and internationally trusted education body for qualifications and skill standards, is invited to work with DVET and vocational colleges in Vietnam to undertake an independent and objective evaluation of selected vocational qualifications which are in priorities in Vietnam.¹⁶²

Current situation of TVET system need to be addressed

- Strategic orientation is weak and lacks a tool system and strategic integration throughout learning activities.
- The system usually responds to the government requests rather than respond to the needs of employers, lack of market-driven approach;
- The teaching method is theoretical and mechanical, without practical experiences

In order to develop towards international standards, the TVET institutions first need specific consultation on their weakness aspects in order to determine their priority of capacity building

Expected outcome

Contributing to enhance the school's training quality and ensuring the quality of student outcomes while helping the university achieve its goal of internationalization in training standards and human resource requirements. Additionally, helping the Vietnamese system to come up with appropriate interventions in the context of international integration and set a foundation for future collaboration in certificates recognition between Vietnam and the UK, and later with EU.

c. Selecting right implementing partners

As in many experiences sharing from donors, selecting and developing right partners is the key to success of a cooperation project. It is important to understand the role of management stakeholders and implementing partners differently, and select partners who can play central role in key success factors for a project. To be specific, in TVET ecosystem, DVET's role can be both as government management counterpart and project implementing counterpart. This is the organization leading all TVET reform progress such as policy making, initiating system development as well as coordinating practical activities with TVET institutes nationwide. Therefore, this should be the focal organization for any donor project with an aim to support TVET development to reach out for advice or engage in project implementation.

161 British Council Website - <https://www.britishcouncil.org/education/skills-employability/success-stories/vet-toolbox-international-benchmarking-vietnam-vocational-education-institutions>

162 British Council Website - <https://www.britishcouncil.vn/en/about/press/british-council-and-dvet-launch-qualification-benchmarking-project-eu-vet-toolbox>

On the other hand, MOIT who is also the government bodies in charge of specific major technical vocational colleges, but is not the dedicated government body in charge of vocational education development. Therefore, there will be limitation in practical implementing experience and resource for projects that involve in-depth TVET experience.

There is one sharing case from the project Vietnam Skills for Employment Project 2016 – 2020, supporting to three TVETs in Mekong Delta region. Though the purpose and direction of this project was well-defined, the project faced many practical limitations in implementing progress. A review showed that the project was not succeeded as it wished due to issues in selecting implementing partners, lacking of in-depth understanding of the TVET system, and relatively weak in risk management regarding stakeholders engagement. The project was slightly at the position of being dependent on the co-leader from Vietnam side, as well as trying to engage local provincial authorities who are not the TVET management bodies, meanwhile lacking the communication and engagement with MOLISA, which led to limitations in implementation. Several important lessons learnt¹⁶³ include: (i) inform and engage the correct government body related to TVET management at national level (i.e. DVET- MOLISA) so that donor can receive advice, guidance, and official support in coordinating with TVETs as well as to have better decision making with regards to capacity building for the system; (ii) obtaining better landscape understanding of the TVET sector systemic issues and overall of other donors' engagement for better strategic resource allocation; (iii) enhancing local coordination activities to increase the practical matching with local TVETs in Vietnam, in order to increase effectiveness of support.

d. Building trustful relationship with implementing partners through strong engagement, co-develop projects, empowerment and building capacity

Empower the implementing counterpart, leverage their ownership of the project, and change the relationship from “donor - reporting” perspective towards partner development relationship, thus can increase “autonomy” and sustainability of projects.

For example, ILO has been developing long-term partnership with VCCI in Vietnam in almost all projects. ILO in Vietnam proposes an idea framework to consult with VCCI, then the two sides will make a full project document. After that, ILO will seek funding from donors and VCCI will carry out the project approval procedures. In which, VCCI is the project owner and ILO is the project implementation party. For this long-term partnership, all projects are run on the basis of understanding of the needs of partner as well as the consultation from experts from the relevant parties. Therefore, ILO projects are very practical and useful for both sides, thus creating trust and foundation for sustainability.

Another example is British Council (BC) in implementing the project EU-VET Toolbox, BC supports DVET to develop proposal to get funding from the EU, after that maintains a working scheme that DVET acts as the focal coordinating role and a co-owner of project, the organization is in-charge of implementing project with selected beneficial TVET schools. Meanwhile this donor acts more as a supporter to provide finance or expertise resource. This structure, on the one hand, will help to empower government agencies in

163 Consolidate by the consultant from interview discussion with the donor organization

implementing counterparts, on the other hand, the TVET partners are more committed as they work with the management bodies.

Donor such as USAID also invests much effort to build capacity of local implementing agencies towards independent expert organization who can continue to provide supporting services to local beneficiaries or being the central expert hub to respond to related development demand from other stakeholders.

e. Multi-level intervention, multi stakeholder approach in project implementing model

Various donor cooperation project in HRD shows the model of multi-stakeholder engagement in project implementation, especially for the purpose of linking education institutions with labor demand stakeholders. Examples have been presented in chapter 2 explaining the support model from GIZ’s program Reform TVET in Vietnam, and Aus4Skills program in supporting establishment of the Logistics Industry advisory board.

Multi-level intervention can be learned from the case of GIZ for the whole TVET system intervention, aiming for in-depth intervention and impactful results in long-term.

Case study – GIZ Program Reform TVET in Vietnam		
Approach	Activities	Partners/ Stakeholders
Macro level	<ul style="list-style-type: none"> Advise on the legal framework enabling the engagement of business sector in TVET. For example: <ul style="list-style-type: none"> ✓ Development of institutional arrangements for in-company trainer system ✓ Development of mechanisms for the business sector to participating in the policy consultation, forecasting and standardization as well as training implementation in TVET 	Directorate of Vocational Education and Training (DVET) and other relevant stakeholders
Meso level	<ul style="list-style-type: none"> Strengthen capability of partners to play a more active role as coordinator in industry skills councils. Work with provincial authorities to establish cooperation mechanisms such as regional and provincial councils with the participation of businesses 	Professional associations and the Vietnam Chamber of Commerce and Industry (VCCI)
Micro level	<ul style="list-style-type: none"> Pilot the cooperative training model 	11 selected TVET institutes

It can also be learned from the case of Aus4Skills program by Australian Embassy in logistics sector. This donor encourages industry-led model where the logistics association and VCCI play very active role in designing, implementing and engaging TVETs towards the HR demand of logistics enterprises. Multi-level intervention include activities at government management level (i.e. cooperation with MOET and MOLISA) for systemic program development, VCCI and Vietnam Logistics Association as level of industry-

demand and specific TVET and HE at level of education institution, also the Australian Award program provides scholarships for high-quality HR for future development of logistic sector in Vietnam in the future.

f. Role of local coordinator/implementing agencies to enhance effective communication and M&E

As donors organization team and experts are normally from a foreign country, in many cases if donors don't have strong implementation bodies in Vietnam, communicating in project implementation could face many difficulties, especially in the last two years during Covid-19 situation. In order to bridge the gap of communication which is critical to the project's success, local coordinators play a very important role. Some donor countries recruit individual coordinators/ local consultant for project-based time. Other donors can also determine outsourcing to independent implementing agencies for ensuring all project scopes to be implemented and to achieve objectives under strong M&E guidelines, ensure active response and control over practical situation (for e.g. the case of Aus4Skills program).

g. Bring-in donors' added value but need to harmonize with Vietnamese system situation

Almost the donors want to bring in the value-added knowledge, experience, expertises, resources from home countries to contribute to Vietnam system development, as well as create foundation for "aid to trade" collaboration trends. Typical examples, especially in TVET sector, include Japanese KOSEN model, German Dual-training model in TVET, Australia Centre of Excellence model... On the one hand, this creates much learning opportunities for Vietnamese counterparts but on the other hand, regarding the system policy level, Vietnam government faces complications in trying to absorb various models that could be harmonized with the legal basis, the management system and also can fit with unique development context of Vietnam. Donors, therefore need to be in close communication with Government management bodies to understand related legal basis and the fitness with legal framework development context in Vietnam. It is also a recommendation for donors to allow for some flexibility for customizing the model to fit with characteristics of Vietnamese stakeholders.

h. Open-call and bottom-up approach to increase competitiveness, fit-for-purpose and quality of target beneficiaries, leading to better quality of support activities

Regarding scholarships program, unlike JICA – JDS scholarship which implementation process going through Vietnam government counterpart; many other donors' support programs often have more flexible design of scholarships, open for demand-driven or open for direct applications from Vietnam counterparts, or from donor country counterparts (open-call programs), which will also aim to better effect of country branding, communication and quality of attendance.

In HE international cooperation, for example, the British Council has the "Going global partnership program" that focus on creating fruitful partnership between universities in the UK and in Vietnam, this program has a component to provide small fundings for universities in UK and Vietnam to propose partnership initiative. This will have the collaboration support to be more demand-base and fit with development directions of both sides.

i. Active donors collaboration

Last but not least is the recommendation on donor collaboration. Bilateral donors' support strategies often demand for clear positioning of the country donor, avoiding overlapping with other donors' actions, meanwhile there is a demand for multi-stakeholder collaboration aiming for resource utilization and more impactful intervention for all. Multilateral donors such as the WorldBank also emphasize the demand for opportunities to widely collaborate with other bilateral donors. Some level of collaboration can be considered:

- (i) Co-develop ODA projects – which requires the most complex collaboration;
- (ii) Donors implement independent projects but closely discuss to align purposes, activities and partners collaboration in project design & implementation; (e.g. the case of collaboration between GIZ, KOICA for TVET development programs)
- (iii) Actually collaborate at activity-based level to utilize resources, expertise, experience
- (iv) At the broadest level but still very important is the demand for donors to exchange information frequently, share lesson learnt and avoid overlapping in terms of project interventions or to develop new activities that can leverage existing projects' achievements/ partners by other donors; this can be developed in various official or unofficial channels. For example, currently, there is working group of donors active in education sector, and DVET also facilitates a working group of donors in TVET sector and organizes annual donor conference. This initiative can be potential to develop into more active platform for donors in Vietnam to have more often and effective communication

4.3 List of major on-going and future donors cooperation projects in HRD

The part below present key donor support projects in HRD, categorized by sector: higher education field, vocational education field, and support in labor market development. In order to understand current status and future directions of donors' support, the research team mainly focuses on current active and future projects.

a. Donors support projects in Higher Education

Figure 125. The active Donor support projects in higher education

Donor	Project name	Support directions/ Key actions	Type of support	Time frame	Budget	Implementing counterpart
Projects of Multilateral Donors						
The World Bank	Vietnam National University Development ¹⁶⁴	To improve the quality of teaching and research at 3 national universities by providing modern equipment and infrastructure for research, teaching and learning, and knowledge transfer Focus areas: materials science, biotechnology, ICT, environment and social-economic policy	Technical Assistance Financing	2020 - 2025	294.87 million USD	(1) Vietnam National University - HCMC (2) The University of Da Nang (3) Vietnam National University – Hanoi
	Support for Autonomous Higher Education Project (SAHEP) ¹⁶⁵	To improve the quality of teaching, research and institutional capacity of selected HEIs To strengthen the HE management system by supporting policy development and strengthening key HE subsystems	Technical Assistance Financing	2017 - 2022	155 million USD	(1) MOET (2) Vietnam National University of Agriculture (3) Hanoi University of Science and Technology (4) Industrial University of HCMC (5) Hanoi National Economics University
	Vietnam Enhancing Teacher Education Program ¹⁶⁶	To strengthen teacher education institutions to enhance teacher and principal effectiveness through improved continuous professional development	Technical Assistance Financing	2016 - 2022	100 million USD	MOET 8 Lead Teacher Training Universities
	Vietnam New Model University Project ¹⁶⁷	To develop autonomous research-based university (VGU: Vietnam German University) To demonstrate new policy framework on governance, financing and quality in Vietnam's HE system	Financing Technical Assistance	2010 - 2021	180.40 million USD	MOET

164 World Bank - Project Information Document/ Integrated Safeguards Data Sheet (PID/ISDS) - 2018

165 World Bank - <https://projects.worldbank.org/en/projects-operations/project-detail/P156849>

166 World Bank - <https://projects.worldbank.org/en/projects-operations/project-detail/P150060>

167 World Bank - <https://projects.worldbank.org/en/projects-operations/project-detail/P110693>

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

Donor	Project name	Support directions/ Key actions	Type of support	Time frame	Budget	Implementing counterpart
Asian Development Bank	University of Science and Technology of Hanoi Development (New Model University) Project ¹⁶⁸	To develop a high-quality new model university that generates industry-relevant science & technology teaching & research: including physical facilities, management system, academic program quality	Financing (Loan)	2011-2023	190 million USD	(1) University of Science and Technology of Hanoi (USTH) (2) Vietnam Academy of Science & Technology (VAST)
	Tertiary Education Project in Southeast Asia	The project focuses on partnership and private sector engagement in tertiary education in Indonesia; the Philippines; Vietnam	N/a	Approved in 2019	20 million USD	N/a
	Vietnam: Second Health Human Resources Development project ¹⁶⁹	Target to increase the supply of a skilled health workforce; enhance the quality of health care in rural and underserved areas; by expanding and improving the quality of undergraduate health professional training programs, via design and operationalize new campuses in Hanoi Medical University (HMU) and the University of Medicine and Pharmacy at HCMC (UMP)	Financing (Loan) Technical Assistance	2018-2023	Loan \$80 million Grant \$30 million	Hanoi Medical University (HMU) University of Medicine and Pharmacy at HCMC (UMP)
Projects of Bilateral Donors						
The United States (USAID)	The Fulbright University Vietnam Support (FUV) ¹⁷⁰	Invest to establish and develop FUV as world-class university standard, strengthen governance system, build partnerships, expand academic programs; in order to develop FUV as a role model to drive reform of HE system	Technical Assistance	Since 2016	N/A	Fulbright University Vietnam
	Improving Access, Curriculum and Teaching in Medical	Innovate curriculum & pedagogy of undergraduate medical education by working with 5 medical universities and policy makers;	Technical Assistance	2016 - 2022	\$8.76 millions	The Partnership For Health Advancement In Vietnam (HAIVN)

168 Asian Development Bank - <https://www.adb.org/projects/42079-013/main>

169 ADB - <https://www.adb.org/projects/40354-017/main>

170 USAID - https://www.usaid.gov/sites/default/files/documents/1861/FS_FUV_Jun2020_Eng.pdf

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

Donor	Project name	Support directions/ Key actions	Type of support	Time frame	Budget	Implementing counterpart
	Education and Emerging Diseases (IMPACT MED) Alliance ¹⁷¹	Develop laws and policies governing postgraduate medical education; Develop a model for postgraduate medical training throughout Vietnam	(Focus on medical sector)			
	Building University-Industry Learning & Development through Innovation and Technology (BUILD-IT) Alliance ¹⁷²	To create a world-class model to modernize and innovate technology and engineering (T&E) higher education: by collaborating with government, industry, academic partners to directly link HE to the needs of the private sector	Technical Assistance	2015 - 2023	N/A	(1) MOET (2) Arizona State University
	USAID-VIETNAM - Partnership for Higher Education Reform ¹⁷³	Enhance quality assurance systems at targeted universities; transform university finance to achieve institutional autonomy; faculty professional development & digitizing curriculum, improve research & innovation capacity; develop guidelines on university outreach & partnership with industries	Technical Assistance	2022 - 2026	\$14.20 million	(1) Vietnam National University - HCMC (2) The University of Da Nang (UD) (3) Vietnam National University – Hanoi (4) Indiana University
	One Health Workforce ¹⁷⁴ (under healthcare program)	An inter-disciplined project to connect 22 Vietnamese universities from the fields of medicine, veterinary science, nursing and public health to coordinate these efforts in Vietnam and to sustainably develop and deliver leading model programs to equip professionals with trans-disciplinary skills to address complex global health issues	Technical Assistance	2019 - 2024	\$600.000 annually	22 Vietnamese universities
	Vietnam Education	Scholarship & mentoring program	Technical Assistance	Since 2003	N/A	Vietnam Education Foundation

171 USAID - <https://www.usaid.gov/vietnam/documents/fact-sheet-improving-access-curriculum-and-teaching-medical-education-and-emerging>

172 USAID - https://www.usaid.gov/sites/default/files/documents/FS_BUILDIT_Aug2021_eng.pdf

173 USAID - <https://www.usaid.gov/vietnam/documents/partnership-higher-education-reform>

174 USAID - <https://www.usaid.gov/vi/vietnam/documents/one-health-workforce-next-gen>

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

Donor	Project name	Support directions/ Key actions	Type of support	Time frame	Budget	Implementing counterpart
	Foundation (VEF) ¹⁷⁵					
South Korea	Training program for the Vietnam National University of Agriculture to strengthen HR in the livestock industry in Vietnam ¹⁷⁶	To train more high-quality potential employees to work in the livestock industry in Vietnam	Technical Assistance	N/A – Launched in 08/2021	12.7 million USD	Vietnam National University of Agriculture
	Project on strengthening agricultural higher education of VNU-HCM ¹⁷⁷	To innovate curriculum & pedagogy, improve capacity of lecturers, teaching & training programs and strengthen Higher education - industry collaboration to meet demand of human resource in agriculture sector	Technical Assistance	2021-2028	9.00 million USD	(1) Vietnam National University – Ho Chi Minh City (VNU-HCM) (2) An Giang University
The United Kingdom	Internationalizing higher education in Vietnam ¹⁷⁸	Promote discussion, support government policy to improve connection of HE towards employment needs, build professional networks for knowledge sharing	Technical support	Since 2018	N/A	(1) British Council (2) MOET
Australia	Aus4Skills	A dedicated scheme to support professional development in Vietnam This program provided support to two regional universities in the mountainous north-west to improve leadership and management, strengthen curriculum; and provide high quality post-graduate qualification through Australia Awards Scholarships	Technical Support	2016-2020	146 million AUD (whole project)	Government of Vietnam MOET

175 VEF - <https://www.vef2.org/page/announcement.aspx>

176 VNUA - <https://eng.vnua.edu.vn/news-and-events/vietnam-national-university-of-agriculture-participating-in-the-project-on-strengthening-human-resources-in-the-livestock-industry-in-vietnam-with-the-financial-support-from-the-korea-international-cooperation-agency-koica-51857>

177 AGU - <https://www.agu.edu.vn/en/signing-ceremony-cooperation-agreement-between-vnu-hcm-and-korea-international-cooperation-agency>

178 British Council - <https://www.britishcouncil.vn/en/programmes/education/internationalisation>

The list below presents main scholarship programs offered by foreign governments cooperation:

Figure 126. Main scholarship programs offered by foreign government’s cooperation

Country	Scholarship/ Exchange program	Industry
Australia	Australia Awards Vietnam	-Governance and Economic Growth; Infrastructure and Transport; Water & sanitation; Education - Other sectors related to social development support: Gender Equality; Agriculture and Rural Development; Regional Stability and Human Rights; Disability; Climate Change; Healthcare
Switzerland	Swiss Government Excellence Scholarships for Foreign Scholars and Artists (SERI)	Technology of Applied Sciences Music and fine arts Other fields
Austria	Vietnam-Austria Scholarship Program	Natural Sciences, Technical Sciences, Medicine, Agriculture and Forestry, Veterinary Medicine, Social Sciences, Law and Economics
Belgium	The Belgian bilateral scholarship programme	Multi sectors
Canada	Canada-Vietnam Youth Development Scholarship	Economics; Engineering; Environmental studies Police/Correctional Services/Criminology Sciences (agricultural, chemistry, food and food processing, etc.)
Ireland	Ireland Fellows Programme IDEA scholarship	Multi sectors including economics and sciences
	Vietnam Ireland Bilateral Education Exchange (VIBE)	Agribusiness, Food Safety and Nutrition Environment and climate change Enterprise Development and Innovation Information Technology and Data analytics
New Zealand	New Zealand Development Scholarship	Climate change and Environment Disaster risk management Food security and agriculture Renewable Energy and Governance
Poland	Poland higher education scholarship	Engineering and technical sciences, agricultural sciences, exact sciences, and life sciences.
Portugal	Portugal Government Scholarship	Architecture; Law & Economics; Sciences; Engineering Pharmacy & Medicine; Arts; Psychology and Education Science
France	Excellence Scholarship Programme	Multi sectors
	The Eiffel Excellence Scholarship Program	Multi sectors
Germany	DAAD Scholarship	Multi sectors
South Korea	Global Korea Scholarship	Multi sectors
The UK	The Chevening Scholarship	Multi sectors
The US	Fulbright Scholarship	Multi sectors
The EU	Erasmus+ for higher education in Vietnam ¹⁷⁹	Multi sectors, provided by 28 EU member states and 6 others including Iceland, Liechtenstein, Norway, North Macedonia, Serbia and Turkey

179 The European Commission - Erasmus+ for higher education in Vietnam

b. Donors support projects in Vocational Education & Training (TVET) sector

Figure 127. The active Donor support projects in vocational training education sector

Donor	Project/ Support program name	Directions/ Key actions	Type of support	Time frame	Budget	Implementing counterpart
Projects of Multilateral Donors						
The Asian Development Bank	Viet Nam: Skills Enhancement Project ¹⁸⁰	Develop high quality TVET; strengthen system governance and quality assurance frameworks Improve quality & management of TVET programs in 15 public & 5 private vocational colleges in economic zones	Financing (Loan)	2011 - 2018	70.00 million USD	MOLISA 15 public & 5 private vocational colleges
	Support for Human and Social Development in Southeast Asia (Education focus) ¹⁸¹	To research and build monitoring and evaluation capacity for evidence-based policy making, education and TVET policy, labor market assessment, public-private partnerships, TVET regional partnership development	Technical Assistance	2019 - 2021	3.00 million USD (all project)	Consulting partners
	Support for Human and Social Development in Southeast Asia (Education focus)- Phase 2 ¹⁸²	Phase 2 will focus on preparing COVID-19 and post-COVID-19 recovery responses	Technical Assistance	2021- 2024	\$ 3.5 million USD	Consulting partners
	Technology Enabled Innovation in Education in Southeast Asia ¹⁸³	Aiming to equitable and inclusive learning opportunities through the use of education technologies, in response to impact of Covid-19 on education, including TVET. Main actions are EdTech diagnostics, EdTech intervention pilot and scaling up	Technical Assistance	2020 - 2023	2.00 million USD (for 4 countries)	Consulting partners & Edtech firms
	Viet Nam: Skills and Knowledge for Inclusive	Upgrade the teaching and learning environments of	Financing	2020 - 2023	78.00 million USD	16 TVET institutions

180 ADB - Viet Nam: Skills Enhancement Project - 2019

181 ADB - <https://www.adb.org/sites/default/files/project-documents/52335/52335-001-tar-en.pdf>

182 ADB - <https://www.adb.org/projects/52335-002/main>

183 ADB - <https://www.adb.org/projects/54098-001/main>

Donor	Project/ Support program name	Directions/ Key actions	Type of support	Time frame	Budget	Implementing counterpart
	Economic Growth Project ¹⁸⁴	national high-quality TVET institutes Strengthen the quality of soft skills training, develop demand-driven short-term skills programs for women and youth in disadvantaged communities	(Grant & Loan)		(Japan fund for poverty deduction 3 millions)	
British Council in Vietnam	EU VET ToolBox (an international facility/ project) ¹⁸⁵ Project in Vietnam: qualification benchmarking project	Overall, EU toolbox supports to build TVET system capabilities; fund initiatives to promote inclusion of disadvantaged groups In Vietnam, VET toolbox by British council now supports for international benchmarking of TVET institutions against England Regulated Qualifications Framework (RQF) and the European Qualifications Framework (EQF) ¹⁸⁶	Technical assistance	n/a (active project in 2021)	n/a (unclear budget scheme in Vietnam)	MOLISA Viet Nam - Korea Vocational Technology College of Bac Giang (VKTECH); Ha Noi College for Electro-Mechanics (HCEM), Dalat Technical and Vocational College (DALATVTC); Hue Tourism College (HUETC); and BRVT Vocational College
Projects of Bilateral Donors						
Germany	Reforming technical and vocational training in Viet Nam ¹⁸⁷	Improve and help Vietnam labor force adapt to meet the needs of a green and sustainable economy Act 1: Policy advice & Systemic reform Act 2: Centre of Excellence for vocational education	Technical Assistance	2010 - 2020	N/A	MOLISA

184 ADB - <https://www.adb.org/projects/49122-004/main>

185 <https://www.vettoolbox.eu/en/we-are>

186 British Council - <https://www.britishcouncil.vn/en/about/press/british-council-and-dvet-launch-qualification-benchmarking-project-eu-vet-toolbox>

187 GIZ - <https://www.giz.de/en/worldwide/18758.html>

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

Donor	Project/ Support program name	Directions/ Key actions	Type of support	Time frame	Budget	Implementing counterpart
	Programme Reform of TVET in Viet Nam II ¹⁸⁸	To make TVET Vietnam better align to the changing increasingly green and digital world of work Activities: advice on policy & administrative reform; support 11 high-quality TVETs, promote cooperation with business sector, foster digital transformation in TVET & promote green TVET and inclusiveness	Technical Assistance	2020 - 2023	N/A	MOLISA
South Korea	KOICA supports VN in providing vocational training for disadvantaged people ¹⁸⁹	Various projects to establish & build capacity for TVET institutions in Bac Giang, Nghe An, Thanh Hoa, Quang Binh, Da Nang, DakLak, Binh Dinh province to support social inclusion of vulnerable groups through education	Technical Assistance Financing	Active Since 1997	Total about 48 million USD from 2011-now	MOLISA Local authorities & TVET institutions in provinces
Australia	Aus4Skills ¹⁹⁰	As a dedicated scheme to realize the bilateral support framework: investing in professional and technical knowledge and skills, and assist workplaces to make good use of those enhanced skills, targeting both tertiary education & TVET	Technical support	2016 - 2020	146 million AUD (all areas)	Government of Vietnam MOET
France	Support for high quality vocational training centers in Vietnam ¹⁹¹	Support to renovate 5 TVETs to become centre of excellence, enhance quality training based on French model Focus sectors: metal processing & mechanics Activities include: support for teaching equipment, transfer of training programs, capacity	Technical Assistance Financing (grant)	2012 - 2019	25 million EUR	MOLISA

188 GIZ - <https://www.giz.de/en/worldwide/18723.html>

189 VGP - http://www.koica.go.kr/vnm_en/7668/subview.do

190 Australian government - <https://www.dfat.gov.au/about-us/publications/Pages/vietnam-aus4skills-fact-sheet>

191 AFD - <https://www.afd.fr/en/carte-des-projets/support-high-quality-vocational-training-centres-vietnam>

Donor	Project/ Support program name	Directions/ Key actions	Type of support	Time frame	Budget	Implementing counterpart
		building for teacher & management				
Canada	Vietnam Skills for Employment Project ¹⁹²	Establish 02 high-level training centers for leaders of TVET institutions, and improve the quality of TVET delivery through partnerships between provincial authorities and community colleges in three provinces in Mekong Delta	Technical Assistance	2011 - 2020	17 million USD	VNU-HCMC 03 Colleges in Binh Thuan, Vinh Long, Hau Giang
Denmark (DANIDA)	Promoting Dual Technical Vocational Education and Training in Vietnam	The project enhances the cooperation between authorities, VET schools and enterprises in the furniture and graphic design sectors (food sector is added in phase 2), addressing skills gaps and competencies of VET school graduates to demand of labor market.	Technical Assistance	Phase 1: 2017 – 2019 Phase 2: 2020 - 2023	N/A	DVET 4 schools are beneficiaries in phase 1, and 12 in phase 2

c. List of donors' support projects related to Labour market development and labor skills

Figure 128. Donors' projects in labor market issues

Donor	Project/ Support program name	Directions/ Key actions	Type of support	Time frame	Budget (million USD)	Implementing counterpart
Asian Development Bank	Regional: Support for a Regional Platform on Innovations in Education and HR Development for Competitiveness towards an Integrated ASEAN Community ¹⁹³	The project aims to strengthen capacity of education leaders and practitioners to address ASEAN-wide education and HRD issues	Technical Assistance	2013 - 2017	1.40	Southeast Asian Ministers of Education Organization Secretariat
	Viet Nam: Demand-Driven Skills Training for Poverty Reduction in the Cuu Long (Mekong) River Delta ¹⁹⁴	To improve the living standard of the poor and ethnic minorities by equipping them with relevant skills	Grant	2008 - 2013	1.30	MOLISA

192 Government of Canada - <https://w05.international.gc.ca/projectbrowser-banqueprojets/project-projet/details/a033388001>

193 ADB - <https://www.adb.org/projects/46070-001/main>

194 ADB - <https://www.adb.org/projects/41087-012/main>

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

Donor	Project/ Support program name	Directions/ Key actions	Type of support	Time frame	Budget (million USD)	Implementing counterpart
International Labor Organization (ILO)	Better Work Viet Nam ¹⁹⁵	To improve working conditions, boost competitiveness of garment industry	Technical Assistance	Since 2009	N/A	MOLISA
	Supporting to Viet Nam's Public Employment Policy (from Policy to Implementation) ¹⁹⁶	Developing an effective Public Employment Policy (PEP) by the end of 2017 that provides income earning opportunities for low income and disadvantaged groups	Technical Assistance	2015 - 2017	N/A	MOLISA and other relevant government agencies
	Sustaining Competitive and Responsible Enterprises (SCORE) ¹⁹⁷	Practical training and workplace improvement programs to increase the productivity of small and medium-sized enterprises while promoting respect for workers' rights	Technical Assistance	2011 - 2021	N/A	(1) VCCI - HCMC branch (2) Industry associations and local authorities
	Sustainable Supply Chains to Build Forward Better	To advance decent work in five selected global supply chains for a fair, resilient, and sustainable COVID-19 crisis recovery, including electronics manufacturing in Vietnam 1) research and analysis 2) tools, policy advice, training 3) support to constituents and stakeholders taking steps to advance decent work in their response to the COVID-19	Technical Assistance	2021-2023	N/A	MOLISA MOIT VCCI Vietnam General Confederation of Labour
International Organization for Migration (IOM) in Vietnam	Corporate Responsibility in Eliminating Slavery and Trafficking (CREST)	A regional partnership initiative working with private and public sector actors to realize their potential to uphold human and labour rights of migrant workers in business operations and supply chains. Project in Hong Kong, Vietnam, the Phillippines, Bangladesh, Thailand, Malaysia	Technical Assistance	2016 - 2021	N/A	MOLISA VAMAS-Vietnam Association of Manpower and Supply

195 Better Work - <https://betterwork.org/better-work-vietnam-home/?lang=vi>

196 ILO - https://www.ilo.org/hanoi/Whatwedo/Projects/WCMS_381959/lang-en/index.htm

197 ILO - https://www.ilo.org/hanoi/Whatwedo/Projects/WCMS_392359/lang-fr/index.htm

CHAPTER 5. JAPAN – VIETNAM COOPERATION STATUS AND RELATED ISSUES

5.1 Japan Official Development Assistance to Vietnam

5.1.1 Overview of Japan ODA to Vietnam

a. Japan - Vietnam general bilateral cooperation policy

The bilateral relationship between Japan and Vietnam were officially established in 1973, since then, the Japanese government implemented cooperation policy according to the Fukuda doctrine (1977) in which Japan considered itself as a bridge to actively contribute to the maintenance of peace and stability in Southeast Asia, which Vietnam was expected to play an important role in the mission.

During period 1991 - 2001, Japan 's ODA strategy in Vietnam has been firmly indicated in the "Country Assistance Program for Vietnam" with high priorities on two goals: creating the basic conditions for sustainable growth; and supporting poverty reduction efforts. Five areas of assistance include: Economic infrastructure in transportation and power; Human resource and Institution development, Environmental conservation, Education and Health, Agriculture and rural development.

Since 2003, the relationship between the two countries has been enhanced rapidly with multiple joint frameworks and imitative. The Government of Japan has actively worked to support human resources training and reform of policies and mechanisms through technical cooperation as well as construction of transport infrastructure, electricity supply, etc. through financial cooperation (including ODA Loans and Grant Aid) with an aim of making contribution to Vietnam's socio-economic development.

- *Target Areas of Japan's ODA to Vietnam*

In 2014, the Joint Statement on the establishment of a comprehensive strategic partnership for peace and prosperity was signed (based on the Country Development Cooperation Policy in December 2012) with 03 main priorities, including: Economic growth and strengthening international competitiveness; Response to Fragility and Good Governance.

The Vietnam Country Assistance Policy was reviewed in December 2017 (JCAP 2017), the major goals were based on Vietnam's 10-year Socio-Economic Development Strategy (2011-2020) and the 5-year Social-Economic Development Plan (2016-2020), which were to comprehensively support Vietnam's sustainable growth through strengthening international competitiveness and overcoming the vulnerable aspects to sustainably develop society and country with 03 focus areas: (A1) Promote economic growth and strengthen competitiveness; (A2) Response to fragility; and (A3) Good Governance.

Following these 3 targets (A), there are 06 main development objectives (O) and 13 overall programs (P) are defined to achieve the objectives. In which, industrial human resource management assistance is mainly defined in target program 2 (P2) "Industrial Development and Human Resource Development" under objective 2 (O2) "Enhance industrial competitiveness and human resource development" of the focus area 1 (A1) "Promoting economic growth and strengthening competitiveness". However, in development programs of other areas, there are also important to trainings or capacity building activities for the working persons in specific Vietnam implementation counterparts, which can be considered extended aspect of human resource development. This practice is similar to other international donors who often provide technical assistance component in loans or grant projects.

The focus areas, development objectives and programs stated in JCAP 2017 is presented as below:

Figure 129. Priority targets of Japan’s ODA in Vietnam – JCAP 2017

Focus Areas	Development Objectives	Programs
(A1) Promoting economic growth and strengthening competitiveness;	(O1) Strengthen the market economy system	(P1) Program for reform of market economy institutions, public finance, monetary policy
	(O2) Enhance Industrial competitiveness and human resource development	(P2) Industrial Development and Human Resource Development
	(O3) Improve economic infrastructure and access to services	(P3) Program to promote stable energy supply and energy saving
		(P4) Transportation Infrastructure Development
		(P5) Urban transportation network development
(A2) Response to fragility	(O4) Respond to threats such as climate change, disasters, and environmental destruction	(P6) Urban Environmental Management Program
		(P7) Climate Change Program
		(P8) Disaster Prevention Program
		(P9) Natural environment conservation program
	(O5) Improvement of social and living conditions and reduction of poverty and inequality	(P10) Health Care Program
		(P11) Social security and assistance program for the socially vulnerable communities
(O6) Strengthen judicial and administrative functions	(P12) Agriculture and Rural Development	
	(P13) Strengthen judicial & administrative functions	

- *JICA’s cooperation schemes*

JICA has eight main cooperation schemes in Vietnam¹⁹⁸, including:

- (1) Technical Cooperation;
- (2) ODA Loans;
- (3) ODA Grants;
- (4) Citizens Participation, including JICA Partnership program (JPP) and Japanese Overseas Cooperation Volunteers (JOCVs)
- (5) Public-Private-Partnership (PPP);
- (6) Japanese Enterprises Proposing Program (JEPP);

198 Paper on Japan’ODA and JICA’s activities in Vietnam (2018)

(7) Emergency Disaster Relief;

(8) Research

5.1.2 Review of JICA's cooperation in Human Resource Development in Vietnam period 2000 - 2020

a. Main characteristics of Japan's cooperation in Human Resource Development in Vietnam

Human resource development has always been one of the top priority areas of Japan's ODA support to Vietnam, which was clearly emphasized in the bilateral cooperation of the two countries. In addition to bilateral agreements, Japan also contributes to international organizations such as the World Bank to finance related projects in Vietnam. Furthermore, not only considered as a stand-alone target, HRD projects also closely linked with the other socio-economic development goals.

In terms of supporting schemes, JICA's human resource development projects often go under technical cooperation scheme, financial support via ODA loans and grant. Citizens participation scheme such as Japanese Overseas Cooperation Volunteers (JOCVs) and JICA partnership program (JPP) also contribute to human resource development projects.

From angle of purpose classification for major JICA's HRD projects in Vietnam, three main categories could be recognized, which aiming to address main HRD needs in Vietnam in areas that Japan has strengths:

(1) Development of skilled workers: To address the increasingly demand skilled workers for higher productivity of manufacturers;

(2) Training of practical and creative engineers: to address the demand of practical and creative engineers who have strong technical skills and leadership at their workplaces for companies that stepping into the higher value-added stage of industrialization;

(3) Training of managerial human resources: To develop corporate managers who have a good sense of business management and capability of leading Vietnamese industrial society, for demand such as corporate management capabilities, Japanese-style business management skills and the need for seeking reliable partnership between Japanese and Vietnamese companies.

From angles of HRD system classification, JICA has been active in projects in higher education system, vocational education & training system, labor force development issues, as well as extended concepts in human resource development such as developing high-quality experienced human resources for public and private sectors, leadership development for start-ups and SMEs.

Regarding industry-focus in HRD assistance programs, there has not been any clear statement from JICA since the beginning about industry focus, but it could be seen from overall projects that JICA had main focus on industrial manufacturing industry. This is, obviously, the industry that Japan can share most prominent strength to Vietnam, as well as the industry that having high economic cooperation between Japanese and Vietnamese enterprises.

b. List of HRD projects by JICA in period 2000 – 2020

This part reviews more detail the projects of JICA in HRD, from angles of HRD system classification.

- *JICA’s projects in Higher Education & support for high-quality Human resources in Vietnam*

JICA’ support in HRD for Vietnam in the last two decades are marked by the five main efforts :

- Strong commitment to develop the Vietnam-Japan Human Resource Cooperation Center (VJCC) from construction phase to continuously developing it to become one of the pioneering and leading institutes of training high-quality managerial human resources;
- Long-term commitment for developing high-quality human resources in public sector via JDS scholarships;
- Developing human resources in technical engineering and ICT regarding projects supporting Hanoi University of Technologies;
- Contributing critically to develop human resource for the Mekong Delta region through financial and technical assistance to develop Can Tho University (CTU) to become an excellent institution of Education, Scientific Research, and Technology Transfer (since 2015);
- Strategic investment to develop Vietnam- Japan University as an excellent university model, being a symbol of friendship between Vietnam and Japan, and fostering the significant expertise and technology transfer between Japan and Vietnam, especially in the future interdisciplinary sciences for sustainable development of the country.

Figure 130. List of JICA’s HRD project in HE sector

(TCP) Technical Cooperation; (D) Development study/ Technical cooperation for Development planning; (L) Loan; (G) Grant Aid
 (1) Development of Skilled workers; (2) Training of Practical and Creative Engineers; (3) Capacity building for managerial HR

No	Title	Duration	Type	Theme	Status	Counterpart
1	The Project for Construction of Vietnam-Japan Human Resources Cooperation Center (VJCC) (Phase 1, Phase 2)	2000 - 2010	(G)	(3)	Completed	Foreign Trade University, teachers, staff and students of VJCC
2	Vietnam-Japan Human Resources Cooperation Center (Phase 1, Phase 2)	2000 - 2010	(TCP)	(3)	Completed	VJCC’s Lecturers, staffs, trainees and enterprises
3	Project for Capacity Development of Business Persons through Vietnam-Japan Human Resources Cooperation Center (VJCC)	2012 - 2016	(TCP)	(3)	Completed	VJCC’s Lecturers, staffs and trainees and enterprises
4	Project for Institutional Capacity Development of VJCC for a Landmark of Development and Networking for Managerial Human Resources	2016 - 2022	(TCP)	(3)	On-going	VJCC’s Lecturers, staffs, trainees and enterprises
5	The Project of Vietnam Information Technology Training	1997 - 2002	(TCP)	(2)	Completed	Lecturers and students of Vietnam Information Technology Training Institutes, enterprises,
6	Strengthening the capacity of ITSS education at Hanoi University of Technology (Phase1, Phase 2)	2006 - 2012	(TCP)	(2)	Completed	Lecturers, researchers and students of Hanoi University of Technology

No	Title	Duration	Type	Theme	Status	Counterpart
7	Capacity Building of Ho Chi Minh City University of Technology to Strengthen University-Community Linkage (Phase 1, Phase 2) ¹⁹⁹	2006 - 2012	(TCP)	(2)	Completed	Lecturers, researchers and students of HCMC University of Technology
8	Technical support Improving the capacity of training, research and university administration at Vietnam Japan University (VJU)	2020 - 2025	(TCP)	(2) (3)	On-going	VJU's Lecturers, staffs, trainees and enterprises
9	Project for Building Capacity for Can Tho University (CTU) to be an Excellent Institution of Education, Scientific Research, and Technology Transfer	2016 - 2021	(TCP)	(2) (3)	On-going	CTU's Lecturers, staffs, trainees and enterprises
10	Can Tho University (CTU) Improvement Project	2015 - 2022	(L)	(2) (3)	On-going	CTU's Lecturers, staffs, trainees
11	ASEAN University Network / Southeast Asia Engineering Education Development Network (AUN/SEED-Net) (Phase 1 – Phase 2 – Phase 3-Phase4)	2003 - 2023	(TCP)	(2) (3)	On-going (Phase 4)	Lecturers, researchers, graduates of Hanoi University of Science and Technology and Ho Chi Minh City University of Technology, National University of Vietnam in HCMC
12	Vietnam – Japan Human Resource Development Scholarship (JDS)	Since 2000	(G)	(3)	On-Going	Participants from Government agencies at Central and local levels, Universities, Institutes, State-owned enterprises

Source: JICA website and projects' documents, Research team's synthesis

- *JICA's projects in Vocational Education & Training (TVET) in Vietnam*

JICA's support for TVET sector in Vietnam includes both support for system management at sector level and support at institutional level with specific TVET institutions.

Projects that addressing system-level challenges of the TVET sector in Vietnam such as advising for the national skill test system and related national skill standards, and support to introduce the Japanese poly-technique system called "Kosen Model"²⁰⁰ which focuses on improving the ability, mindset and creativeness of trainees.

At institutional level, JICA has been providing technical cooperation to strengthen vocational training institutes through curriculum development, training of trainers, and provision of training equipment at Japanese standard.

¹⁹⁹http://www.jica.hcmut.edu.vn/suprem/upload/documents/Resources/Downloads/Reports_and_publications/Progress_Report_No_1_EN.pdf

²⁰⁰ The official project is MOIT - KOSEN International Project in Vietnam is the collaboration project between the organization KOSEN Japan and MOIT, which is not a JICA funded project. However, JICA has some support to promote KOSEN model in Vietnam with related stakeholders

Figure 131. List of JICA's HRD project in TVET sector

(TCP) Technical Cooperation; (D) Development study/ Technical cooperation for Development planning; (L) Loan; (G) Grant Aid
 (1) Development of Skilled workers; (2) Training of Practical and Creative Engineers; (3) Capacity building for managerial HR

No	Title	Duration	Type		Status	Counterpart
1	Advisors for National Trade Skills Testing and Certification System	2010 - 2018	(TCP)	(1) (2)	Completed	Directorate of Vocational Education and Training, vocational training institutions and employees
2	The Project for Strengthening Training Capability for Technical Workers Course in Hanoi Industrial College	2000 - 2005	(TCP)	(2)	Completed	Teachers and management staff, students of Hanoi Industrial College
3	Project for Human Resource Development of Technicians at Hanoi University of Industry (HaUI)	2009 - 2012	(TCP)	(2)	Completed	Lecturers and students of HaUI; enterprises in manufacturing sector
4	Project for strengthening TOT functions at Hanoi University of Industry (HaUI) ²⁰¹	2013 - 2017	(TCP)	(1) (2)	Completed	Lecturers and students of HaUI, Technique Technology College, HCMC College of Technology, enterprises in manufacturing sector
5	Improve skills (production skills) under the MONO-ZUKURI program of Japan at Ho Chi Minh City Vocational College (2013 - 2016)	2013 - 2016	(TCP)	(1)	Completed	Lecturers and students of HCMC Vocational College, enterprises
6	Promotional Support & Human resource development for Metal-related supporting industries in Ba Ria- Vung Tau province ²⁰²	2013 - 2016	(TCP)	(2)	Completed	Vietnamese government policy planners, Vietnamese companies and staff of Ba Ria- Vung Tau vocational college
7	The Project for Human Resources Development for Heavy-Chemical Industry at Industrial University of Ho Chi Minh City (IUH)	2013 - 2018	(TCP)	(2)	Completed	Lecturers and students of IUH and other education and training institutions; employers.
8	Project for Strengthening the Urban Railway Training Capacity for Railway College	2021 - 2023	(TCP)	(2)	On-going	Lecturers and students of Vietnam Railway College; Beneficiaries are also users of Vietnamese urban railways as the system is operated safely and accurately, having appropriate maintenance in a long-term and sustainable manner.

201 https://www2.jica.go.jp/en/evaluation/pdf/2019_1200494_4_f.pdf

202 Information from "The preparatory survey on the project for strengthening vocational training sector in Vietnam" (2015)

No	Title	Duration	Type		Status	Counterpart
9	Strengthening Vocational Training Sector in Vietnam, focus in 3 fields Mechanical, Electrical and Electronics with 13 TVETIs	n/a	(L) (TCP)	(2) (3)	Not yet started	Ho Chi Minh Vocational College (HCMVC); Hanoi Industrial Vocational College (HIVC); Vocational College of Technique and Technology (VCTT); Ba Ria-Vung Tau Vocational College (BRVTVC); Vinh Phuc Vocational College 1 (VPVC); Hanoi Vocational College of High Technology (HVCHT); Da Nang Vocational College (DNVC); The central vocational college of Transport No.2 (CTCT); Ho Chi Minh Vocational College of Technology (HVCT); Vocational College of Machinery and Irrigation (VCMI); Hanoi University of Industry (HaUI); Hai Phong Vocational College (HPVC); Ha Nam Vocational College (HNVC)

Source: JICA website and projects' documents, Research team's synthesis

- JICA's projects in other extended human resource development aspects

Apart from projects that focus directly in HRD issues of the HE or TVET sector, there have been projects of JICA in other supporting areas that also involved HRD support aspects, such as in healthcare or in public governance, as well as effort to provide assistance for the development of small and medium enterprises (SMEs) or start-up development in Vietnam in the last two decades.

Technical assistance & Capacity building as part of projects in other sectors

Figure 132. List of JICA's project in other sectors having HRD aspects

TCP) Technical Cooperation; (D) Development study/ Technical cooperation for Development planning; (L) Loan; (G) Grant Aid

Sector	Project Title	Duration	Type	Counterpart	Activities related to HRD
Healthcare	Project for Improvement of the Quality of Human Resources in Medical Services System	2010 - 2015	(TCP)	Training Center of Medical Service Administration (MOH); Bach Mai Hospital (Hanoi), Hue Central Hospital (Hue), Cho Ray Hospital (HCMC), and other key hospitals	Standardize training curricula & material; Training of Trainers (TOT); develop HRD master plan, etc.
	Project for strengthening clinical training system for new graduated nurses in Vietnam	2016 - 2020	(TCP)	Administration of medical service; Vietnam Nurses Association	Standardize training programs, develop competency-based clinical practice training system, etc.
	The Project for Capacity Development for Medical Laboratory Network on Biosafety and Examination of Highly Hazardous infectious	2017 - 2023	(TCP)	National Institute of Hygiene and Epidemiology (NIHE) Pasteur Institute of Ho Chi Minh City:PIHCMC Provincial Center for Disease Control (CDC)	Develop and review/revise the curricula and teaching materials; Develop national training system & pilot training for strengthening capacity of National Laboratory Network; training for staff of PIHCMC

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

Sector	Project Title	Duration	Type	Counterpart	Activities related to HRD
	Pathogens in Vietnam, Laos and Cambodia				
Governance	Project on Capacity building for cyber security in Vietnam	2019 - 2021	(TCP)	Ministry of Information Communication (MIC), Authority of Information Security(AIS);	Develop a training course plan & deliver training for high prioritized roles e.g., Researcher, Solution analyst, Vulnerability diagnostic consultant, Information security auditor)
	Project for Training and Refresher Training of Leaders and Managers at Different Levels, especially the Strategic One	2019 - 2024	(TCP)	Central Organizing Commission of the Communist Party of Viet Nam	Training in public policy, economics, public service ethics and other topics will be provided in Japan for 500 Vietnamese people over five years, and opinion exchanges will be carried out with Japanese experts (in the areas of government, economic and academia)
Private Engagement & SME development	Policy advisor on SME development	2000 - 2012	(TCP)	Agency for Small and Medium Enterprise Development, Ministry of Planning and Investment (ASMED/MPI) (former name of AED/MPI)	Dispatch of Japanese experts, provide advisory for setting up comprehensive support for SMEs development, including HRD
	Reinforcement of the SME Technical Assistance Center (TAC)	2006 - 2008	(TCP)	TAC Hanoi under AED/MPI and SMEs in fields of machinery, electricity and electronics in 30 northern provinces in Viet Nam	Support for the development of the Assistance Center for SMEs in the North providing public services to assist SMEs improving their business performance, including capacity building/trainings
	Project for Strengthening Public Functions for Supporting Small and Medium Enterprises	2011 - 2014	(TCP)	Agency for Enterprise Development, Ministry of Planning and Investment (AED/MPI), Department of Planning & Investment of Hanoi, Vinh Phuc	Capacity building for AED to become a leading SME support agency, to ensure the active and continuous participation from government and to provide comprehensive support for SMEs
	Human resource development for manufacturing industry in Dong Nai province	2014 - 2017	(TCP)	Japan: Pacific Resource Exchange Center (with the support of KANSAI Bureau of Economy, Trade and Industry) Dong Nai industrial complex administration office	Establish a system that offers trainings appropriately and continuously based on the education curriculum that meet needs of Japanese companies at the model school in Dong Nai Province
	Project for SME Promotion and Industrial Development	2020 - 2023	(TCP)	Agency for Enterprise Development, Ministry of Planning and Investment (AED/MPI) In Hanoi & surrounding provinces; HCMC & surrounding provinces	Strengthen the capacity of agencies promoting SMEs; Promote linkages between local enterprises and FDIs in the target areas; Training for public and private SME support consultants; Technical advice to enterprises

Sector	Project Title	Duration	Type	Counterpart	Activities related to HRD
					which have high potential to join global value chains

Source: JICA website and projects' documents, Research team's synthesis

Leadership & start-up development

In the context that the world is changing rapidly as a consequence of the Covid-19 pandemic, the young generation will be the leading ones to apply technology, absorb new knowledge and skills, develop new business models to solve socio-economic problems and develop Vietnam towards international integration. With that vision, JICA is looking for chances to support young leaders generation in emerging industries as the innovative & high-quality human resource dynamic for Vietnam's development.

JICA has conducted the "Survey to collect data on Technical Support Facility for Impact Investment and Ecosystem Development" in Vietnam, India and Indonesia (2021) to determine the status of the system and global ecology for innovative start-ups; as well as the "Data Collection survey on partnership for leading enterprises acceleration and financing (LEAF)" (2021) to understand the conditioning factors to develop a technical support framework for start-ups in order to address social-environmental issues indicated by the SDGs in developing countries, including Vietnam. In this survey, JICA has been implementing pilot projects to support suitable products/markets of two Vietnamese start-ups in the field of home-based healthcare services and aquaculture solutions with some positive results, which encourage for JICA's exploration in setting up supporting scheme for young leaders generation in emerging industries.

In late 2021, in partnership with the Vietnam Women's Union, JICA also conducted a supporting project to improve e-commerce capacity for female business owners in Vietnam, with the aim to support those who have been hardest hit during the Covid-19 period. 10 training classes have been organized²⁰³, attracting more than 665 participants who are women-owned enterprises, cooperatives, and business households. Besides, the online forum "Women entrepreneur, business in the 4.0 era" was organized with over 2,000 participants. 10 women-led business owners were to provide in-depth consulting and coaching on implementing e-commerce application.

Other JICA Partnership Program (JPP) projects related to HRD support

JICA Partnership program support and cooperate with the implementation of projects formulated by Japanese NGOs, Japanese local governments, and Japanese universities to utilize their accumulated knowledge and experience in assistance activities for developing countries.

Since 2002, JICA Vietnam has implemented 150 projects (as of November 2021)²⁰⁴ with various purpose, such as improving water supply and drainage system, strengthening disaster prevention capability, establishing environmental management system, and supporting rural development, health care, human resource development in supporting industries, etc.

203 Trainings are led by lecturers from the Vietnam E-commerce Association (VECOM) and IM Group Technology JSC.

204 Sharing information from JICA

Among these projects, there are JPP projects aiming to support human resource development, which mainly implement at province level and by specific Japanese partners with local Vietnamese counterparts. As of November 2021, there are JPP projects that related to HRD as below:

Figure 133. List of recent JICA Partnership Program (JPP) projects related to HRD

	Project Title	Japan organization	Province	Note
1	Supporting human resource development of rehabilitation to the elderly with chronic diseases in the north of Vietnam	Kobe University	Hanoi	
2	Cultivating human resource capable of educating welding engineers at Hanoi University of Science and Technology	Osaka University	Hanoi	Under procedures (2021)
3	Pilot project for creating support system for the employment of ex-technical Intern Trainees in Vietnam by utilizing obtained construction skills in Japan	Innovative Organization for Human Resource Cultivation & Encouragement	Hanoi	Under procedures (2021)
4	Establishing elderly care program and training for medical personnel mainly in Ngu Hanh Son Medical center	Chubu Gakuin University	Da Nang	
5	Human resource development to the lead fishery city of Da Nang	Kuriro City	Da Nang	
6	Human resource development by learning practical construction technology in Phan Rang city	Manabiya Tsubasa Organization	Ninh Thuan	Under procedures (2021)
7	The model developing project on Vocational training for defoliant victims with disabilities in HCMC	International Environment improvement organization	HCMC	Under procedures (2021)
8	Technical support project for Nam Dinh agricultural high school (the model under the Nam Dinh Economic and Technology College)	Kirishima Hills Revitalization Human Resources Development Association	Nam Dinh	Under procedures (2021)

Source: JICA website and documents

5.1.3 Review of the major JICA's HRD projects in Vietnam

a. Technical support Improving the capacity of training, research and university administration at Vietnam Japan University

Type	Technical Cooperation	Time	Phase 1: 2016 - 2020 Phase 2: 2020 - 2025
HRD theme	Development of Higher Education	Status	On-going

- *About the project*

VNU Vietnam Japan University (VJU) was established on 21st July, 2014 in Hanoi through cooperation between the Governments of Japan and Vietnam and received technical cooperation from JICA through

Project “Development of Masters programs in Vietnam Japan University” (2016-2020), and Project “Technical support Improving the capacity of training, research and university administration at Vietnam Japan University” (2020- 2025).

VJU was established as a member of the Vietnam National University, Hanoi, being a symbol of friendship between Vietnam and Japan, operating with four basic principles:

- i. To provide human resources of international quality who will be the future leaders, managers and experts in Vietnam, Japan, East Asia and in the world;
- ii. To provide research outputs in advanced technology and interdisciplinary sciences for sustainable development, to promote knowledge transfer between Vietnam and Japan to serve for society and community;
- iii. To contribute to the development of Vietnam National University, Hanoi and higher educational system in Vietnam;
- iv. To promote cooperation between Vietnam and Japan.

The education programs taught by VJU are designed on the basis of taking advantage of the strengths of Japanese partner universities, adjusted to suit the social needs of Vietnam and other countries in the region.

- *Main activities & results*

Under the scope of the project 2016 - 2020, there were the development and implementation of high quality training programs at master and PhD levels based on strengths of Japanese partner universities and Vietnam’s needs, with a focus on interdisciplinary social sciences, sustainable sciences, advanced technology and life sciences. Currently, VJU has developed 08 Master’s programs, namely (1) Public Policy (MPP), (2) Nanotechnology (MNT), (3) Area Studies (MAS), (4) Infrastructure Engineering (MIE), (5) Environmental Engineering (MEE), (6) Business Administration (MBA), (7) Climate Change and Development (MCCD) and (8) Global Leadership (MGL). In 2020, VJU opened the first undergraduate program “Bachelor of Japanese Studies”.

Apart from expanding the university campus and developing autonomy-oriented programs, the project also provided support for highly qualified scientists who are capable of mobilizing research funding, creating an independent research group after 2-3 years, developing new modules or training programs.

By offering Japanese language education and internships in Japan, VJU also works to supply talented students who can succeed in a Japanese business environment. Until 2020, there have been 4 cohorts, having master students not just from Vietnam but also from other countries including Japan, Mekong river countries, Nigeria, Russia, and African countries. Among 56 graduates from the first master’s cohort in July 2018, 11 have decided to pursue their doctorate study, 6 of whom are awarded with Japanese Government Scholarships, 30 have decided to work for businesses and organizations, including 12 students working in Tokyo for wellknown Japanese companies.

- *Development directions (phase 2: 2020 – 2025)*

On February 18th 2020, JICA signed a Record of Discussions with Viet Nam Government for the Project for Enhancement of Education, Research and University Management Capacity at VJU as a technical cooperation project for period 2020 – 2025. This technical cooperation project to support VJU at phase 2 (TC2) has the purpose of training high quality human resources at all levels (undergraduate, graduate and doctorate), and enhancing the training, research and management capacity of VJU.

The TC2 continues to provide resources, techniques and transfer technology for VJU to develop into a global research university oriented towards gradual autonomy and sustainability. There is also a plan to expand the scale of VJU in Hoa Lac and develop a number of autonomy-oriented programs at the end of the project. In terms of key actions, the TC2 will:

- Provide initial support for highly qualified scientists who are potentially capable of mobilizing research funding, forming an independent research team after 2-3 years, proposing and deploying new training modules/ programs;
- Research, build and finalize the organizational structure and management system of research universities towards high autonomy based on experiences of Japanese research universities;
- Develop partnerships with Japanese universities and businesses; share local expenses in organizing training and research activities;
- Share the costs of equipment for training programs and some key research projects in sustainable sciences, and the costs of operating the facilities in Hanoi according to Japan’s standards;
- Transfer facilities for VJU to expand the scope of training and develop rapidly towards sustainability in 2025.

The Department of Higher Education of MOET has shared important opinions regarding several strengths and challenges of the “excellent university model” like VJU to be developed in Vietnam:

Strengths of Vietnam Japan University model include:

- VJU is a research university model utilizing rich experiences from Japan. Besides, it applies an advanced governance model through an empowering governance mechanism including a University Council, a School Administrator Board and a Control Board. This is a quite new model in Vietnam as there has been only a few piloted models in Vietnam domestic universities recently.
- In addition, such “excellent universities” like VJU have a great advantage in terms of training programs and degree forms. The training programs are often similar to those of developed countries, at international level, and lecturers include international experts, such as VJU programs having Japanese professors to deliver lectures. The degrees awarded are international degrees, there are also opportunities to study abroad in reputable universities in the partner countries. In addition, the quality of training is regularly accredited by international education accreditation agencies, for example, Japan has the Japan University Accreditation Association (JUAA). This is the great strength for quality assurance and branding of special universities like VJU.

- Other strengths such as: advantage of getting financial support from partner country's government or other international organizations/ enterprises; universities' administration teams contain of both Vietnam staff and foreign managerial staff from the partner countries.

Some limitations and difficulties of the university model such as VJU, include:

- Financial investment & operation: the operation of such models require heavy financial investment while the state budget is limited, thus such university model still depends heavily on the government of partner country. Maintenance and operating costs such as management cost, basic construction, staff salaries are normally at higher base, which lead to the fact that the school resources can often be in short supply and be dependent on external funding. This issue is also under consideration of the Department of Financial Planning (MOET) for giving some instructions.
- Challenge in state management is also a specific issue for this model. An example is problem with training program set up and registration: universities such as VJU are established under cooperation agreement between the two countries, such special schools are often likely to have training programs incompatible with existing training majors in Vietnam, sometimes it can lead to misunderstanding and difficult to manage from MOET. Currently, VJU does not have this problem because it has still had relatively small training scale. But this challenge has been encountered in other university cases, for example, the Vietnam - France university who provide totally new training programs that have not yet existed in Vietnam's training major system. This led to certain difficulties because it required specific customized management mechanism, which would take a lot of time and effort by the parties.
- In addition, for such university, training programs are usually entirely in a foreign language, so the entry requirements for incoming students are relatively high, the tuition fee issue will also be a certain barrier, there may be cases of capable students who are not affordable to study.

These challenges should be recognized by the management team of VJU project for managing communication and relationship with the ministries, as well as to consider in cases of expanding to new advance training programs at VJU.

Overall, VJU is among one of a few excellent university models in Vietnam. With strategic and strong knowledge & technology connection with Japan, it has advantages to become a leading international-level research university in interdisciplinary sciences and advanced technologies for sustainable development. The development direction of VJU thus could represent the key characteristics of the higher education reform strategy of Vietnam in the next decades. Therefore, there should be further strategic investment for VJU to realize its long-term vision in Vietnam. However, critical challenges may exist in the practical organizing and operating mechanism of VJU within the VNU system particularly and in the HE system generally to realize its vision, for issues such as achieving financial autonomy, implementing advanced programs at Japanese quality standard, developing local academic talents, enhancing training scale and accessibility, etc.

b. Project for Building Capacity for Can Tho University to be an Excellent Institution of Education, Scientific Research, and Technology Transfer

Type	ODA Loan; Technical Cooperation	Time	2016 - 2021
HRD theme	Development of Higher Education	Status	Completed

- *About the project*

Can Tho University (CTU) was selected as one of the four candidates to build model universities with international standard under "Framework of establishing International Model University". On basis of this plan, the project for "Building capacity for CTU to be an Excellent institution of Education, Scientific research and Technology transfer" was conducted from March 2016 to December 2021 with Japanese government's supports in the forms of ODA loan and Technical cooperation. The project aims to enhance capacity of CTU in research and education in the three fields: Agriculture, Fisheries/Aquaculture and Environment.

- *Main activities & results*

The project has performed towards three outcomes: (1) strengthen the research implementation system in the three fields; (2) strengthen the education implementation system in these three fields and (3) strengthen technical support system and administration system necessary for enhancement of research and education capacity with certain achievements. As Can Tho University is the central academic and research hub of Mekong Delta region, the support program expected to contribute to value-added agriculture and fisheries/ aquaculture and solution of environmental issues of the whole Mekong Delta Region.

Through this project, research and education capacity of CTU was enhanced, illustrating by indicators with fairly high results: 123 published papers in international journals/conferences, 4 patents applications, high satisfaction of students for education programs and high students' grades at graduation. The project is assessed to be of high effectiveness and bring high impacts on the university's performance. CTU is highly recognized with higher position in both domestic and international rankings. The project outputs also facilitate the internationalization progress of the university by creating opportunities to collaborate with international universities. Furthermore, the reinforcement of CTU also contributes to the sustainable development of Mekong Delta.

- *Development directions/ Recommendations*²⁰⁵

In phase 1 (TC1), the importance of strengthening regional cooperation activities that take advantage of the characteristics of the CTU was pointed out. A lesson learnt stated the importance to establishing a

²⁰⁵ Project completion report on "Project for Building Capacity for Can Tho University to be an Excellent Institution of Education, Scientific Research, and Technology Transfer" (2021)

clear and formal organization to independently conduct university regional cooperation activities during project implementation, and verifying the viability of this organization by conducting pilot operation.

The new technical cooperation project (TC2) for CTU has been discussed with the aim to contribute to the sustainable development of climate change - adaptive agriculture and aquaculture in the Mekong Delta region. This project will build a regional cooperation network and strengthen regional cooperation activities by conducting practical education and training at CTU, expanding social implementation of research results, and strengthening the regional cooperation implementation system. In terms of activities, there will be long-term expert dispatch and short-term expert dispatch.

The three targeted outcomes include: (i) Practical education and training contributing to Sustainable Development for Mekong Delta region (SDMD) will be provided at CTU; (ii) Activities related to the social implementation of CTU's climate change adaptation research results will be expanded; (iii) CTU will establish a structure for SDMD regional collaboration and function as a regional collaboration center in the Mekong Delta region.

Among international donors in HRD for Vietnam, JICA has very long history and strategic cooperation with Can Tho city and with CTU specifically. CTU is the central hub of science and research development for the region, holding the most important role in contributing to the sustainable development for the Mekong Delta region. It has much potential to take lead the most important changes for the region via supplying high quality human resources and taking lead in regional collaboration initiatives. Supporting for CTU to develop its practical capacity and network towards this mission is critical, both from the perspective of responding to practical socio-economic demand and from perspective of strengthening JICA's strategic cooperation role to Vietnam.

c. Vietnam – Japan Human Resource Development Scholarship (JDS)

Type	Grant Aid	Time	Since 2000
HRD theme	High-quality human resource	Status	On-going

- *About the program*

The project for Human Resource Development Scholarship is an ODA grant aid project, which was first introduced to Vietnam in 2000, with an aim to develop human resources who can play central roles in the formulation and implementation of socio-economic development policies in developing countries. On the basis of this aim, only employees in the public sector are subject of this program, including those who works for public administration agencies, research and educational institutes under the central ministries and agencies and the People's Committee, Socio-Political organization, and state-owned enterprises. The JDS scholarship focuses on developing human resources in priority areas, which were determined based on discussion with Vietnamese government and align with the national development strategies.

- *Main activities & results*

Until 2020, there are 691 JDS beneficiaries from Vietnam dispatched to Japan and benefited from this program. JDS scholarship has a high awareness in Vietnam, with many Fellows from administrative organs,

such as the Ministry of Foreign Affairs (16 Fellows), the Ministry of Finance (7 Fellows), the Ministry of Justice (11 Fellows), the State Bank of Viet Nam (9 Fellows), and the Ministry of Planning and Investment (7 Fellows).

- *Some discussion on development directions/ Recommendations*

New program 2022- 2025: The program in the period of 2022 – 2025 is framed in three priority areas, following the JCAP 2017 including (A1) Promotion of economic growth and strengthening of international competitiveness, (A2) Response to fragility, and (A3) Good governance. Comparing to the previous period, two components are added: (1) Human Resource Development for Industrial Development to enhance the governmental capacity in policy making and implementation related to vocational education training and labor, and (2) Health care/Social Security to contribute in the establishment of healthcare policy and the development of the social security system.

In its most recent report, the implementing counterpart of JDS program (JICE) suggested main aspects²⁰⁶ to improve the JDS effectiveness in the future period, including:

- To focus on developing human resources who can help to strengthen the relationship between the two countries to generate more diplomatic effects
- To recruit from a wide range of target organizations to secure top-class potential candidates and to improve outcomes for the project in the future
- To take follow-up measures to JDS returned fellows to increase their influence as ambassadors in Japan
- To consider further collaboration between JDS and other ODA projects

Besides, there are some disadvantages and limitations of the current JDS program, main issues discussed by the target beneficial organizations²⁰⁷ are as below:

- (i) *Long-term trainings are less preferred by Ministries, Provincial People's Committee (PPCs) because it is challenging to allocate people to join due to practical working pressures in government agencies. Long-term training will be more applicable to research institutes or universities. While Institutes, Universities and Academies still prefer 2-year Master program, 1-year Master and combined program are more preferred by Ministries, PPCs and other organizations. Many interviewed organizations also prefer short-term trainings or more flexible training arrangement that could involve practical work experience in addition to academic study.*
- (ii) *Master programs in Japanese faced difficulties to recruit applicants, though they might be beneficial to some organizations but the number of Japanese speaking candidates is fewer and the popularity of using Japanese in practical work when returning is low.*

206 Preparatory survey on the project for human resource development scholarship in the Socialist republic of Vietnam, JICA, JICE, 2021

207 Qualitative findings from reviewing JDS program in Vietnam for planning of period 2022 – 2025

(iii) *The two newly added components including Healthcare/Social security and HRD for industrial development haven't caught much attention from the target organizations. It's said that the subjects in those sectors (Labor Protection Policy, Improvement of Working Environment, Industrial Human Resource Development, Labor Export Policy) are currently not attractive to the government organizations because they do not evaluate such programs to be highly relevant to their current duties. Especially, long-term trainings in those fields are not preferred, short-term courses for technical or experience exchange programs should be more applicable for the management apparatus. Survey on demand for study fields showed that administration courses (Public Policy, Training for Public Servants, Public Administration, International Cooperation / Development Policy) are mostly preferred; IT related fields have high demand due to Vietnam's current context of national digital transformation progress.*

Overall, JDS program has long time reputation in Vietnam, being recognized in the top three most prominent scholarships for government organizations in the country. However, reviewing the above issues and lesson learnt from previous part, it is recommended that JICA should consider some directions to enhance JDS's effectiveness, including: (i) being more flexible in design of capacity building programs, in which having more short-term forms of training, or sandwich programs that allow learners to develop both academic learning and practical experience exchange; (ii) having some clearer focus industries in recruiting strategies, consideration to put more focus on programs/courses in prioritized demand for high-quality HR of Vietnam such as advanced technologies for sustainable development, green economy and digitalization, (iii) be more flexible in recruitment, implement "open-call" approach in recruiting candidates to widen the reach of the scholarships towards the most talent candidates in targeted industries, for example, a pilot scheme to attract talents in private sector or start-up community, (iv) discuss with existing projects in higher education sector (such as VJU, CTU etc.) to consider collaboration potential between the programs.

d. Vietnam Japan Institute for Human Resource development - VJCC Institute

Type	Grant Aid (GA), Technical Cooperation (TCP)		
Project name	Vietnam-Japan Human Resources Cooperation Center - VJCC Institute	Time	Phase 1: 2000 – 2005 (GA) Phase 2: 2005 – 2010 (TCP)
	Project for Capacity Development of Business Persons through VJCC Institute		2010 – 2016 (TCP)
	Institutional Capacity Development of VJCC Institute for a landmark of Development and Networking for Business Human Resources		2016 – 2021 (TCP)
HRD theme	High-quality human resource	Status	On-going

- *About the Vietnam – Japan Institute for Human resource development (VJCC)*

VJCC Institute is responsible for the implementation of training, research, consulting and application in economic management, corporate governance according to the Japanese model. VJCC is under the unit of the VJCC Project "Development of human resources at VJCC" funded by the Japanese Government through JICA. Since 2017, The Vietnam - Japan Institute for Human Resource Development (VJCC Institute) was established on the basis of upgrading 02 Vietnam - Japan Human Resource Cooperation Centers (Vietnam - Japan Human Resource Corporation Center) - VJCC Hanoi and VJCC Ho Chi Minh City.

- *Main activities & results*

The main missions and activities of VJCC Institute include:

- i. Manage the university program of Bachelor of International Business according to the advanced Japanese model
- ii. Manage and organize the implementation of activities under the VJCC Project, including the business training program - Advanced Business - Keiejuku (10 month-program); training and capacity building programs for mid-level and basic-level personnel of the enterprise, etc. VJCC Institute also is the receiver of technology transfer from Japan to the Foreign Trade University.
- iii. Organize training programs to improve Japanese language ability and activities to promote cultural and educational exchanges between Vietnam and Japan
- iv. Organize the implementation of undergraduate and postgraduate training programs with Japanese schools, training institutes and other partners
- v. Organize and implement science and technology application activities, management and business consulting for domestic and foreign organizations, businesses and individuals.
- vi. Promote business connection activities between Vietnam and Japan.
- vii. Develop Keiejuku Club to keep connection and implement follow-up support activities for businesses participating in trainings at VJCC Institute.

There exist similar models in other countries but Vietnam is the only country have two centers. VJCC center in Hanoi has facility capacity to conduct training of about 200 people, while in HCMC, the size of capacity is about 100 people. The activities are mainly organized in these two centers. Besides, the Keiejuku training courses are also operated in Hai Phong city in collaboration with the Hai Phong City People's Committee.

Regarding business training programs, the trainees attending courses in VJCC Institute are from wide education background, including entrepreneurs, high-level or middle-level managers, universities graduates or even trainees who do not necessarily have university graduates. Participating companies are mainly small and medium-sized enterprises, Vietnamese enterprises count for about 80% and about 10-20% are Japanese enterprises.

Regarding Japanese training, "VJCC" has become a prestigious brand in Japanese language training, with nearly 40 training courses organized every year for elementary and intermediate levels. Besides, Japanese language test preparation classes, Japanese accounting classes in Hanoi and HCMC or Japanese translation and interpretation classes have contributed to supply human resources for Japanese-related businesses.

Training courses at VJCC institute focus on providing knowledge and skills to middle managers such as production control, quality control, delivery date management and inventory management, not technical engineers, however, although technical fields are not supported, VJCC instructors can provide ideas for improving lines and production flows.

Apart from the development of highly skilled human resources/management training, VJCC Institute also opened the bachelor's degree program "International Business according to the advanced Japanese model (JIB)". The first JIB graduates graduated in September 2021, and this program is expected to continue to create a large human resource to take on future management positions in both Vietnamese and Japanese enterprises.

- *About Keiejuku training program and Keiejuku Club*

Keiejuku is the special designed high-level business training program for entrepreneurs, high-level and middle managers of Vietnamese enterprises, providing Japanese-style, systemic and comprehensive business corporate management knowledge and experience. Participants could receive support from JICA to have practical study tour in Japan and to connect with Japanese enterprises for learning as well as for real business cooperation.

From the first course launched in 2009, there have been more than 700 managers & entrepreneurs who have completed the Keiejuku courses, many practitioners have established cooperative relations with Japanese and other foreign enterprise.

The Keiejuku Club has been established as an alumni community which is active in developing strong business network among enterprises who have studied and graduated from Keiejuku program. There have been about 500 members who are leaders of companies, having three sub-groups in Hanoi, Hai Phong, Ho Chi Minh City²⁰⁸ that maintain networking activities such as monthly meeting, sharing experience sessions and study tours.

As evaluated from participants, the most valuable strengths of Keiejuku program are (1) the training philosophy and program design which is effective, concise and practical, especially effective for manufacturing companies in Vietnam; (2) quality of lecturers who are senior leaders with many years of practical experience in large Japanese or global enterprises, and the (3) quality of learning experience via interacting with peer learners during and after the training courses.

- *Some discussions about development directions*

Currently, VJCC Institute is put within the system of the Foreign Trade University (FTU), it has received support from both Vietnam side (FTU) and Japan side via projects JICA, from which it has become a leading training institute for business management, especially for Japanese-related businesses.

With regards to effort to develop high-quality industrial human resources in Vietnam, VJCC Institute model and Keiejuku training program model have competitive advantages if compared to other donors'

208 Information shared from interview with representative of Keiejuku Club

actions. The strong advantages include: the ability to strongly leverage the role of Vietnam's counterparts, having real enterprise community and this can act as good base for future collaboration with Japanese enterprises, having institutional base in Vietnam which can act as local institution for future expansion. Besides, its focus on developing managerial human resource highly contribute to the strategic solutions of HRD for Vietnam that are stated in the SEDS 2021 – 2030.

However, other countries also become active in developing similar high-quality managerial and leadership training courses when their business community in Vietnam grow significantly, such as Korea, Germany, Denmark, etc. Government agencies in Vietnam who are supporting SMEs such as VCCI, or AED also seem doing similarly. In addition, the impact of global socio-economic and industrial development trends, such as AI and Digitalization (DX), the need to upgrade capacity of Vietnamese enterprises in supporting industry for global value chain integration, are putting certain pressures on VJCC institute to maintain its value positioning for Vietnam in the long-term. Some aspects could be discussed as below:

- (i) The center needs to strengthen autonomous management and be more independent from JICA support. Certainly, it is also challenging to make such high-quality training programs profitable after long time of receiving subsidization from Japan government.
- (ii) From the demand of labor market, it is necessary that the training courses in VJCC Institute should emphasize the effort to equip learners with a wide range of soft skills, coaching skills, communication skills, other managerial level working skills to supply for middle-manager resources for Japanese companies as well as companies cooperating with Japan businesses.
- (iii) As AI and Digitalization (DX) are of great interest of business and industrial development in the future, though they are not the main fields of VJCC Insittute, there is direction to incorporate this topic into courses and bachelor's programs. Other future technology for green economy and sustainable development should also be considered for embedding in the training programs.
- (iv) From impact creation perspective, the scale of trainings needs to be increased, and training design needs to be updated to address future labor market requirements. These efforts would require considerable resources investment.
- (v) To develop the resource of Japanese experts, to build next generation of lecturers and experts in order to maintain high quality trainings, which are perceived as one prominent competitive strengths of VJCC Institute. Regarding this topic, the representative of Keiejuku club also suggested JICA and VJCC Institute to consider developing local experts from the alumni of Keiejuku or of other courses at VJCC.

5.2 Japanese Specific Factors

5.2.1 Japan FDI in Vietnam and the expansion trends of Japanese enterprises to Vietnam

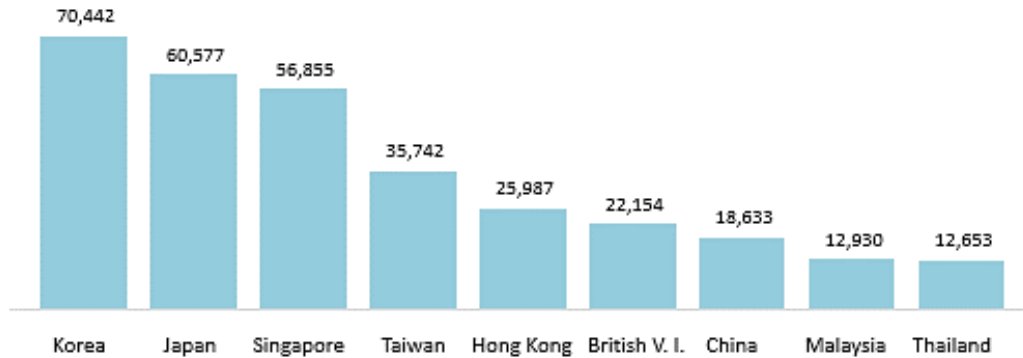
a. Trend of Japanese FDI in Vietnam

FDI inflows from Japan into Vietnam have gone through some fluctuations during 2010-2020, and there's an downward trend under the effect of Covid-19

In general, FDI inflows in Vietnam during this period remained quite stable, except for the year 2008 – 2009 and 2019 – 2020. The significant fall in 2009 can be explained by the 2007 – 2008 economic recession

that caused financial crisis globally. Since then, FDI inflows had gradually risen throughout the years. However, in 2020, the COVID pandemic made the FDI in Vietnam once again suffer a steep decline in both the number of projects and the total registered capital.

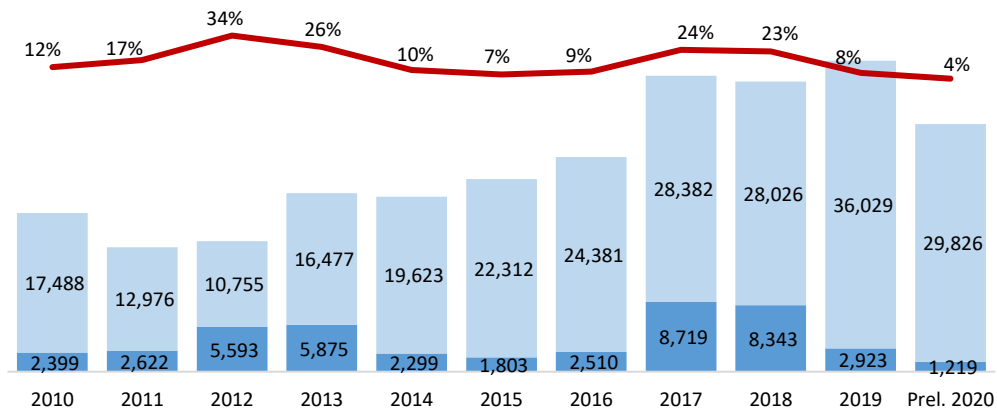
Figure 134. Accumulative Total registered FDI capital to Vietnam in 2020 by countries (million USD)



Source: GSO's Annual Abstracts of Statistics 2020

In particular, the process of investment and disbursement of FDI capital in the field of consumer electronics production has been slowed or suspended. For example, in the field of electronic manufacturing, Samsung (Korea) factory in Bac Ninh was isolated, new investment projects of Poongsan System (Korea), Google, Microsoft, Apple (United States) are suspended to review the investment timing.

Figure 135. New registered FDI inflow from Japan and other countries to Vietnam (million USD)



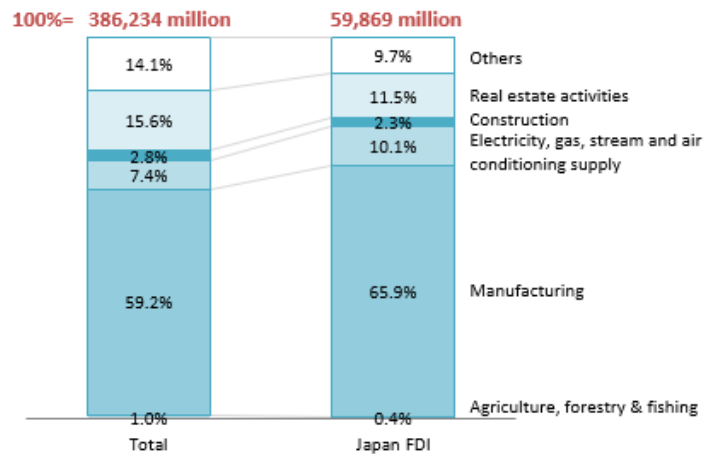
Sources: GSO's Annual Abstracts of Statistics 2008 – 2020, Foreign Investment Agency - MPI

For the last ten years, the FDI inflows from Japan into Vietnam have gone through some severe fluctuations. In the period 2014 – 2015, the difficult Japanese economic situation along with the big devaluation of the Yen made Japanese FDI largely decrease. But then in 2017, thanks to several impressive results of the Vietnamese economic progression, Japanese investors were motivated and had more trust in putting money into Vietnam, which increase the FDI inflows from Japan by more than 3 times compared to last year. After that, the COVID pandemic in 2019 had once again made the Japanese FDI inflows into

Vietnam plummet. However, despite a steep fall in the registered capital, the number of projects from Japan are highest since 2010 with 680 projects, meaning that the scale of projects is now much smaller compared to previous years.

The focus of investment industry from Japanese investors has transformed from manufacturing to non-manufacturing. However, Japan FDI still mostly focuses on manufacturing industry, accounting for more than 60% of total Japan FDI, and the average investment scale per Japan FDI project into manufacturing industry is nearly 2 times larger than average FDI amount of nationwide

Figure 136. New registered FDI capital in 2020 in total and from Japan by sector (USD)



Source: GSO's Annual Abstracts of Statistics 2010, 2020

There is no difference between Japan FDI and total FDI in sector structure, in which manufacturing account for the highest proportion, followed by Real estate activities and Electricity, gas, stream and air conditioning supply.

To compare about the size of Manufacturing FDI project, average amount of Japan FDI project is nearly two times larger than average amount of nationwide with 356 million USD and 189 million USD respectively. Large-scale projects, especially in manufacturing sector, often have a greater need for human resources, which shows that provinces and regions attracting high Japan FDI capital and large projects should consider appropriate labor supply strategies to meet investor demand about both quantity and quality.

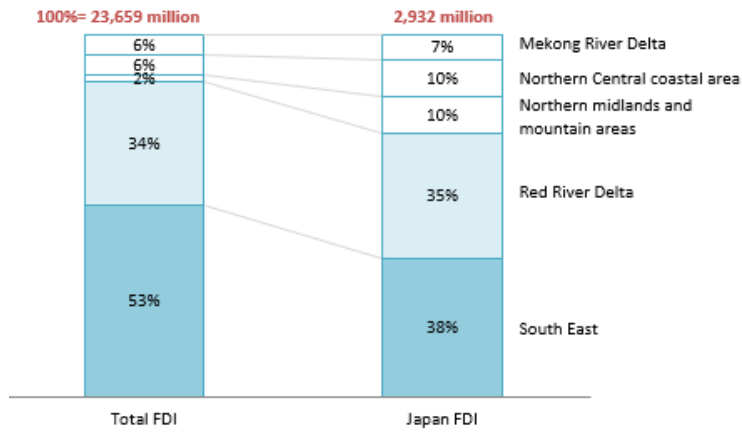
In recent years, the focus of investment industry from Japanese investors has transformed from manufacturing to non-manufacturing. It is partially because most of the major Japanese manufacturing corporations are already present in Vietnam and the additional FDI inflows into the manufacturing sector will only come from expansion investment projects or from SMEs. FDI inflows from Japan into the Vietnamese real estate and retail industry increased, especially the footprints of some large corporations in the retail industry: AEON, UNIQLO, MUJI, and Matsumoto Kiyoshi. In 2018, FDI in real estate increased sharply thanks to the Sumitomo Corporation (Japan) project invested in Hanoi with a total capital of 4.138 billion USD. Recently, real estate also witnessed a big FDI inflow due to that the real estate developer

Nomura Real Estate has planned to execute two large M&A deals this year in 2 big projects, Vinhomes Grand Park in Ho Chi Minh City and Ecopark in Hung Yen.

FDI from Japan distributes evenly across regions, in which the largest concentration is in the Red River Delta and South East areas, especially in Ba Ria - Vung Tau, Binh Duong, Ha Noi, Dong Nai and Ho Chi Minh city

While Total FDI of Vietnam is most concentrated in the Southeast region, FDI from Japan distributes evenly across regions, in which the largest concentration is in the Red River Delta and Southeast areas.

Figure 137. Total FDI and Japan FDI by region in 2019



Source: Ministry of Planning and Investment (2019)

5 provinces with the largest FDI capital from Japan are Ba Ria - Vung Tau, Binh Duong, Ha Noi, Dong Nai, and Ho Chi Minh City, which is accounting for 62% of total FDI from Japan to Vietnam. Particularly, compared with other foreign investors, Japanese investors are interested in Ba Ria – Vung Tau Province. FDI from Japan in 2019 accounted for 48% of total FDI invested in Ba Ria Vung Tau with big projects such as Zirconium compound factory, Marubeni instant coffee manufacturing factory, Nittori factory.

The table below presents the summary of Japan FDI projects in the six socio-economic regions.

Figure 138. Summary of Japan FDI projects by region

No.	Region	Highest FDI province ²⁰⁹	Main sectors ²¹⁰	Example of Project
1	Southeast	Ba Ria – Vung Tau, Binh Duong, Dong Nai, Ho Chi Minh, Tay Ninh, Binh Phuoc	<ul style="list-style-type: none"> - Processing, Manufacturing industry - Constructions - Wholesale and retail - Real estate business - Professional activities, science, and technology - Transportation and Warehousing - Information and communication - Educations 	<ul style="list-style-type: none"> - Mechanical and electronic components manufacturing factory project - FMGG manufacturing factory project - Real estate project - Logistics project - Kindergarten, Japanese teaching center
2	Red River Delta	Ha Noi, Hung Yen, Ha Nam, Hai Phong, Bac Ninh, Vinh Phuc, Ninh Binh, Hai Duong, Quang Ninh, Nam Dinh	<ul style="list-style-type: none"> - Processing, Manufacturing industry - Constructions - Wholesale and retail - Real estate business - Professional activities, science and technology - Transportation and Warehousing - Information and communication - Educations 	<ul style="list-style-type: none"> - Mechanical and electronic components manufacturing factory project. - Steel-rolling and materials processing factory project - Real estate project - Logistics project - Kindergarten, Japanese teaching center
3	Northern midlands & mountain areas	Bac Giang, Thai Nguyen, Phu Tho	<ul style="list-style-type: none"> - Processing and Manufacturing industry 	<ul style="list-style-type: none"> - Electronic components, household electrical appliances, automobiles parts manufacturing factory. - Textile factory
4	Northern Central and Central coastal area	Da Nang, Binh Dinh, Quang Nam, Nghe An, Binh Thuan, Thanh Hoa, Thua Thien Hue	<ul style="list-style-type: none"> - Processing, Manufacturing industry - Electricity, gas, steam and air conditioning supply. - Education and training. Professional activities, science and technology; Information and communication - Accommodation and food services 	<ul style="list-style-type: none"> - Solar power plant - Garment factory, industrial auxiliary equipment and components manufacturing factory. - Japanese International Kindergarten, Language School - Japanese restaurant
5	Mekong River Delta	Bac Lieu, Can Tho, Long An	<ul style="list-style-type: none"> - Construction - Manufacturing and processing - Agriculture forestry and fishing 	<ul style="list-style-type: none"> - Wind power plant - Food and seafood processing plant - Garment processing factory

Source: Ministry of Planning and Investment (2019)

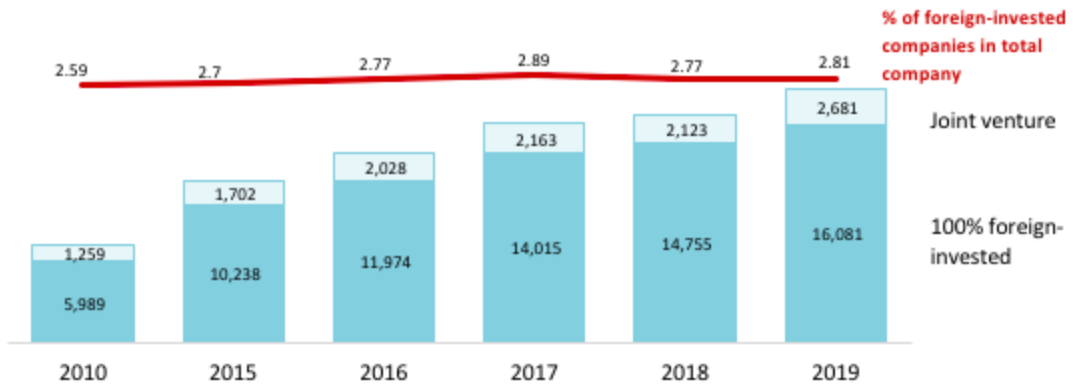
b. Current nationwide and regional development trends of Japanese enterprises in Vietnam

Along with the growth of FDI in the past 10 years, the number of foreign invested companies has increased, and the labor force has also shifted from state-owned or private companies to foreign-invested enterprises. While the number of foreign-invested enterprises account for less than 3%, the number of employees working in these companies are more than 30%, which can show on average, the foreign-invested enterprises have a greater need for human resources than other groups.

209 From highest to lowest order by Japan FDI amount

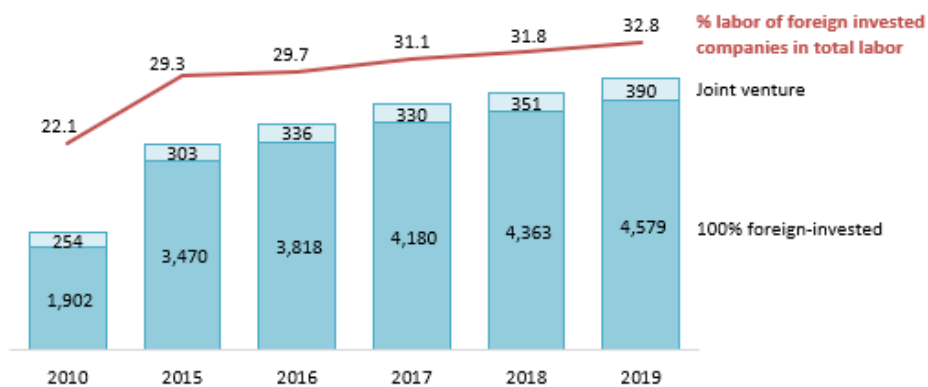
210 From highest to lowest order by Japan FDI amount

Figure 139. Number of foreign-invested enterprises



Source: GSO's Statistics (2010-2019)

Figure 140. Number of employees working in foreign-invested enterprises

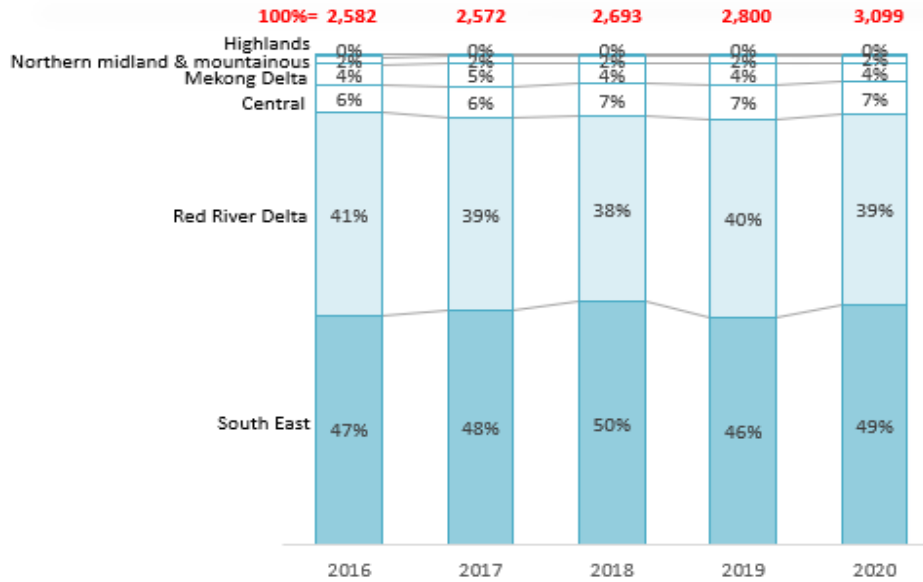


Source: GSO's Statistics (2010-2019)

The number of Japanese companies in Vietnam, up to now, has increased gradually, concentrating mostly in Southeast and Red River Delta areas. In term of sector, the number of companies operating in manufacturing industry hold the biggest proportion; however, the proportion of manufacturing companies is on a downwards trend which reflects the trend of shifting from manufacturing to non-manufacturing in Japan FDI inflow

During the period of 2016-2020, the number of Japanese companies operating in Vietnam has increased gradually, with CAGR of about 5%/year. Most of Japanese companies locate in Southeast provinces (such as Ho Chi Minh City, Dong Nai, Binh Duong, etc.) and Red River Delta area (such as Hanoi, Hai Phong, Hung Yen, etc.).

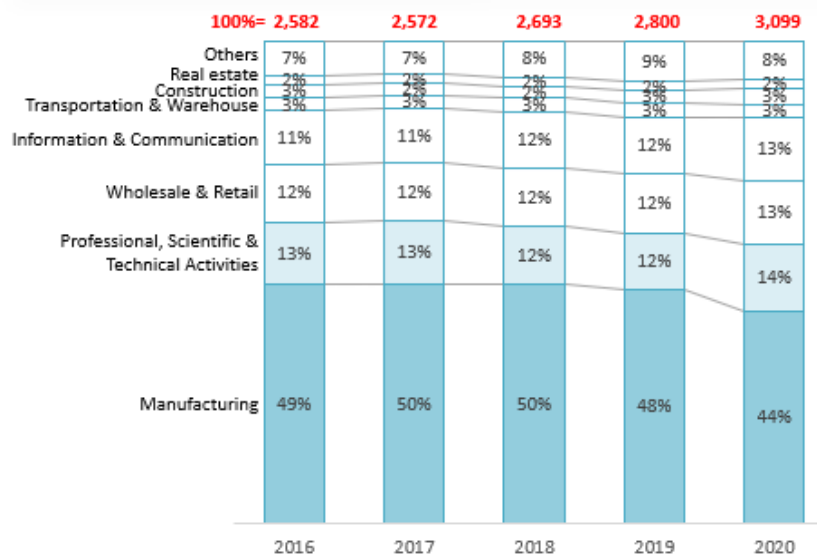
Figure 141. Number of Japan enterprises in Vietnam by region, during 2016-2020



Source: Research team synthesis from Enterprise database

Looking further into sector, there's a like the trend of FDI capital, in which the number of manufacturing companies accounts for the biggest proportion and this proportion seems to decrease during 2019-2020. Meanwhile, the number of companies in service-related industries such as Information and communication industry, Research, Academic research is gradually increasing. This can be an investment resource to develop science and technology to serve the trend of digital transformation in Vietnam.

Figure 142. Number of Japan enterprises in Vietnam by sector, during 2016-2020

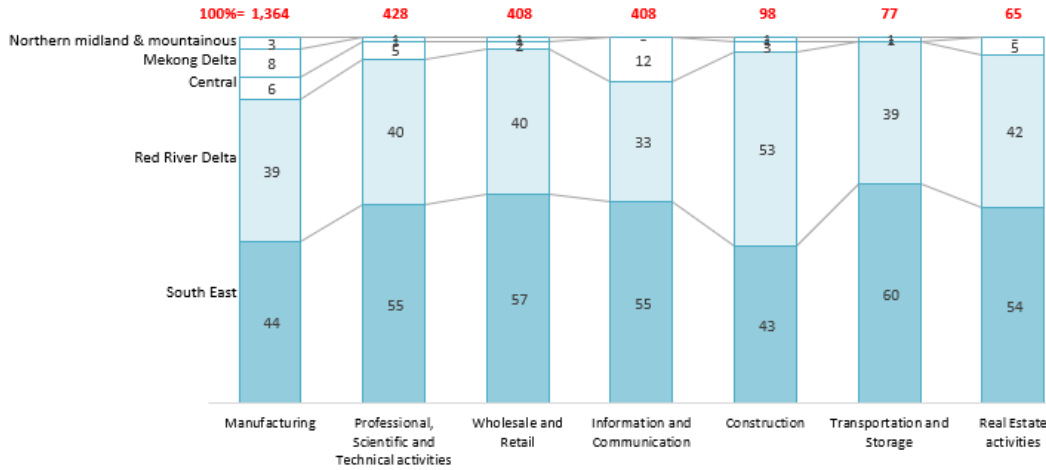


Source: Research team synthesis from Enterprise database

Further review into proportion of sectors in each region, it seems that Southeast and Red River Delta areas are attracting various sectors, spreading relatively evenly from manufacturing industries to service-related

industries. While, for Central provinces such as Da Nang, Hue, they are appealing more for service industries such as IT, hospitality, and in Mekong Delta, almost all Japanese companies are operating in manufacturing sector.

Figure 143. Number of Japan enterprises in Vietnam, by TOP7 sectors and regions in 2020

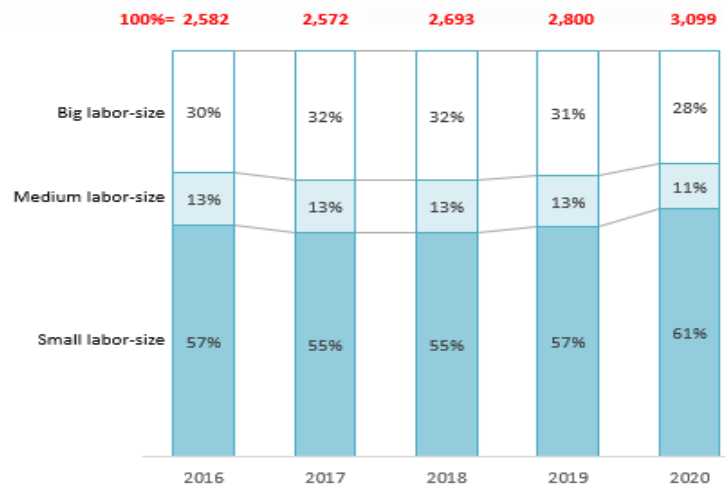


Source: Research team synthesis from Enterprise database

Most of Japanese enterprises in Vietnam are SME ones, and big labor-size companies mainly are manufacturing ones

The demand of human resources in Japanese companies is estimated to be around 6.8 hundred thousand people. In term of labor size, most of Japanese companies are SME and this group is in an upwards trend, in which 61% of Japanese enterprises in 2020 are small labor-scale, and 11% are medium scale.

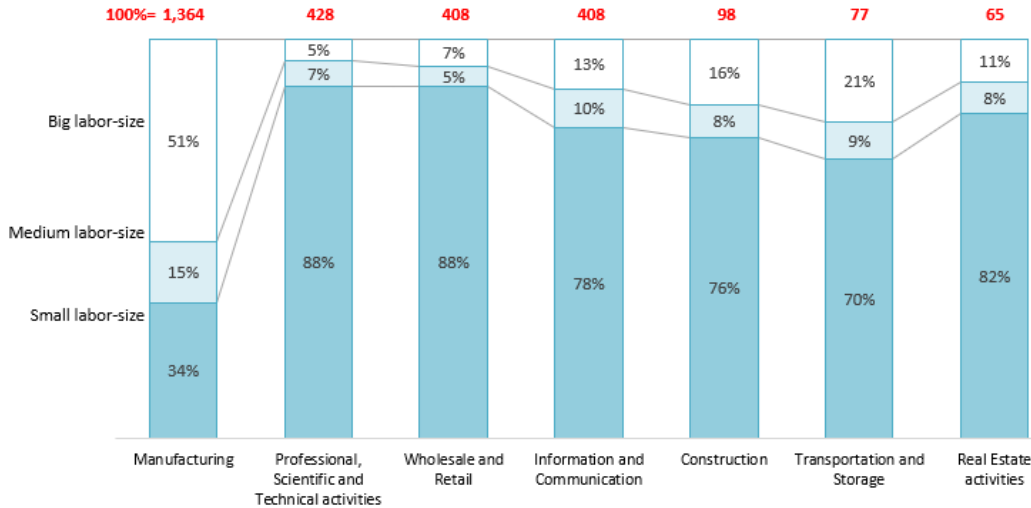
Figure 144. Number of Japan enterprises in Vietnam by labor size, during 2016-2020



Source: Research team synthesis from Enterprise database

Deeper look into human resources demand in each sector, it can be seen that manufacturing companies has the biggest demand, with about 51% companies are big-labor size. This means that the areas where concentrate manufacturing enterprises, such as Ho Chi Minh City, Binh Duong, Hanoi or Hai Phong, will have huge demand of labor force and the competitive in recruiting labor force would be severe, not only between Japanese companies but also with Vietnamese companies and other FDI ones.

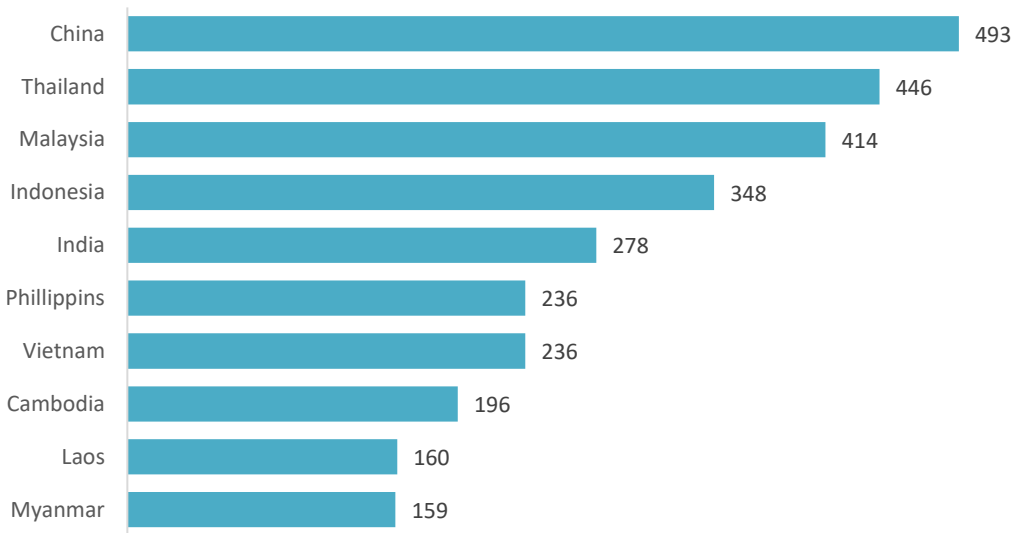
Figure 145. Number of Japan enterprises in Vietnam, by labor size and industry in 2020



Source: Research team synthesis from Enterprise database

Low cost of labor resources is considered to be one of the most important factors that attract Japanese investors in Vietnam among other Southeast countries and China. Although income range in Vietnam is increasing, compared to other countries in Southeast Asia and China, the average salary in Vietnam is still low with abundant workforce and young population. But in the long term, this is also a risk when labor costs increase, the quality of human resources does not improve, and the employee turnover rate is high.

Figure 146. Average monthly salary of employees at Japanese manufacturing companies (USD)



Source: JETRO Survey of Japanese companies expanding into Asia and Oceania (2019)

Among the reasons for expanding business to Vietnam in 2019, 40.9% of surveyed companies answered about Labor and Human resource cost factor, ranking third following market and relations with Japan factors. However, only 19.6% companies high-evaluate human resource quality. This shows that for Japanese companies, human resources in Vietnam can compete on price, not by quality. From 2013 to 2019, factors related to human resources did not improve, to specify, Human Resource Cost down 3.1% and Human Resource Quality factor down 0.1%. This shows that in the past 6 years, while the cost of labor has increased, the quality of labor has not been improved.

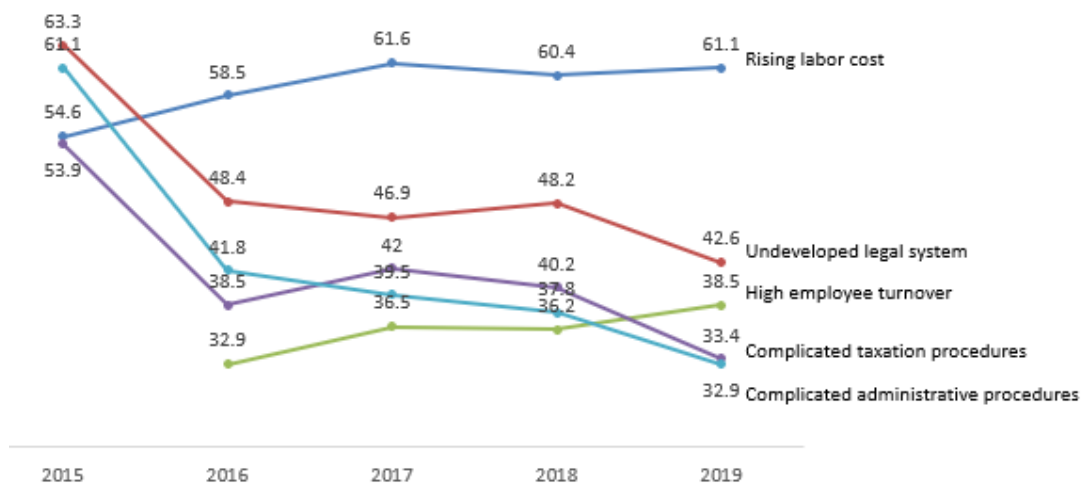
Figure 147. Survey result about Top 10 Strong points and merits of Vietnam (%)

	Strong points	2013 N=1,047	2017 N=1,261	2019 N=1,410	2013-2019
1	Market Size, Growth	75.0	82.2	86.1	+ 11.1
2	Japan relationship	--	42.8	41.5	--
3	Labor and HR cost	44.0	41.9	40.9	-3.1
4	HR quality	19.7	20.2	19.6	- 0.1
5	Supplier	14.7	19.8	18.1	+ 3.4
6	Political and social stability	15.3	17.8	16.7	+ 1.4
7	Land/ office	8.3	12.3	11.4	+ 3.1
8	Easy to procure locally	5.1	8.7	8.9	+ 3.8
9	Living environment	4.0	6.9	6.7	+ 2.7
10	Employee retention rate	5.3	7.0	6.2	+ 0.9

Source: JETRO survey on overseas business development of Japanese companies in 2019

Meanwhile, regarding the risks when investing in Vietnam, in the period of 2015 - 2019, while the factors related to legal system, administrative procedures, taxation procedures have been improved, the related risks Labor and human resources are still a high-risk factor for Japan investors.

Figure 148. Risks of Japanese companies to invest in Vietnam (%)



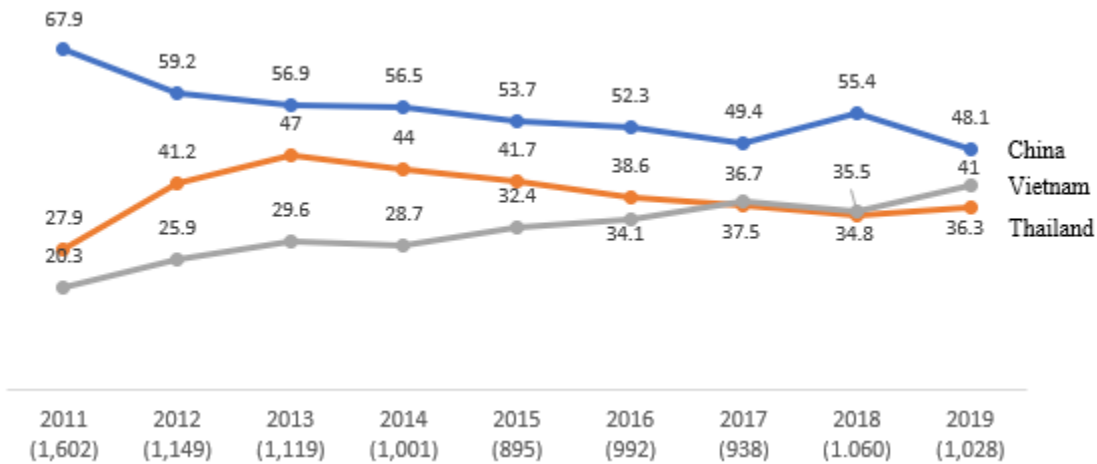
Source: JETRO Survey of Japanese Companies in Asia and Oceania (2019)

c. Future trends and new sectors for expansion of Japanese enterprises to Vietnam

Under the effect of US-China trade tension, there's an increasing trend in the number of Japanese investors choosing Vietnam as an attractive location instead of China, for both manufacturing and non-manufacturing industries, however the target still mainly concentrates in low value-added industries

China, Vietnam and Thailand are top three countries that Japanese companies consider expanding their business. However, Japanese firms switch to choose Vietnam instead of China for investment after US-China trade war.

Figure 149. Top 3 countries Japan enterprise plan to expand overseas (% surveyed companies)



Sources: JETRO Survey on overseas business development of Japanese companies (2020)

In general, Vietnam is expansion destination for both manufacturing and non-manufacturing companies. From the business features of some industries such as precision equipment manufacturing or IT/Software (non-manufacturing), there are many occupations that require labor with specific skills.

Figure 150. Top field that Japanese companies plan to expand business to Vietnam (%)

Rank	Manufacturing	Rank	Non-manufacturing
1	Petroleum / plastic / rubber products 72.2	1	Transportation 52.0
2	General machine 70.8	2	Trading company/Wholesale 43.9
3	Medical and cosmetic products 53.3	3	Construction 43.2
4	Electric products 47.1	4	Communication/ Information/ Software 38.3
5	Precision Equipment 41.2	5	Others 34.4
6	Nitrogen, earth, and stone 40.0		
Average	41.3	Average	40.5

Sources: JETRO Survey on overseas business development of Japanese companies (2020)

Comparing Vietnam and China, the purpose of expanding to Vietnam is still mainly concentrated in low value-added industries such as General products manufacturing or to exploit markets such as "Sales". For purposes that require a high-quality workforce such as R&D, High-value product manufacturing, China still dominates over Vietnam.

There are many possible reasons for this limitation of Vietnam such as infrastructure or policy. However, the first factor that needs to be paid attention to is the factor of about human resource such as workforces, salary and quality.

Figure 151. Survey result about Purpose of Japanese enterprises to expand overseas

Reason	Vietnam	China	Thailand
1 General products manufacturing	43.2	39.0	28.6
2 Sales	40.8	52.0	38.1
3 R&D new products	33.3	37.6	18.8
4 High-value product manufacturing	32.3	37.6	20.9
5 Logistics	31.1	38.3	32.2
6 R&D for specification change for local market	27.7	41.9	28.6
7 Regional headquarters	17.3	31.6	31.6

Sources: JETRO Survey on overseas business development of Japanese companies (2020)

c. Support of related organizations to attract Japanese FDI into Vietnam

Figure 152. Vietnam organization having function to attract FDI to Vietnam

No.	Organization	Mission	Main activities
1	The Vietnam Trade Promotion Agency (VIETRADE)	Under MOIT perform the function of state management of trade promotion.	<ul style="list-style-type: none"> - Submit to the Minister of Industry and Trade for approval over 3,200 national trade promotion projects with a total support budget of over VND 2,100 billion. - The activities of the National Program on Trade Promotion have supported 100,000 times of enterprises participating, businesses have directly traded and signed contracts during the time of participating in trade promotion activities with total value of goods export contracts reaching nearly 30 billion USD and 1000 billion dong; the total value of goods sale and purchase contracts, product sales agents in the domestic market and sales reached nearly 3,000 billion dong.

No.	Organization	Mission	Main activities
2	The Investment and Trade Promotion Center of Ho Chi Minh City (ITPC)	Government organization to promote the growth of Ho Chi Minh City's enterprises and foreign investors, help enterprises export, develop business capabilities, find overseas partners, enter new markets, and to help foreign investors develop their projects in Vietnam.	<ul style="list-style-type: none"> - Organize online connections between local businesses and foreign businesses. Since the beginning of March 2020, there have been more than 1,500 successful connection orders, estimated revenue of more than 50 billion dong - Holding seminar, workshop, research on focused topics concerning trade with and investment in Vietnam
3	The Foreign Investment Agency (FIA)	Under Ministry of Planning and Investment to implement state management function related to foreign direct investment activities in Vietnam and Vietnam direct investment activities abroad	<ul style="list-style-type: none"> - Provide investment support activities of Japanese enterprises through support departments such as Saitama Desk, Aichi Desk and Niigata Desk.
4	The Vietnam National Innovation Center (NIC)	Under the Ministry of Planning and Investment with the function of supporting and developing Vietnam's startup and innovation ecosystem, contributing to the innovation of the growth model based on science and technology.	Start-up incubation and acceleration, Technology transfer support, events organization, and investment.

Figure 153. Japan organization supporting Japanese companies to expand business to Vietnam

No.	Organization	Mission	Main activities
1	JETRO Hanoi/Ho Chi Minh	Under Japan Ministry of Economy, Trade and Industry, JETRO main duty is to Coordinate with Vietnamese governmental agencies and industrial associations to help realize sustainable economic development in Vietnam.	<ul style="list-style-type: none"> - Support Japan's Direct Investment in Vietnam through seminars guiding new laws, regulations of investment. In 2009, SME Support Center Hanoi was established to support SMEs to expand business to Vietnam - Support Vietnam - Japan Business Activities through some activities such as Business Matchings, Supporting Digital Transformation (DX), Supporting Vietnamese companies to invest In Japan
2	Japan Bank for International Cooperation - JBIC	Policy-based financial institution of Japan Under Japan Ministry of Finance. Main duty is to support Japanese MTEs, SMEs and start-ups in foreign countries.	<ul style="list-style-type: none"> - Support Japanese companies' investment in Vietnam through activities such as Loans for equipment renewal, Collaboration with private financial institutions (local banks mega banks) loans for overseas expansion,

No.	Organization	Mission	Main activities
			<ul style="list-style-type: none"> - Providing information on overseas investment environment and supporting troubleshooting with local governments.
3	ASEAN-Japan Centre (ASEAN Promotion Centre of Trade Investment and Tourism)	Under Japan Ministry of Foreign Affairs. Main duty is to promote trading, investment and tourism between ASEAN and Japan	<ul style="list-style-type: none"> - Support activities such as Seminars, Workshops, Research and Policy analysis, Publication, and Information services
4	The Japanese Chamber of Commerce and Industry in Vietnam – JCCI	Association of Japanese companies with bases in the Northern region of Vietnam.	<ul style="list-style-type: none"> - Get the opinions of member companies and make the negotiation or request to Vietnamese government to improve the business environment of Japanese-affiliated companies. - Provide information on investment promotion, taxation, labor, and employment access via home page & email distribution system, can widely access to various valuable seminars
5	The Japanese Chamber of Commerce and Industry in HCMC - JCCH	Association of Japanese companies with bases in the northern region of Vietnam.	<ul style="list-style-type: none"> - Improve investment and business environment with making various proposals and requests to the Vietnamese Government - Exchange and provide information via hold seminars on investment promotion, taxation, labor and employment; thereby our members can update information of new laws
6	SME support Japan	Under Japan Ministry of Economy, Trade and Industry. Practical support is tailored to meet individual SME needs, implemented by collaborating with municipalities, government agencies, financial & research institutions, and other support organizations.	<ul style="list-style-type: none"> - Support SMEs investment in Vietnam through activities such as consultation of experienced specialist, seminars on latest information and regulation of investment.
7	Tokyo SMES Support Center	Under Tokyo Metropolitan Government to support SMEs in Tokyo areas to make strategy and plan for Overseas Expansion.	<ul style="list-style-type: none"> - Support desk in Vietnam to consult on legal systems and regulation, support matching up with Vietnamese company both supplier and sales channels. - Organize seminar and consulting service in Tokyo to help SMEs business expansion to Vietnam.

5.2.2 Situation of returned Technical Intern Trainees

Technical intern training program aims to contribute to developing countries by accepting people from these countries for a certain period of time (maximum 5 years) and transferring skills through on-job training in Japan.

The technical trainee interns when returning to Vietnam, with their trained skills, knowledge and experience from Japan, could be an important experienced HR group to participate in the Vietnam labor force. Therefore, supporting this group to integrate effectively to the workforce in Vietnam could be considered as one important contribution to HR development in Vietnam. Understanding the situation and challenges of RTTs in Vietnam is helpful for JICA to plan practical support for RTTs.

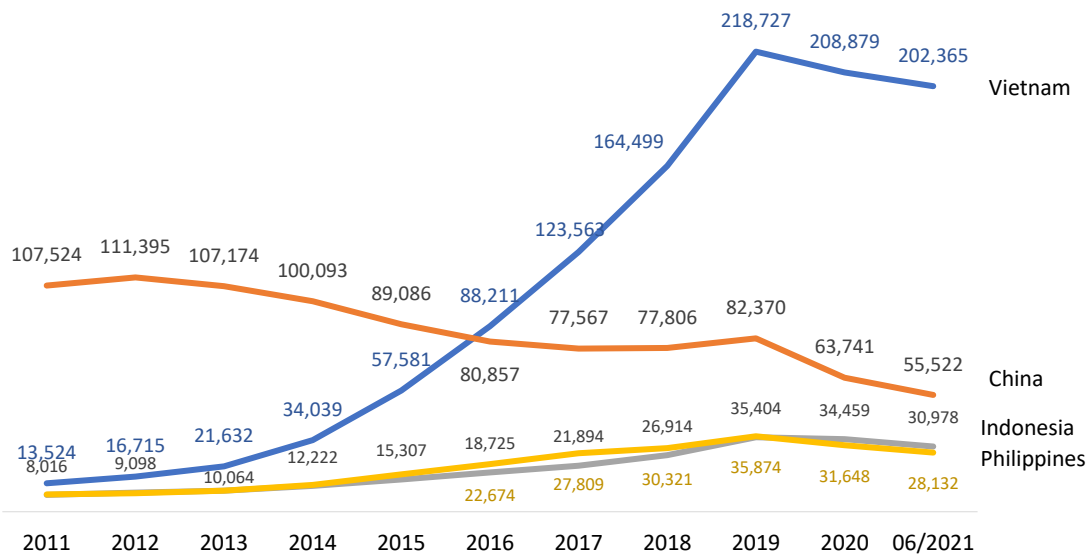
This section provides an overview situation from published statistics and hearings from interviews with Japanese enterprises in Viet Nam, with an aim to understand actual enterprises' demand and existing barriers to recruit and utilize RTTs. However, it could not reflect the opinion from the returned trainees as that is out of this research's scope.

a. Overview of Vietnamese Technical Intern Trainees (TT)

The supply of Vietnamese Technical Intern Trainees has increased steadily in recent 5 -10 years

Overall, by end of June 2021, approximately there were 317 thousand technical intern trainees residing all over Japan, almost 63.8% of which are Vietnamese. There has been a clear steady increase every year from 2011, the number of Vietnamese TIT has surpassed that of China, and Vietnam has become the dominant supply country for TIT.

Figure 154. Number of Technical Intern Trainees in Japan by Nationality



Source: Japan Ministry of Health, Labour and Welfare, Japan Ministry of Justice

Some reasons causing this trend include: (i) the fact that China economic development led to higher average income and less Chinese people want to go to Japan for low-skill jobs, which led to labor shortage in Japan. In order to fill the vacant positions, Japanese companies began to receive lots of technical interns from Southeast Asian countries, including Vietnam; (ii) introduction and completion of supportive labor export national projects and policies to attract remittances; for example, Project “Promoting labor export in poor provinces, in contribution to sustainable poverty reduction, period 2009-2020”, according to Decision 71/2009/QD-TTg; and preferential loans from Vietnam Bank for Social Policies for those from poor households or ethnic minorities, according to Decree No. 61/2015/ND-CP; (iii) the attractive visa policy from Japan government to attract foreign workers since 2019, which allowed lower-level skill labors from overseas, not just high-skill experts, to have chance to work long-term in Japan²¹¹.

As the result, supply agencies of technical intern trainees from Vietnam have also developed in recent years, leading to a more comprehensive supply system with experienced stakeholders. In Vietnam, there are 489 intermediary organizations to supply Vietnamese candidates for technical intern training programs to Japan. Among which, nearly 73% are based in Hanoi (355 organizations), followed by HCMC with 69 sending organizations.

There has been a remarkable increase in the number of Vietnamese technical intern trainees working in construction, food manufacturing and machinery.

Figure 155. Number of Vietnam technical intern trainee plans accredited by sector

Sector	2017		2018		2019	
	Person	%	Person	%	Person	%
Construction	5,265	19.0	45,171	23.0	47,457	24.2
Machinery	5,221	23.0	36,515	20.6	32,028	21.6
Food manufacturing	6,293	19.0	40,509	18.6	42,364	16.3
Textile	2,019	7.3	12,256	6.2	9,898	5.0
Agriculture and Fishery	2,480	9.0	16,123	8.2	14,032	7.2
Other	6,250	22.7	46,158	23.4	50,222	25.7
Total	27,528	100	196,732	100	196,001	100

Source: Organization for Technical Intern Training

The number of Vietnamese TITs increased significantly 5-9 times across sectors from 2017-2019. Textile showed the most modest increase of 5 times, while the highest is in construction with 9 times increase. However, contribution proportion of the sectors only adjusts slightly over the years, in which construction

211 Since April 2019, Japan has promulgated a new entry law. The law introduces a new type of visa for foreign workers. This type of visa allows foreign workers with certain skills to work in specific fields in Japan including 14 industries such as gerontological nursing, materials processing, machinery manufacturing and agriculture. The first category is 5-year visa granted to foreign workers working in 14 designated sectors. Most of the foreign workers in this type will have to complete a technical internship program in Japan. The second one is for highly skilled workers, which are given to worker who are skilled and have degrees and have lots of experience in construction or shipbuilding which are two industries in Japan currently in need of foreign workers. Workers will be granted a long-term visa and can bring their families along. This policy change helps Japan attract more workers because previously only highly skilled professional workers were allowed to immigrate and work

became the sector with most TITs, 24.2% in 2019. The reason for this increase is to meet the need to build infrastructure in preparation for the Tokyo Olympics and Paralympics in 2020.

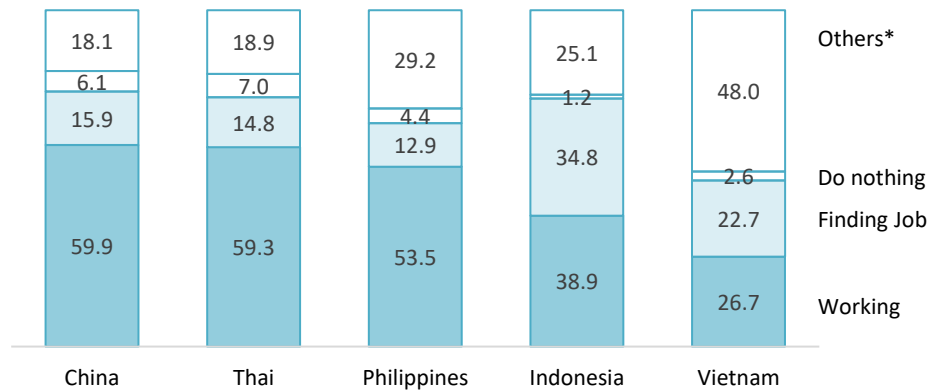
b. Situation of Vietnamese technical trainees when returning to Vietnam

The actual proportion of Vietnamese technical trainees who could utilize their experience learned in Japan for working in Vietnam is low.

When returning home, technical intern trainees generally have opportunities to work at Japan FDI companies, Vietnam-Japan joint ventures, Japan representative offices and labor export companies. However, compared to other countries in the region, the rate of Vietnamese trainees returning home whose status is “working” is the lowest, only 26.7% of the total, while China, Thailand, and the Philippines have a very high rate which is more than 50% for each country.

The data also shows that a big proportion of Vietnamese technical intern trainees responded “other” situation (48%), which means they were preparing to continue the technical trainee program, aiming to go back to Japan or continue education to higher education. The rate of seeking for job is 22.7%, lower than that of Indonesia, and not too high if compared to other countries. The challenges of RTTs that are looking for jobs in Vietnam will be discussed in later of this part.

Figure 156. Technical intern trainees’ working situation after returning to home country in 2019 (%)

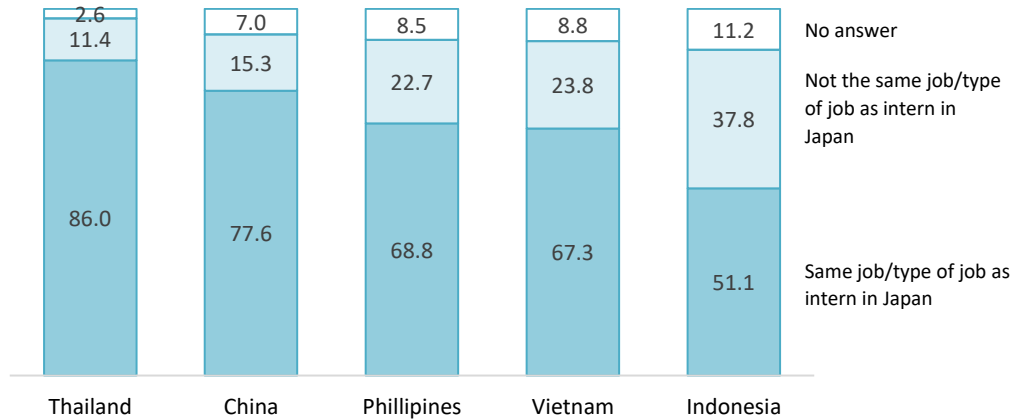


*: Others include Continue Technical Trainee program; Going on to higher education; Go back to Japan; No answer

Source: Organization for Technical Intern Training

Furthermore, comparing with other countries, the proportion of Vietnamese returned technical trainees who do the same job/type of work as they did in Japan is lower. Many utilize their Japanese skills and trainee experience in jobs such as sales, labor export consulting, language teaching, or open their own small business from accumulated savings. To certain extent, this could be considered as a waste of human resource experience because one original purpose of TT program of transferring skills could not be met.

Figure 157. Technical intern trainees' job content after returning to home country in 2019

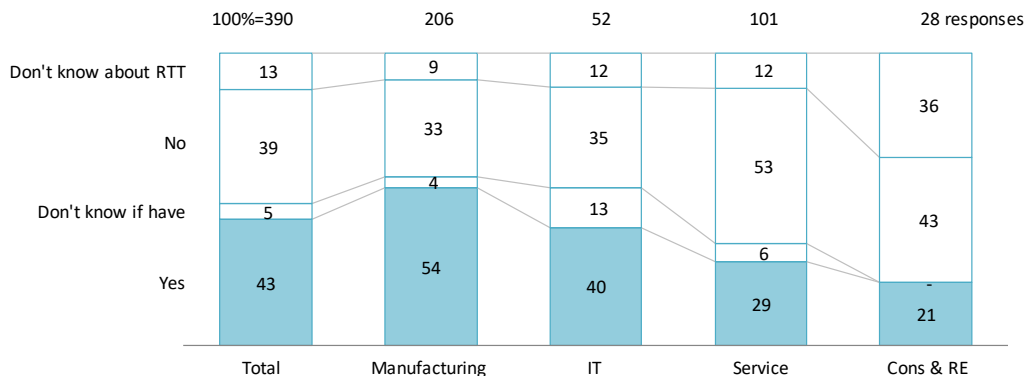


Source: Organization for Technical Intern Training

At present, Japanese companies in Vietnam are well aware of RTTs but don't have strong will to recruit

Among 390 Japanese enterprises responded to this survey, less than half are recruiting RTTs.

Figure 158. Companies' RTT recruitment (2021)



Note: The number of agricultural companies in this survey is 3, not big enough and is removed from analysis

Manufacturing is the major employer of returned trainees. More than half have some employees who are RTTs. This is partly because nearly 40% of Vietnamese RTTs come to Japan for a job in machinery or manufacturing field. Some Japanese manufacturers in Vietnam also reported that they recruit RTTs regardless of their experience in Japan, provided that the trainees worked in a Japanese factory, they then will receive on-the-job trainings.

The 2nd and 3rd are Japanese IT and Service sector, in which 40% and 29% respectively, have recruited RTTs. According to some Japanese IT companies, they recruit RTTs who have high Japanese capability for jobs that utilize the trainees' Japanese language skills and culture understanding, such as translator, interpreter/communicator between Vietnamese companies and Japanese side... Returned trainees lack

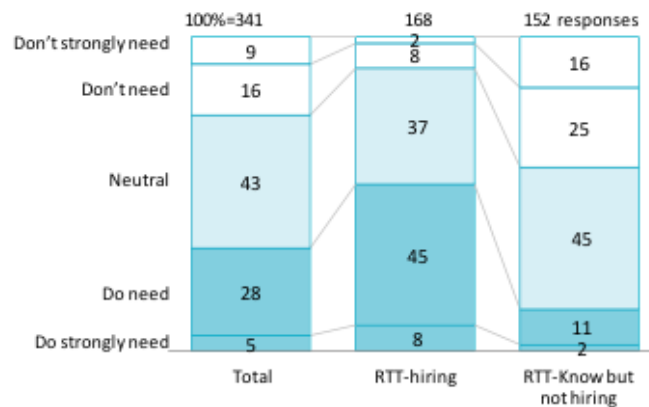
industrial skills and knowledge, but some who are willing to study and pass internal exams would be able to be recruited for positions such as engineer, IT tester and programmer.

While construction has the biggest number of trainees coming to Japan to work, a large portion of constructions and real estate companies, nearly 80% surveyed companies do not know or do not have RTTs working in their organizations. This may indicate the lack of information channels regarding returned trainee in Vietnam to approach potential employers.

In the next 5 years, demand seems to increase but only slightly

One third of surveyed Japanese enterprises shows definite demand of recruiting RTTs in the next 5 years, in which 5% responded as “do strongly need” and 28% “do need”. However, a large proportion of 43% has neutral demand. Most demand derive from companies that already recruited RTTs in their organization.

Figure 159. Japanese enterprises' demand for recruiting RTTs in next 5 years (2021)



About 10% of companies that have RTTs in their organization will not have demand to recruit RTTs in next 5 years. Meanwhile, more than 10% of those that are not recruiting RTTs “do need” or “do strongly need” RTTs. Among enterprises that are recruiting RTTs, small-size ones have slightly higher demand than medium and large-size companies. This could be because they are smaller in size and desire employees with multi-skills, language and work skills that a RTT can offer.

Those in the Central show highest demand of recruiting RTTs. “People who can use Japanese fluently in Da Nang are rare. RTT's Japanese ability is slightly better than that of domestic personnel for the same position,” explained by a garment trading company in Da Nang, major city in Central region, regarding the reason to recruit the RTTs for interpretation and order tracking position.

Among enterprises that are not hiring RTTs, a slightly bigger proportion of demand comes from manufacturing, construction & RE and IT sectors than from service sector. Furthermore, Japanese SMEs and companies in the Central also indicate stronger demand for recruiting RTTs in the future.

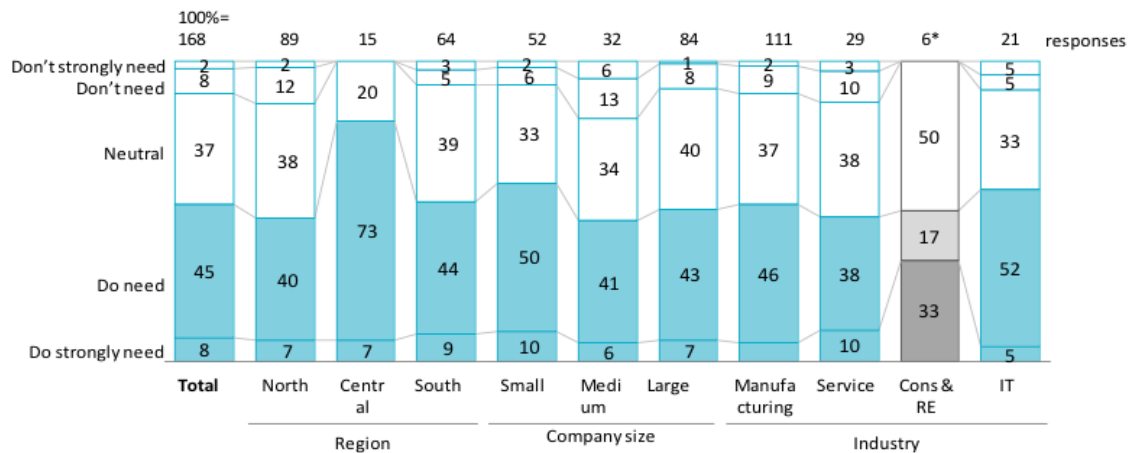
Vietnamese returned trainees are favored mainly by Japanese language proficiency, Japanese working culture understanding and their practical working experience in Japan

Japanese language skills, especially direct communication is highly appreciated. With this advantage, RTTs can work in less manual jobs comparing with other local workers, such as support communication with Japanese client, or assisting Japanese managers.

“RTTs have good language skills (N2 and above), especially listening and speaking skills” - IT, Northern company

“RTTs can communicate in Japanese directly with Japanese managers, so they are assigned more machine-related work, different from other local ones who do more manual work,” - Paper manufacturer, Southern company

Figure 160. Demand for recruiting RTTs in next 5 years (2021)



*: Sample size is small, thus data is for reference only

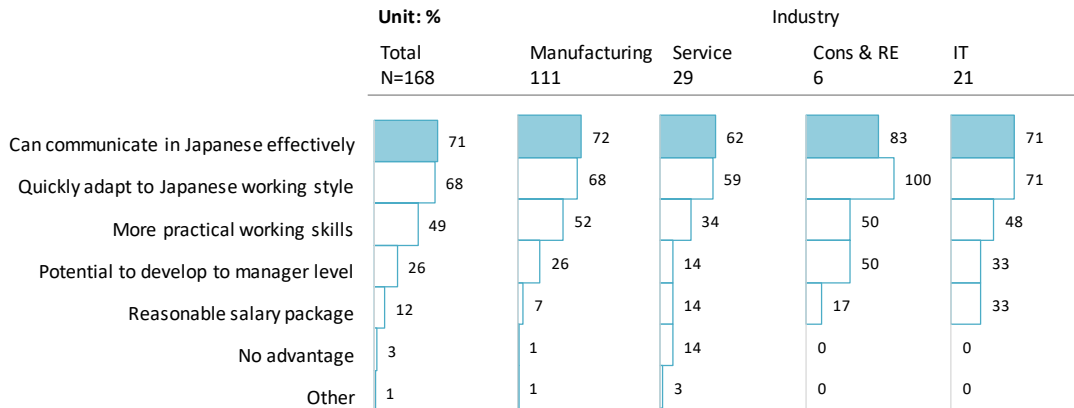
Familiarity with Japanese working style and culture also helps gain points for returned trainees. Previous work experience in factories in Japan enable RTTs to adapt quickly and showcase capability to report in the Japanese way, and satisfy employers with their time discipline.

“RTTs are familiar with the working culture of Japanese businesses and can communicate with Japanese customers,” - IT, Central company

“RTT employees are used to the Japanese working style, have an understanding in time discipline and report rules inside a Japanese company,” - Automotive, Northern company

The third place of top 3 advantages is practical working experience in Japan. Japanese companies generally expect to recruit trainees with similar working field, and in some ideal cases received RTTs who had worked in the head quarter factory in Japan. However, even in less ideal cases, Japanese employers also appreciate knowledge about working processes learned in Japan of the trainees.

Figure 161. Advantages of using RTTs in Japanese enterprises (2021)

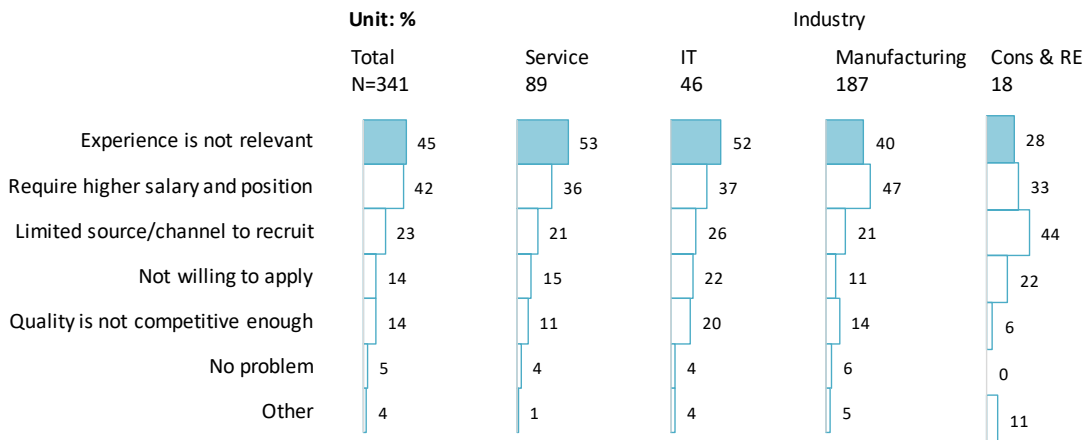


c. Key challenges and remaining issues of RTT

From mass survey result with 341 Japanese enterprises, and in-depth conversation with more than 40 recruiters, two major barriers that hinder Japanese companies from recruiting RTTs are ‘trainees’ irrelevant work experience’ and ‘their expectation of high salary and position’. Lack of information on recruitment sources and channels to recruit returned trainees is also one prominent issue.

Irrelevant work experience is one of the main barriers

Figure 162. Barriers, difficulties or issues in using RTTs in Japanese enterprises (2021)



On the one hand, RTTs’ experience in Japan mainly related to fields that require much manual and hard work in construction, machinery, agriculture fields, etc. When returning to Viet Nam, some RTTs expect to work in less manual work and high salary, in industries such as service and IT. However, aside from Japanese language skills, their past work experience does not add much value.

“RTTs work in different industries other than IT, so their background knowledge is not as strong as Vietnamese personnel,” - HR Dept, IT, Northern company

“RTTs do not have skills used in service industry (debating, communicating, handling difficult situations skills, etc.” - HR Dept, Service, Southern company

From some sharing of enterprises, the trainees usually only have high-school degree, or just secondary school degree in some cases, so their computer skill is limited. Therefore, the trainees could be soon rejected at hiring stage, give up after certain working period, or they have to study additional skills to catch up with other working peers.

On the other hand, even if the RTTs worked in manufacturing field in Japan, then return to work for a manufacturing company in Viet Nam, in many cases, their skills are not transferrable. Many Japanese enterprises explained that the trainees' scope of work in Japan can be very simple and limited, such as they only experienced a specific machine which may not be used in Viet Nam. This makes RTTs having no advantage than other candidates.

Mismatching of expectation about salary and position

47%, nearly half of manufacturing companies consider this a major barrier. Returning from Japan where average monthly income of technical intern trainees is around 1,000 – 1,500 USD, about 3 – 4 times higher than average earnings of entry level job in Viet Nam, RTTs often expect high salary which companies could only afford for management level. However, the returned trainees, with limited scope of work and duration in Japan, cannot satisfied the management skills and ability.

"RTTs do not have management ability because they have no management experience in Japan," - Metal manufacturing, Southern company

Thus, RTTs are only treated as the elementary workers with salary lower than their expectation. This results in their low dedication to work. Some employers are discouraged when the recruited RTT, because the salary did not meet their personal needs, quitted after short period of time to return to Japan to work.

Lack of effective recruitment channel and support for RTT who wants to find jobs in Vietnam

Limited source/channel is emphasized by 23%, nearly one fourth of Japanese recruiters, and by 44%, nearly half of construction and real estate companies. This comment is not a rare case. In interviews with Japanese enterprises, it is revealed that Japanese companies do not know any recruitment sources of RTTs, but mostly hire them by chance once these RTTs apply same as other regular workers and employees, or as being introduced by head quarter/partner companies.

"I want to hire more RTTs (in addition to the current 7 people) but I do not know how and where to find information about them" - Manufacturing, Southern company

The working capabilities of return trainees haven't been good enough to satisfy employers

Japanese seems to be the key differentiator of returned trainees from other workers; however, some Japanese enterprises reported that they do not need employees with Japanese skills because the company, even Japanese managers, use English and Vietnamese, not Japanese at work. For positions that require Japanese, the trainees' language skills, in many cases, are not good enough. RTT program entry level only requires JLPT N5, N4, but for Japanese language skill to be usable at work, even internally, many Japanese employers would require N3, N2 level.

According to a labor supply company that has had direct conversation with thousands of RTTs, many intern trainees said that they face difficulties to find a job in Viet Nam due to lack of soft skills. Therefore, this company is developing an online learning program that RTTs can study while working in Japan, includes modules teaching office computer skills, Japanese business skills, teaching and evaluating management skills in the future. This also indicates that the RTTs themselves are aware of the quality gap to the position and salary they desire when returning to work in Viet Nam.

Mismatch of skills qualifications

There is a mismatch of skills recognition for the returned technical trainees when they enter Vietnam system. The certificates of traineeship completion, following Japanese system of Ginou Kentei are not equivalent to evaluation of skill standard in Viet Nam, thus the RTTs are considered as skilled workforce but lack of vocational certificates. Further will be discussed in Chapter 6.

c. External supporting factors & policy

Although TIT program has a long history, the authorities in Vietnam are still sorting out solutions and are on the way to create supporting policies to help returned trainees to better integrate to the labor market.

In terms of management system, information of returned workers from Japanese market is recorded and managed by the Department of Overseas Labour (DOLAB) of MOLISA. Circular 20/2021/TT-BLĐTBXH regulates the main principle of database and information system about Vietnamese workers working abroad under contracts, the data is operated and managed by MOLISA through the “Local Government Service Platform” (LGSP), having some integration between ministry level and local authority level. But there is no article specify data of those workers when return to Vietnam.

Recently, according to DOLAB, this agency is cooperating with JICA to conduct a project supporting to connect job information for technical intern trainees who worked abroad under contract. The project will provide the returned workers the access to vacant jobs and recruitment information from enterprises. However, it mainly focuses on the matching between job seekers and recruitment agencies (labor dispatching service enterprises with the information of overseas job) in pre-departure phase. There has not been any clear support from government for the group of RTTs when returning to Vietnam.

In conclusion, every year, thousands of technical intern trainees return to Viet Nam from Japan, potentially contribute as prospective skilled workforce to Viet Nam. However, there are still many barriers, challenges to integrate RTTs to the overall workforce, requiring JICA and related organizations to design effective and relevant support activities.

5.2.3 Situation of Japanese Language training

a. Background of Japanese language training

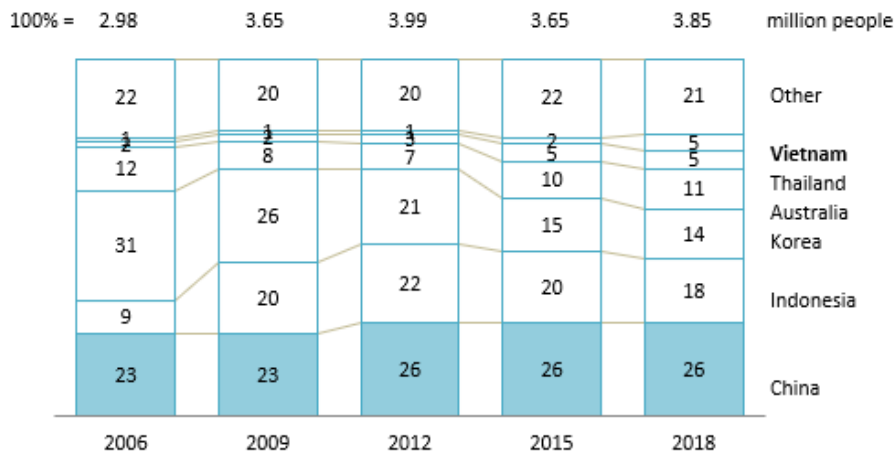
Japanese is among major secondary languages studied in Viet Nam. According to the latest adjusted General Education Program issued in August 2021 by MOET, Japanese is chosen as one of the five foreign languages that have become compulsory foreign language subjects for students from Grade 3 to Grade 12, together with English, Russian, French and Chinese ²¹².

Compared to other countries, Vietnam has been growing consistently in terms of Japanese learners, teachers and training institutions. Especially during the period 2015-2018, Vietnam is the country with highest increased rate in the world across all three categories: number of learners, teachers and training institutions. This was resulted from the strengthened relationship between the two countries since forming "an extensive strategic partnership for peace and prosperity in Asia" in 2014. Additionally, technical internship has become a growing trend since 2014, attracting many Vietnamese to go labor exporting to Japan (As discussed in Part 5.2.2 about technical returned trainees).

- Regarding learners

Throughout the period from 2006 to 2018, the number of Japanese language learners in Vietnam had increased by 5.8 times, from 30,000 learners in 2006 to more than 174,000 learners in 2018. Compared with other countries, in 2018, Vietnam ranked 6th in the world in terms of number of Japanese learners and ranked 3rd among Southeast Asia countries (after Indonesia and Thailand).

Figure 163. Japanese learners by countries other than Japan (2006 - 2018)



Source: Japan Foundation²¹³

Among the number of learners in 2018, approximately 31,200 are university students, 26,200 are high school and secondary school students, 2,000 are primary school students, and 115,000 are from language

212 Circular 19/2021/TT-BGDĐT - <https://moet.gov.vn/tintuc/Pages/tin-tong-hop.aspx?ItemID=7461>.

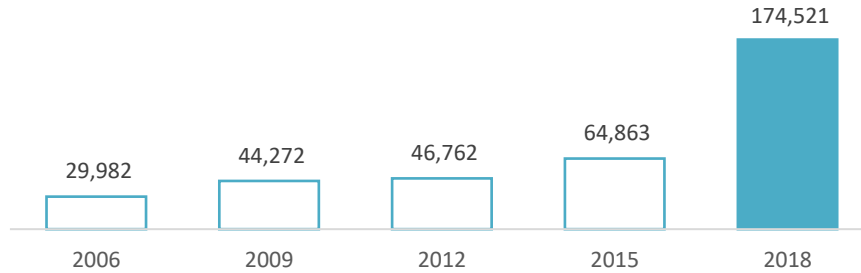
Foreign language 1 is a compulsory subject taught from grade 3 to grade 12. Foreign language 2 is an optional subject, which can be taught from grade 6 to grade 12.

213 <https://www.jp.f.go.jp/e/project/japanese/survey/result/index.html>

training centers²¹⁴. The greatest rate of increase was seen in non-academic institutions (language training centers), which accounts for approximately two-thirds of the number of learners in Vietnam. This might be due to people's expectation to find jobs in Japan or to go to Japan in the form of technical internship, or to gain employment at Japanese companies in Vietnam.

Figure 164. Number of Japanese language learners in Vietnam (2006-2018)

(Unit: people)

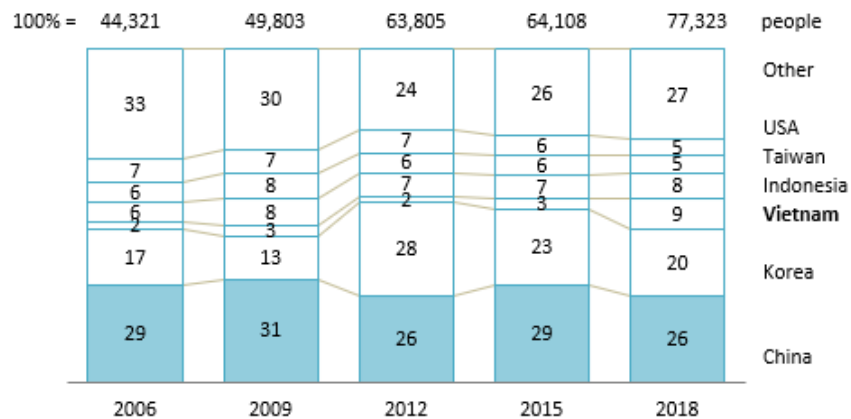


Source: Japan Foundation²¹⁵

- Regarding teachers

Throughout the period 2006-2018, the number of Japanese language teachers in Vietnam had increased by 6.7 times. In 2018, among the top-ranked countries for number of teachers, Vietnam, with about 7,000 teachers, has risen to 3rd place in the world and ranked 1st among Southeast Asia countries.

Figure 165. Japanese teachers by countries other than Japan (2006 - 2018)²¹⁶



Source: Japan Foundation

²¹⁴ The number of learners attending language training centers can also contain students at different educational stages (from primary to higher education). Therefore, the number recorded in this segment can appear larger than the actual situation

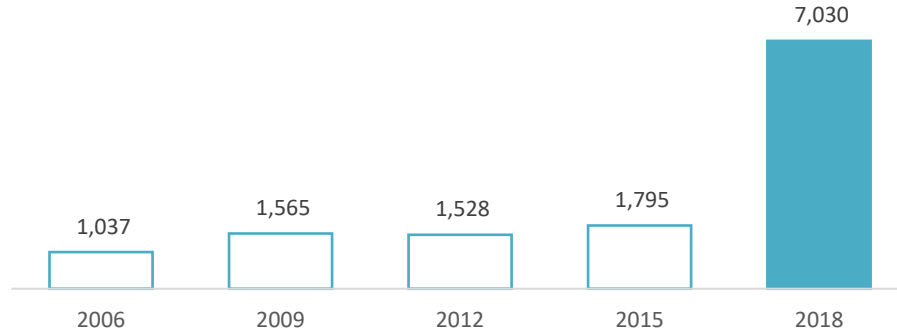
²¹⁵ https://www.ipf.go.jp/i/project/japanese/survey/result/dl/survey2018/Report_all_e.pdf

²¹⁶ In many cases, the teachers work concurrently in multiple institutions (for example, teachers in general education/ higher education can also teach at other private institutions, etc.), so there is a tendency for the number of teachers to appear as numbers larger than the actual

Especially in three years from 2015 to 2018, the number of Japanese language teachers in Vietnam increased by almost 4 times. These statistics have demonstrated the effort of Vietnamese education to meet the growing demand in Japanese learning.

Figure 166. Number of Japanese language teachers in Vietnam (2006-2018)

(Unit: people)

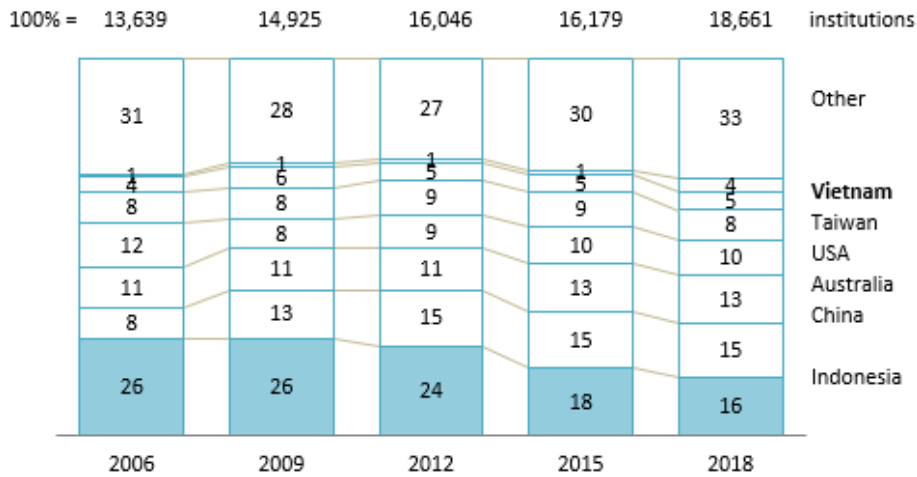


Source: Japan Foundation

- Regarding training institutions

In 2018, Vietnam with about 800 Japanese institutions ranked the 7th country in the world, and 2nd among Southeast Asia countries, only after Indonesia.

Figure 167. Japanese training institutions by countries other than Japan (2006 - 2018)

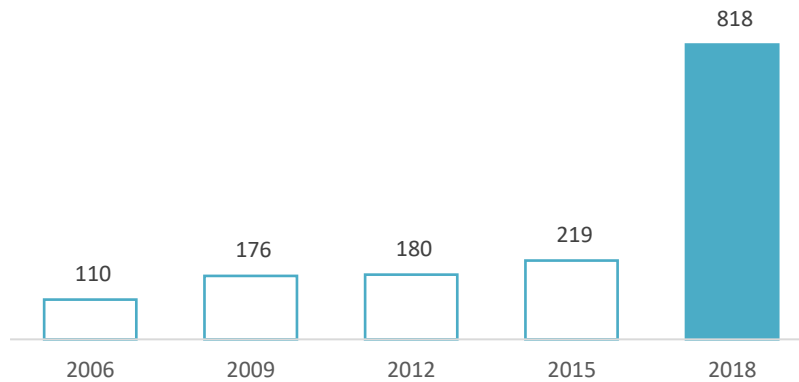


Source: Japan Foundation

The number of Japanese training institutions in Vietnam had risen strongly from over 100 institutions in 2006 to about 800 institutions in 2018. The largest increase was seen during the period 2015-2018, where the number grew by 3.7 times. The increasing trend in training institutions aligns with the upward trend of number of learners, and aims to serve the goal of training labor to meet the increasing demand of Japanese enterprises.

Figure 168. Number of Japanese language training institutions in Vietnam (2006-2018)

(Unit: institutions)



Source: Japan Foundation

b. Types of Japanese language training institutions

Japanese language training institutions in Vietnam could be classified as (1) in-school training within educational system of Vietnam (primary, secondary and higher education), and (2) private language training centers (non-academic institutions).

According to Japan Foundation report 2018, out of 818 Japanese language training institutions in Vietnam, there are 20 institutions in primary education, 104 in secondary education, 85 in higher education and 617 in non-academic institutions ²¹⁷.

Recently, the bureaus of education and training are actively promoting Japanese language education for in-school training activities. Regarding HE sector, since 2007, Japanese was included as one of the foreign languages for high school graduation exam and university entrance exam ²¹⁸. Regarding TVET sector, studying Japanese major at a college is becoming more favored than in university due to its time and cost saving factor. Specifically, obtaining a vocational college degree will only take 3 years, one year less than acquiring a bachelor's degree. In addition, students have higher chance of labor export because they have additional vocational skills such as nursing, IT, mechanical, thus meeting the demand of Japanese companies.

217 Cat- Primary education: refers to institutions equivalent to elementary schools

- Secondary education: includes middle schools (lower secondary) and high schools (upper secondary)

- Higher education: refers to institutions equivalent to junior colleges, technical colleges, universities, and graduate schools

- Non-school education: includes private language schools, lifelong educational institutions run by public institutions, language courses run by higher educational institutions for the general public, etc.

218 <https://clef.vn/vi/goc-giao-duc/giao-duc-tieng-nhat-o-bac-pho-thong-tai-viet-nam-nhung-dau-moc-quan-trong-duoc-nhin-lai-qua-dien-dan-giao-vien-tieng-nhat-pho-thong-viet-nam-lan-thu-nhat-jltf-2021.html>

Figure 169. List of some HEs with Japanese degree program

No	University	Type	Location
1	Hanoi University	Public	Hanoi
2	University of Languages and International Studies, Vietnam National University	Public	Hanoi
3	Vietnam Japan University, Vietnam National University	Public	Hanoi
4	Phuong Dong University	Private	Hanoi
5	Thang Long University	Private	Hanoi
6	School of International Studies, Vietnam National University	Public	Hanoi
7	Foreign Trade University	Public	Hanoi
8	FPT University	Private	Hanoi
9	Ha Noi University of Science and Technology	Public	Hanoi
10	Da Lat University	Public	Lam Dong
11	Ho Chi Minh City University of Education	Public	HCMC
12	Ho Chi Minh City University of Foreign Languages and Information Technology	Private	HCMC
13	University of Social Sciences and Humanities, Vietnam National University in HCM	Public	HCMC
14	Ho Chi Minh City Open University	Public	HCMC
15	Hong Bang International University	Private	HCMC
16	Van Hien University	Private	HCMC
17	Ho Chi Minh City University of Technology	Private	HCMC
18	Ho Chi Minh City University of Economics and Finance	Private	HCMC
19	University of Foreign Language Studies, Da Nang University	Public	Da Nang
20	University of Foreign Language Studies, Hue University	Public	Hue

Figure 170. List of some TVETIs with Japanese degree program

No	TVET institutions	Type	Location
1	Vietnam College of Foreign Languages and Technology	Public	Hanoi
2	Vietnam College of Science and Technology	Public	Hanoi
3	Hanoi Polytechnic College	Public	Hanoi
4	Hanoi Foreign Languages and Technology College	Public	Hanoi
5	Hanoi College of Industry and Trade	Private	Hanoi
6	Hanoi International College – Vietnam	Private	Hanoi
7	Hanoi Vocational College of High Technology	Public	Hanoi
8	Viet Nhat College of Language and Technology	Private	Bac Ninh
9	American Polytechnic College	Private	HCMC
10	Ho Chi Minh City Institute of Applied Science and Technology	Private	HCMC
11	Dai Viet Sai Gon College	Private	HCMC
12	Thu Duc College of Technology	Public	HCMC
13	Bach Khoa Saigon College	Private	HCMC
14	Sai Gon International College	Private	HCMC
15	Van Lang Saigon College	Private	HCMC
16	Dong Nai College of High Technology	Private	Dong Nai
17	Ba Ria-Vung Tau Teacher Training College	Public	Ba Ria-Vung Tau
18	Dai Viet Da Nang College	Private	Da Nang
19	Central Medical Technology College	Public	Da Nang

Source: Research team's synthesis (there is no official source listing the number of universities offering Japanese language degree program)

As for Language training centers, it's recorded that the most popular purpose of training courses among language training centers is for Japanese Language Proficiency Test (JLPT) preparation. Most courses are taught in basic and intermediate levels (equivalent to N3, N4, N5 levels) as the demand is higher compared to advanced courses. Besides, the training centers also offer other training courses such as Elementary Japanese Communication courses and Japanese translation/ interpretation training courses. On the one hand, the teaching centers attract freely registered students. On the other hand, they also get Japanese teaching orders from enterprises and schools.

Through the hearing from Japanese language teaching centers, it's recorded that when the training centers receive Japanese language teaching order from Japanese enterprises, they will dispatch teachers to teach on-site at the company, or companies' employees will be sponsored to study at the training centers. In terms of industry sectors, it's shared that companies in manufacturing and IT industries have highest training demand for their staffs because of a large number of Japanese manufacturers in Viet Nam. Besides, in recent years, Viet Nam has become a major partner to Japan in software and IT

outsourcing service. Therefore, there is a high demand for companies in those 2 sectors to equip and improve their employees and workers' Japanese language capability. Apart from Japanese language, Japanese working mindset and culture are also introduced. The training purposes are varied, depending on specific needs of the company, such as to prepare employees for work relocation in head quarter in Japan, or to improve Japanese communication at work for employees.

In case of cooperation with schools, the language training centers also have several approaches. For example, Duy Tan University's Foreign Language Center has cooperated with a training center on utilizing the language curriculum developed by the center to teach its students. Some language centers also dispatch teachers to several universities/ colleges (Bach Viet College, University of Economics-Finance) and high schools (Nguyen Khuyen High school, Nguyen Thuong Hien High school, Tran Phu high school) or open language classes at schools (Van Lang University, Hanoi University of Science & Technology).

In general, Japanese training in the future will attract younger demographics, the number of learners may increase slowly after Covid, and even though online class has been implemented widely in the pandemic, in-class training is still considered a more preferred teaching method, according to training centers representatives.

Japanese training will start to expand to younger demographics, possibly children at an early age as some parents would want their children to be exposed to Japanese as early as possible. The number of learners at training centers are expected to grow slowly at 5-10% after Covid-19 ends, but it would need to take longer for number of learners to grow back to the previous rate in 2015-2019 ²¹⁹.

Because of the Covid pandemic, language training centers have to transform their teaching method from offline to online teaching. This has found to be a convenient method for people with full-time job, significantly reducing commuting time. However, some training centers still think that in-class teaching is a more preferred method, as online teaching is not as effective due to some reasons such as poor Internet connection, student's lack of focus, lack of interactions in classes. It is predicted that hybrid training (combining both online and offline training methods) will be utilized more often to leverage the benefits of both training methods.

Regarding the training content, Kaiwa courses (basic communication courses) for adults is on the rise and will become increasingly popular, even though the number of classes may not be as significant as JLPT training courses. A good example of the language center that is well-known for this Kaiwa training courses is Kohi Vietnam and Riki Online Japanese centers ²²⁰. Beside online and offline training classes, they both offer pocket-sized training courses (through apps, online videos) that can support people with full-time job in learning Japanese by just spending 15 minutes per day. It is a more convenient method and can be utilized anywhere, without having to go to a proper class.

219 Taken from short telephone interviews with Japanese language centers in Ha Noi and Ho Chi Minh city

220 <https://kohi.vn/intro/courses>; <https://riki.edu.vn/online/nhom-khoa-hoc/khoa-hoc-kaiwa>

c. Barriers regarding Japanese language training

Shortage in high quality teaching resources and Temporary restrictions on labor export are among the key barriers regarding Japanese language training situation

With the recent introduction of Japanese language as compulsory foreign language subject in general education, to meet the requirements of Foreign Language 1 subject, one of the key issues that schools need to focus on is ensuring the teaching resources, including number of teachers, teacher capabilities, and adequate human resources training ²²¹.

The demand for learning Japanese in Vietnam has grown rapidly, and along with that, the purpose/motivation for learning Japanese is also quite diverse. Therefore, apart from increase in quantity, it is even more important to improve the quality in teaching to meet the growing demand in Japanese learners. According to the Japan Foundation, the number of institutions for training Japanese language teachers in Vietnam is still limited, leading to a shortage of high teaching quality human resources. The majority of current Japanese language teaching human resources became teachers mainly due to their Japanese language ability, but lack of teaching skill. Therefore, in order to promote Japanese language training in Vietnam, in 2019, the Japan Foundation has opened a training class to provide basic knowledge on teaching methods for Japanese teachers with less than 3 years of experience or those who intend to become Japanese teachers ²²². In addition, there has been effort to invite expat teachers from Japan to come to Vietnam. In particular, the Japan Foundation has launched a programme to send about 3,000 Japanese teachers to Southeast Asian countries from 2014-2020 ²²³.

Due to recent Covid-19 pandemic, the Japanese government has temporarily prohibited all foreign trainees and workers from entering Japan. The government still allows re-entry for those who are returning workers, but the number is very limited. This has been a temporary barrier for Vietnamese labors to go to Japan, created the delay of entry time and workers have to continue waiting. Despite the temporary suspension of entry, labor supply companies in Vietnam are having some measures to maintain the demand for mass recruitment of Vietnamese workers, who will be ready to come to Japan when the Japanese government allows foreign entry again ²²⁴. Workers are encouraged to utilize the waiting time to improve their language skill, working capabilities to be able to meet all job requirements from the employers as soon as they are allowed to enter Japan.

221 <https://clef.vn/vi/goc-giao-duc/giao-duc-tieng-nhat-o-bac-pho-thong-tai-viet-nam-nhung-dau-moc-quan-trong-duoc-nhin-lai-qua-dien-dan-giao-vien-tieng-nhat-pho-thong-viet-nam-lan-thu-nhat-jltf-2021.html>

222 <https://toquoc.vn/trung-tam-giao-luu-van-hoa-nhat-ban-tai-viet-nam-mo-lop-hoc-danh-cho-cac-giao-vien-tieng-nhat-20190417145259912.htm>

223 <https://en.vietnamplus.vn/nearly-90000-people-learn-japanese-in-vietnam/133706.vnp>

224 <https://thanhnien.vn/hut-hang-khi-xuat-khau-lao-dong-sang-nhat-ban-vua-mo-da-dong-post1407313.html>

CHAPTER 6. FUTURE DIRECTION FOR JICA’S COOPERATION IN HRD SUPPORT TO VIETNAM

JICA’s assistance in industrial human resource to Vietnam has been both deep and broad, covering a number of critical HRD issues in Vietnam. In order to recommend for JICA’s positioning of HRD support in the next long-term period, it is necessary to screen through broad opportunities from (6.1.1) recognizing priorities to develop HE-TVET to meet the demand for HRD development of Vietnam; (6.1.2) defining overall JICA’s approach on HRD system (6.1.3) target industry consideration – whether and how JICA define priorities by industries; and (6.1.4) reviewing HRD demand characteristics in target provinces.

The above analysis are taken relatively independently because information are often from different angles. Thus, recommendations for JICA on key actions (6.2) are made based on evaluating these priority analysis in parallel. The analysis approach will be discussed more clearly at each part.

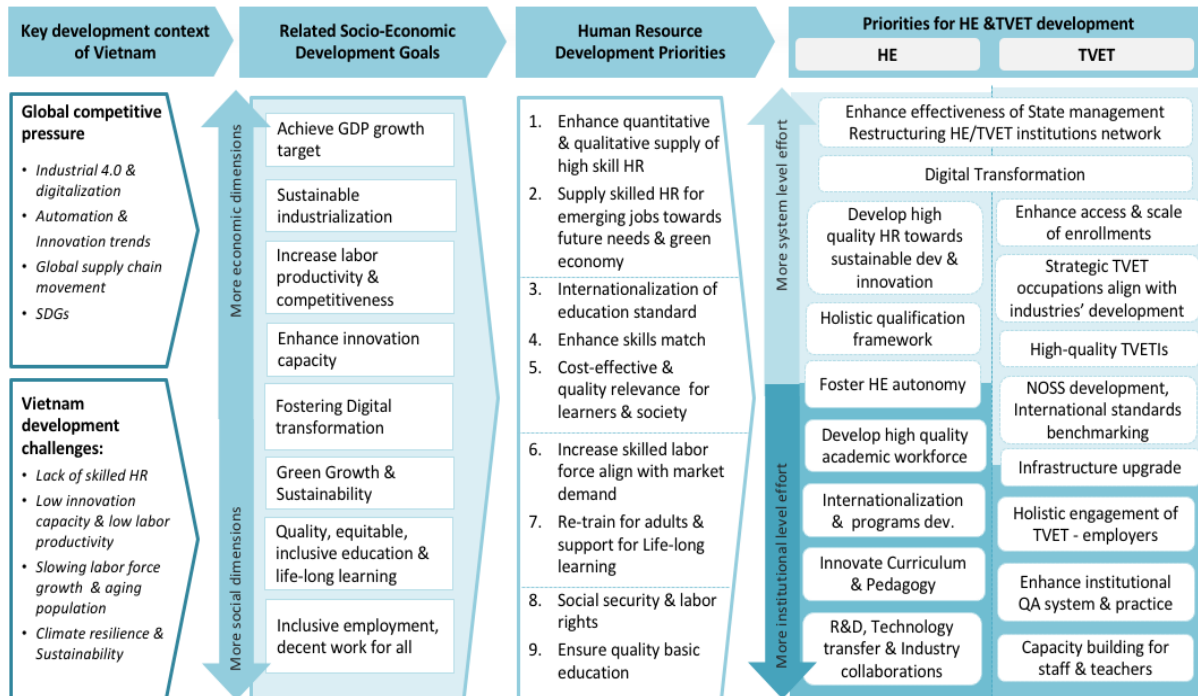
6.1 Broad directions for Japan’s cooperation in human resource development for Vietnam

6.1.1 Mapping of major HRD priorities and HE-TVET development challenges for future cooperation

Grasping main findings from the broad review of global trends, master plans and policy frameworks towards the next decade, issues of existing human resource supply and strategies of donors stakeholders in the aforementioned parts, the below framework is created to map the most important issues for human resource development in Vietnam.

This framework also presents broad opportunities for JICA to expand the support to the widely perceived priorities of HRD in Vietnam, as well as maps the main development level themes in HE – TVET system for JICA’s cooperation support in the future.

Figure 171. Mapping of IHRD priorities issues & HE-TVET main development issues for support



Source: developed by the research team

Interconnected themes of socioeconomic development goals

The complex pressures have been reflected in recent important development strategies and plan issued by the Vietnam Government for the next 10-year period. From various plan and policy documents, the research team consolidate and present the key interconnected aspects of socio-economic development goals that related to HRD in Vietnam, including:

- Achieving GDP growth target in order to maintain the economic growth and resources to fuel all development progress; HRD development should contribute to the growth plan identified in socio-economic development strategies of the country;
- Sustainable industrialization means fostering Vietnam's development towards a modern industrialized country need to go together with attaining sustainable development goals;
- Enhancing national innovation capacity to augment the country's competitiveness in globalization context and to generate strong dynamics and resources for sustainable growth;
- Increasing labor productivity & labor competitiveness as a key driven for human resource development strategy for achieving overall socio-economic development goals;
- Fostering digital transformation as a key infrastructure in all sector development in the future decades of industry 4.0, including HRD at both demand and supply side;
- Green growth & sustainability: Green growth is an important content of sustainable development to ensure effective and sustainable economic development and contribute to the implementation of the national strategy on climate change. Green and sustainability development has become an indispensable aspect in all development goals;
- Quality, equitable, inclusive education & life-long learning is one key aspect of global sustainable development goals on quality education, which ensure the strong ground for the future labor force development, especially in future pressure of fast aging population;
- Inclusive employment, decent work for all is one of global sustainable development goal that directly related to HRD;

The above goals should be considered as a basis to understand and evaluate the cooperation values of Japan's development assistance in HRD to Vietnam's development.

Human Resource Development priorities

Understanding key aspects the socioeconomic development goals as well as recognizing key development challenges, nine areas of priority for HRD in Vietnam could be determined as follow:

- (i) Enhance supply of high-quality human resources
- (ii) Supply skilled HR for emerging jobs towards future economy and green development trends;
- (iii) Improve education quality towards international standard;
- (iv) Enhance skills match between supply and demand;
- (v) Cost-effective & quality relevance for learners;

- (vi) Increase quality and scale of skilled labor force align with market demand, and demand for industrialization
- (vii) Re-train for adults & support for Life-long learning
- (viii) Social security & labor rights
- (ix) Ensure quality basic education

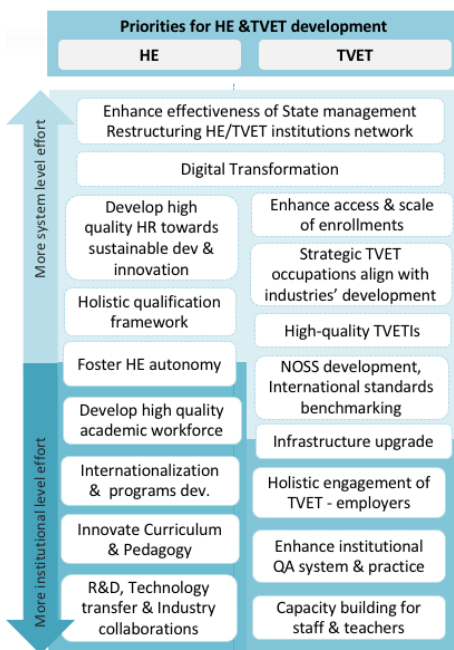
These HRD priorities will be the main references to design purpose of HRD support program, either towards HE or TVET system, or other extended HRD aspects.

Key themes for development of HE and TVET in Vietnam

The main issues and directions for strategic development of HE and TVET system are recognized based on demand of priority mission of human resource development, for responding to requirement of socioeconomic development goals, and considering the key development challenges of HE and TVET system. The HE/TVET system challenges are grasped from Chapter 2, combining with key findings of chapter 3 about enterprises' demand and skill gaps.

The main development themes for HE or TVET system are relatively grouped as system level issues or institution level issues. This grouping effort is to help JICA to recognize a development theme in HE/TVET should be approached at system level or at institutional level, in order to design assistance projects and select partners.

Firstly, there are common development themes of both HE and TVET system, including: enhancing effectiveness of State management, restructuring institutions network, digital transformation in learning, teaching and management of the system.



Lacking of holistic qualification framework, HE autonomy are key priorities need efforts at system level of HE, while other important issues including developing high quality academic workforce, Internationalization & programs development; innovating curriculum & pedagogy; R&D, Technology transfer and HE- Industry collaborations would be consider more at institution-level efforts.

The TVET system management is more centralized, thus we can recognize more system-level challenges, including enhancing access & scale of student enrollments to meet with the demand scale of trained workforce, assigning strategic TVET occupations (and thus investment for TVETIs) to align with industries' development, restructuring and development of high-quality TVETIs, national quality framework or national occupation skills standards (NOSS).

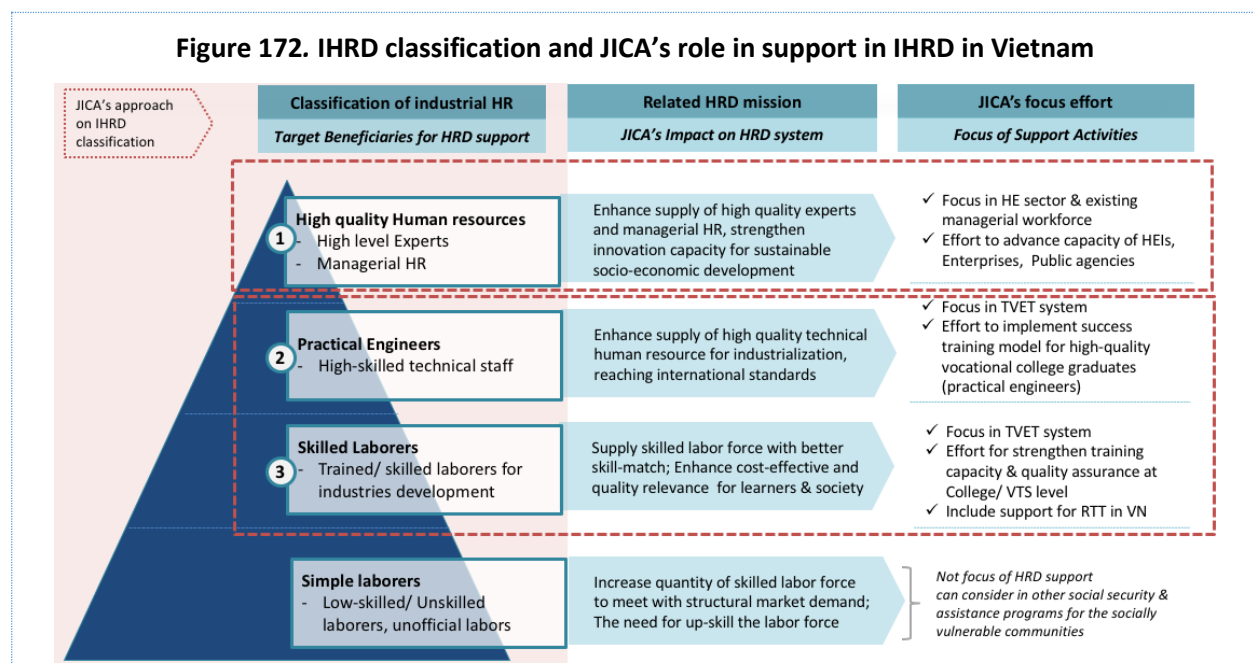
Insufficiency of infrastructure and equipment is one important challenge for public TVETs cases, which is more at system-level decision, while it could be institutional level issue for non-public TVETs. Holistic engagement of TVET with enterprises, enhancing institutional quality assurance system & practice and raising capacity for TVET teachers and management staff should be considered more as challenges at TVET institution level.

6.1.2 IHRD Classification and define JICA's role in HRD support for Vietnam

As human resource development is broad, one important first step when defining donor strategy is clarifying the approach and focus scope of HRD assistance. Currently, from other donors situation, mostly HRD assistance is associated with support for the education system with focus on HE/ tertiary education or TVET, which means HRD support is perceived more as effort invested on HR supply side. Major donors also approach HRD broadly as human development, considering human development as a comprehensive theme with various interrelated aspects such as healthcare, social welfare, general education, vocational & tertiary education etc. Skill development or up-skilling the labor force is also another common understanding perspective of HRD assistance.

As there is no common definition of HRD among various stakeholders, JICA has been developing its own way of defining HRD classification to direct its strategic assistance on HRD for Vietnam. Though it is not necessary to try clarifying meaning of terminologies, it is important to align the main components of JICA's approach on IHRD with main concepts and development themes used in Vietnam's policy documents to avoid ambiguous understanding in designing programs or in collaborating with Vietnam counterparts.

From discussions with JICA and reviewing overall past JICA's projects, the below diagram is consolidated with the effort to define JICA's way to classify groups of target beneficiaries for HRD's projects, and then explain how it matches with (i) human resource development priorities in Vietnam and (ii) common classification of HRD system, including HE, TVET and the laborers in the market.



Source: Research team developed from discussions with JICA & related documents

Therefore, this framework (figure 172) also explains JICA's strategic role in support human resource development priorities of Vietnam in the future decade.

① “High quality human resource” is one group of target beneficiaries in JICA's HRD projects; this group can include experts, highly educated professionals, or managerial HR who are leaders and middle-level to high-level managers at enterprises or public organizations. The mission to develop “High quality human resource” can be understood as the efforts to develop the HE system in Vietnam, or to build capacity for managerial or professional HR groups in enterprises or public administration organizations. JICA's focus efforts for this target group is well matched with the HRD solutions in SEDS 2021 - 2030, which is about developing managerial human resource in order to advance human capital and innovation capacity for sustainable socio-economic development.

② “Practice Engineers” is not a popular terminology in Vietnam, it is a Japanese way of defining the groups of high-skilled technical staff graduated from Japan's technical college. Therefore, this group is mostly equal to the group of vocational college level graduates in the Vietnam education system. JICA's effort to transfer Japanese-style technical college model directly supports the objective of enhancing the supply of high quality technical human resource for industrialization and sustainable development, one of the HRD priorities for Vietnam. Besides, the implementation of model training “practical engineers” also supports perfectly the developing of high-quality TVET institutions, which is one of the priorities in TVET development strategy period 2021 – 2030.

③ Skilled technician or skilled laborers is one target group for JICA's intervention, this group equally refers to the vocational trained labor force at VTS or VTC level in Vietnam labor system. Therefore, JICA's efforts to support this group are equal to activities to strengthen the TVET system, to build capacity & enhance quality assurance at College or VTS level. Again, this aligns with the HRD objective to develop technical skilled laborers and contributing to the increase in supply quantity of vocational trained laborers, one of the most important targets in SEDS of Vietnam. Support for skilled laborers also help to reduce the skill-gaps between supply and demand, which finally help to enhance the cost-effective and quality relevance for learners & society.

The group of returned technical trainees (RTTs) should be categorized as one special group of skilled laborers and support for RTTs should be considered to be under support actions for group ③, though RTT may not have equal TVET qualifications in Vietnam.

Besides, it is important to note that the group of simple laborers or unskilled laborers is considered not a target group of JICA's main HRD support. Efforts to support this group could be categorized under other support program such as “social security & assistance programs for the socially vulnerable communities” (JCAP 2017: A2-O5-P11).

The above framework of IHRD Classification and JICA's approach set common understanding to discuss JICA's strategy for HRD support in the following parts. The framework also helps to define JICA's role on HRD system for Vietnam, including: (1) develop high quality human resource, (2) to increase the quality supply of high-skilled technical human resource, and (3) increase the scale and quality of skilled labor force with better skill-match; Enhance cost-effective and quality relevance for learners & society. Each of the effort well contributes to the human resource development strategy of Vietnam in the next decade.

6.1.3 Target industries for JICA’s HRD support

a. Background

Through the long history of JICA’s support in HRD for Vietnam, it seems that HRD projects mainly focus on industrial manufacturing, especially mechanics/supporting industry. However, as HRD finally aims to aid for industries’ development, we suggest a review on value of HRD in some potential industries for JICA to consider forming the HRD support strategy towards more impactful support in the future.

By reviewing development trends that influence to Vietnam’s macro development (chapter 1), as well as JICA’s experience in HRD (Chapter 5), the 06 industries are proposed to analyze for this part, including Supporting Industry/Mechanical; Healthcare; Information technology & digitalization; Civil Engineering; Environment/ Green technology; Agriculture.

Basic principles to evaluate opportunities

The five criteria are used to evaluate the relevancy and priority of an industry for HRD support. Each is imply evaluated by three 3 level: Low – Medium – High, rationale to evaluate is as follow:

Criteria to evaluate target industry	Rationale to evaluate
1 Relevance to JICA’s assistance policy	Review the relevance with JICA country assistance policy with Vietnam, most recent is the JCAP 2017. Evaluate if providing human resource support to the industry would contribute directly to IHRD program (A1-O2-P2) ²²⁵ or indirectly contribute to other development objectives stated in the JCAP 2017. And there should have consideration for support at official assistance level (given that private sector actions only are not enough).
2 Value contribution to Vietnam	Evaluate the ability to create impact to Vietnam, whether supporting HRD in the industry could benefit to the country, considering Vietnam development challenges, currently and in the future.
3 Relevance to JICA experience in Vietnam	Evaluate if JICA had much experience or advantage in Vietnam, regarding in HE or TVET sector, in labor market issues or extended HRD aspects, here including potential to support for RTT groups in Vietnam.
4 Potential to support Japanese companies in Vietnam	Basic evaluating whether supporting HRD in the industry would benefit for current or future development of Japanese companies to Vietnam
5 Donor positioning	In case supporting for the industry, whether JICA can have relatively unique value added compared to other bilateral donors & avoid overlap of scope with other donors’ actions.

225 A1-O2-P2 means Focus Areas 1 – Objective 2 – Program 2 in JCAP 2017 (Figure 128)

b. Total Evaluation

The total evaluation upon the above factors are made for the 06 industries as below:

Figure 173. Evaluation of target industries for JICA’s IHRD support

Potential target industries for HRD support focus	(1) Relevance to JICA’s assistance policy (following JCAP 2017)		(2) Value contribution to Vietnam	(3) Relevance to JICA experience in Vietnam			(4) Potential to support Japanese companies in VN	(5) Donor positioning	Total Evaluation of priority
	Directly to IHRD (A1-O2)	HRD aspects of other programs		JICA/Japan had much experience/ advantage in VN?					
			Contribution to socio-economic or Industry dev, market demand	HE	TVET	Labor market/ Others issues	Benefit for current & future development of Japanese businesses in VN	Differentiation/ avoid overlap with other donors	
Mechanical/ Supporting industry	H	L	H	H	H	H	H	M	High
	Directly contribute to IHRD	Generally support to A1	GVC trends; Gov’s direction for Support Industry	VJCC/ Keeijuku programs	Many history projects, incl. KOSEN	Many project support SMEs & Support Industry	Big Japanese business community in VN, potential TIT	GIZ also focus on engineering, for eg. mechatronics	
Environment / Green tech	M	H	H	H	L	L	M	M	Medium – High
	Can be embedded theme for HRD projects	Potential contribute to A1-O3-P3 A2-O4-P6,7,9	Highly contribute to Vietnam; wide applicable to other sector	CTU project VJU project	01 JPP project in Da Nang	Almost no specific project	Currently is unclear; but HR in this sector will be competitive in future	Many donors care, currently GIZ shows focus in green TVET	
IT/ Digitalization	H	H	H	M	L	M	H	L	Medium - High
	Can contribute to almost HRD aspects	Cross-cutting theme, can contribute to almost areas	High priority of digitalization in all HE/TVET, public & industries	Old project with HUT to strengthen IT training program	Almost no specific project	Recent project on cyber security having HRD related aspects	High demand in IT laborers; Potential for Start-up support	DX support will be strong in future, currently GIZ put focus on DX in TVET	
Healthcare	L	M	H	L	L	H	M/H	M	Medium – High
	Not consider as industrial HR	Contribute to A2-O5-P10,11	Human & social care HR is focus demand for HR in SEDS 2021-2030	No specific project	No specific project	TCP project on nursing HR; Good reputation Start-up	Potential to expand business cooperation Potential support to RTT group	USAID is strong (Medical HE & Rehabilitation);	
Civil Engineering	H	M	L	L/M	L	L	M/H	M	Medium
	Directly contribute to IHRD	Potential contribute to A1-O3-P4	Unclear Gov’ emphasis on HRD aspects	JPP projects in Hanoi, Ninh Thuan	Almost no specific project	Strong support on infrastructure but not much related to HRD	Japanese companies in VN; potential support RTT issue	GIZ has some focus on construction mechanics field	
Agriculture	L	M	M	M	L	M	L	M	Low - Medium
	Not really consider as industrial HR	Some potential contribution to A2-O5-P12	Demand for skilled technical laborers & Agri-tech HR	CTU project (limited in Mekong Delta)	Almost no specific project	Recent 1 start-up investment in Aquaculture; Few JPP projects	Too few Japanese companies in VN; limited fit for RTT support	Some donors’ focus: KOICA, IrishAid	

Mechanical/ Supporting industry: is recommended as high priority for JICA. The direction is to maintain & expand impact of existing programs

- ✓ High relevance to JICA’s policy, directly contribute to A1-O2-P2
- ✓ Highly benefit for Vietnam’s development as it align with government’s direction on enhancing supporting industry. Besides, the global value chain movement towards Vietnam will raise demand for high quality HR.
- ✓ Highly related to JICA experience. This is the area that JICA has richest experience in HRD projects, both in TVET sector via many past project, and in HE sector with VJCC’s training program.
- ✓ High potential to support for current and future Japanese enterprises in Vietnam: this industry has the biggest number of Japanese company working in Vietnam, also existing HRD support project such as Keiejuku or KOSEN will met with their demand of capacity building for middle managers and high skilled technicians. Besides, future business expansion of Japanese companies to Vietnam caused by the global value chain shifting will increase demand for both high quality HR and skilled laborers.

- ✓ However, criteria of donor positioning is evaluated at medium level. GIZ is also a leading bilateral donors in TVET sector, currently providing support to TVETIs in field of mechanical

IT & Digitalization industry: is recommended as high priority for JICA. The direction could be to develop new IT/DX focus projects or enhance the IT/DX capacity of existing partners; or potential to invest on new initiatives such as start-up, or labor market information platform

- ✓ High relevance to JICA's policy, can contribute to almost development aspects;
- ✓ Highly benefit for Vietnam's development due to high priority of digitalization in all HE/TVET sector, public management as well as industrial development;
- ✓ Medium relevance to JICA experience: There was a project supporting for IT human resource for Hanoi University of Technology long time ago, beside a project on cyber security but not directly contribute to HRD;
- ✓ High potential to support current and future Japanese enterprises in Vietnam: chapter 3 shows that IT human resource is very competitive in recruitment, and most enterprises perceived that pressure of industry 4.0 will require laborers to equip ICT skills;
- ✓ Criteria of donor positioning is evaluated at low generally, because support for IT and digitalization will be strong in future, though currently only GIZ state their focus on Digitalization in TVET.

Environment/ Green tech: is recommended as medium- high priority for JICA. The direction could be to strengthen current projects and expand to new initiatives, with the purpose to enhance training system to increase high quality HR for future green economy

- ✓ Medium- high relevance to JICA's policy if consider aspect of industrial human resource, as HR for green development is till a new concept and lack of evidence, however, this is also a cross-cutting theme which can contribute to almost development aspects;
- ✓ Highly benefit for Vietnam's development as it support for green growth strategy, and support for SDGs commitments of Vietnam;
- ✓ Medium relevant to JICA experience because related JICA's HRD effort has been for higher education sector, not yet touch to TVET sector;
- ✓ Medium potential to support for Japanese enterprises in Vietnam because the actual contribution is unclear at the moment; but HR in this sector will be competitive in future, and thus Japan can be benefit from this future result;
- ✓ Criteria of donor positioning is evaluated at medium level: many donors show concerns for topic of green development in HE and TVET, however, now only GIZ state their focus on Green TVET.

Civil Engineering: is recommended as medium priority for JICA. The direction could be implementing some new initiatives to develop high-quality HR in for sustainable civil construction, technical cooperation support for TVET sector which can benefit for the RTT in Vietnam

- ✓ High relevance to JICA's policy, directly contribute to A1-O2-P2, and potential to contribute to A1-O3-P4,5 as JICA has big commitment to support infrastructure development for Vietnam;
- ✓ Medium in aspect of contributing to Vietnam's development;

- ✓ Low relevant to JICA experience in HRD, almost no clear HRD program focus in this field, there is one JPP project unders proceeding in Phan Rang – Ninh Thuan city;
- ✓ Medium-High potential to support Japanese enterprises in Vietnam. Besides, support for this industry will have potential contribution to the RTTs group in construction industry;
- ✓ Criteria of donor positioning is evaluated at medium level: other donors, such as GIZ has some focus on construction mechanics field.

Agriculture: is recommended overall as low priority for JICA’s HRD support. Therefore, the direction could be not taking agriculture as one target province for main HRD projects (not priority).

- ✓ Low relevance to JICA’s policy, not directly contribute to A1-O2-P2 as on industrial HRD;
- ✓ Medium - High in aspect of contributing to Vietnam’s development, as there will be demand for skilled technical laborers & agri-tech HR but scale of laborforce in agriculture is decreasing;
- ✓ Medium evaluaion related to JICA experience because related JICA’s HRD effort has been for higher education in CTU, which focus in Mekong Delta specific region;
- ✓ Low potential to support for Japanese enterprises in Vietnam, because there is too few Japanese company in this sector, the potential to support for RTT seems low (see next part);
- ✓ Criteria of donor positioning is evaluated at medium - low level: some other donors have shown focus in agriculture sector for HRD project, such as KOICA, the Irish Aid.

Healthcare: is recommended as Medium - High priority for JICA’s HRD support. The proposed direction is developing some new HRD initiatives specialized in nursing care human resource, expanding other healthcare project to having HRD components that directly target to the supply HR system (HE or TVET)

- ✓ Medium/Low relevance to JICA’s policy, not directly contribute to A1-O2-P2 as inustrial HRD, but potential to contribute to A2-O5-P10,11 on healthcare and social security, which is also considered as HRD in a broad approach as human development
- ✓ High priority in aspect of contributing to Vietnam’s development. It is stated in SEDS 2021- 2030 that Human & social care HR is focus demand for human resource development. Besides, it is clearly that Vietnam is in need of workforce that serve for elderly care services and the related healthcare issues under the strong impact of fast aging population in the future.
- ✓ Medium relevance to JICA experience because related JICA’s HRD effort has not been for HE/TVET but many project in healthcare that often have capacity building component, especially the recent project on strengthening clinical training system for new-graduate nurses (2016 – 2020). Besides, JICA has recently support a start-up project²²⁶ in healthcare services, that is also related to issues of provide trained laborforce for healthcare sector.

226 The start-up is a model providing caring persons in hospital or at home. The company organize the existing low skilled care-givers, provide trainings to improve important working skills (technical basic caring skills, communication skills and service attitudes), coordinating the service process to deliver better care services to customers. It is necessary to note that the caring skills applied by these care-givers groups are non-medical skills and are very basic, however they are still necessary and important to support the patients. Besides, the company also can supply care-givers who are certified nurses (professional working nurses with certificate).

- ✓ Medium potential to support for Japanese enterprises in Vietnam, more from the aspect of supporting future business expansion, business cooperation of Japanese healthcare/ nursing care services to Vietnam. Recently we have seen medical companies in Japan exploring the business potential of nursing care services in Vietnam. It is also potential that HRD support project in healthcare can support for technical intern trainees in nursing care dispatch programs, as there may need better training service pre-departure, as well as RTT group when return to Vietnam.
- ✓ Criteria of donor positioning is evaluated at Medium level: in terms of support for healthcare human resources, there are notable role of multilateral donors such as ADB and World Bank. Besides, USAID is the most prominent donor focus on healthcare HRD with various project focus mainly on higher education, and project support for capacity building on rehabilitation services, especially for people with disabilities. However, big donors haven't focus on specific nursing care human resource issues, which still leave much opportunities for Japan's Cooperation, which the rich experience and high reputation of healthcare.

ADB engaged in health human resources development with the Health Human Resources Sector Development Program (2011-2016, USD72.27 million) which is co-financed by the Government of Australia. The program supported key policy reforms in health human resource training, planning, and management, and investments for infrastructure and strengthening teaching capacity and management in 17 health professional education and training institutions (HEPTIs). The World Bank financed the Health Professionals' Education and Training for Health System Reforms Project (2014-2021, USD106 million), co-financed by the European Union, focuses investment in the areas of HEPTI quality assurance, accreditation, and curriculum reform. However, as mentioned in previous chapter, the support from multinational donors such as the WorldBank and ADB still having limitation and lacking of flexibility to due to the nature of loans scheme.

USAID is a leading bilateral donor in healthcare sector, and shows the focus in developing high-quality healthcare workforce. The IMPACT MED Alliance (2016 – 2022, USD8.757 million) works with five medical universities and policymakers to improve and innovate undergraduate medical education, besides, a new training program for postgraduate is also developed and piloted in collaboration with University of Medicine and Pharmacy HCMC. USAID also have big commitment to support the rehabilitation field, through project such as Inclusion (2020 - 2022) expanding and improving rehabilitation and social services, enhancing policy implementation, and building service provider capacity of national and local government disabilities agencies as well as community disabilities organizations.

Overall, the recommendation is that, JICA can consider in parallel 5 target industries, including Mechanical/ Supporting industry, IT & Digitalization, Environmental/Green tech, Healthcare, Civil Engineering. It is recommended that Agriculture is not a focus industry for IHRD support project, but could be included in other broader theme such as supporting for start-up in agritech.

JICA has provided seed investment for this start-up to operate, with priority to help the company applying technology into the business and service processes

6.1.4 Opportunities for JICA’s HRD support at province level, reviewing 6 target provinces


a. Overall provincial HRD demand and suggestion of opportunities for JICA

HRD demand of a province would depend on geographic characteristics, socio-economic development orientation, industry development as well as current HRD situation and challenges. An information factsheet for each province covering the above aspects, together with situation of Japanese enterprises at the province is provided in the next part (b).

The summary of province characteristics is presented in the below table, together with recommendations of key potential HRD programs in the alignment with province’s prioritized needs.

Noticeably, the industry development direction of each target province is putting much focus on the application of high-technology application, digitalization, and the development of smart city, resulting to the orientation to develop high-quality human resource both from HE and TVET sector;

Figure 174. Development directions and opportunities for HRD support in main target provinces

Province	Key characteristics impact on HRD demand	Industry development directions	JICA HRD experience	Opportunities for JICA’s HRD support
HANOI	<ul style="list-style-type: none"> Positioning as the centre of high quality HR nationwide; Focus on training high quality HR in fields of: leadership & management, corporate governance, scientific research & technology transfer; arts & sports Largest concentration of universities; prioritize to develop ‘excellent university model’ & key universities of the country Positioning as the centre to supply high-level technical workers; however, TVET enrollment faces relatively high competition by too strong HE development 	<ul style="list-style-type: none"> IT/ Digitalization Mechanics & metallurgy/ supporting industry High-quality services, such as in tourism & hospitality, education & healthcare Others: advanced technologies for green & sustainable development 	<p>High</p> <p>Many projects on HE, TVET, support for managerial HR, technical cooperation with MOLISA-DVET</p>	<p>=> Continue current efforts: to develop:</p> <ul style="list-style-type: none"> VJCC as leading training center for managerial & leaders in imanufacturing & supporting industry VJU as excellent university model Support for KOSEN as effective model to train high-level technical workers, creative practice engineers <p>=> Others: strengthen connection of Japanese enterprises with TVETIs training support industry</p>
		 Target Industry fit		
		Supporting industry ✓		
		Healthcare ✓		
IT ✓				

Province	Key characteristics impact on HRD demand	Industry development directions	JICA HRD experience	Opportunities for JICA's HRD support				
HAI PHONG	<ul style="list-style-type: none"> • Having largest seaport in the North, being the biggest commercial & logistics center in the region • Increasing demand for skilled workforce for industrial zones and ports, while local work force is decreasing, leading to skilled labor shortage • In need of developing high-quality vocational colleges that can supply HR for businesses working with international partners 	<ul style="list-style-type: none"> • Marine economy • Ship building industry • Support industry manufacturing (for ship building & automobiles) • Logistics • Aquaculture and fishery exploitation <p style="text-align: center;">↓</p> <p style="text-align: center;">Target Industry fit</p> <table border="1" style="width: 100%;"> <tr> <td>Supporting industry</td> <td style="text-align: right;">✓</td> </tr> </table>	Supporting industry	✓	<p>Low</p> <p>Only exist JICA's projects on port infrastructure development</p>	<p>=> Opportunity for new HRD program for TVET:</p> <ul style="list-style-type: none"> • Build capability of TVET administrators and teachers to improve vocational skills, pedagogical skills and foreign languages (Japanese, English) <p>=> Other initiative to develop labor market information platform for forecasting & matching supply-demand</p>		
Supporting industry	✓							
DA NANG	<ul style="list-style-type: none"> • Being the socio-economic center of the Central region; role as the hub for IT and high-technology & leading in smart-city development • New port development since 2022 increase demand for HR the marine economy • Active in labor market information platform & TVET digitalization • Care for green development • Active in start-up & innovation 	<ul style="list-style-type: none"> • Tourism and high-quality services • Logistic with marine and aviation services • High technology • IT/Digitalization • High-tech agriculture and fishery • Renewable energy <p style="text-align: center;">↓</p> <p style="text-align: center;">Target Industry fit</p> <table border="1" style="width: 100%;"> <tr> <td>IT</td> <td style="text-align: right;">✓</td> </tr> <tr> <td>Environment/ Green economy</td> <td style="text-align: right;">✓</td> </tr> </table>	IT	✓	Environment/ Green economy	✓	<p>Medium</p> <p>Haven't got any focus HRD project for Danang</p> <p>Some JPP projects to develop HR in healthcare, fishery, engineering</p>	<p>=> Opportunity for new HRD program in developing high-quality HR for smart-city, green & renewable energy sector (either for HE or for existing labor force)</p> <p>=> Program that connect Japanese enterprises community with key TVETIs having support industry or IT</p>
IT	✓							
Environment/ Green economy	✓							

Province	Key characteristics impact on HRD demand	Industry development directions	JICA HRD experience	Opportunities for JICA's HRD support						
CAN THO	<ul style="list-style-type: none"> Economic center of Mekong Delta, with the concentration of agriculture and fishery enterprises CTU is the biggest & central hub for science & technology TVET system is less developed (few TVETIs), very weak connection between TVET-enterprises Sustainable development, climate change resilience is major direction, but it's still low in practical implementation Weak linkage between provinces in the region in TVET development, lack of central coordination 	<ul style="list-style-type: none"> Food processing Chemical products manufacturing High technology Mechanical engineering Renewable energy (wind energy) <p><i>(much related to overall Mekong Delta region)</i></p> <p style="text-align: center;">↓</p> <p style="text-align: center;">Target Industry fit</p> <table border="1"> <tr> <td>Supporting industry</td> <td style="text-align: center;">✓</td> </tr> <tr> <td>IT</td> <td style="text-align: center;">✓</td> </tr> <tr> <td>Environment/ Green economy</td> <td style="text-align: center;">✓</td> </tr> </table>	Supporting industry	✓	IT	✓	Environment/ Green economy	✓	<p>High</p> <p>GA and TCP projects to develop Can Tho University</p>	<p>=> Continue strengthen CTU's development with focus on climate change & green technology for agriculture & fishery</p> <p>=> Opportunity for new HRD program for TVET:</p> <ul style="list-style-type: none"> Develop management capability of TVET sector, together with strengthen regional linkage: issues such as quality assurance of key assigned training occupations
Supporting industry	✓									
IT	✓									
Environment/ Green economy	✓									
HO CHI MINH City	<ul style="list-style-type: none"> Positioning to become the international economic & financial center; large-scale logistic hub and high-tech park of Vietnam Digitalization and smart city development are also major directions and pressure for HRD Dynamic labor market, the city is almost never in shortage of labor; Quite developed in labor market information system; the only province having an independent center under DOLISA, can be a pioneer model in labor market information portal 	<ul style="list-style-type: none"> IT/ Digitalization Mechanical automation Artificial intelligence Corporate governance Finance & banking Medical Tourism Urban management High quality service <p style="text-align: center;">↓</p> <p style="text-align: center;">Target Industry fit</p> <table border="1"> <tr> <td>Supporting industry</td> <td style="text-align: center;">✓</td> </tr> <tr> <td>Healthcare</td> <td style="text-align: center;">✓</td> </tr> <tr> <td>IT</td> <td style="text-align: center;">✓</td> </tr> </table>	Supporting industry	✓	Healthcare	✓	IT	✓	<p>High</p> <p>Mainly projects TVET sector: pilot KOSEN, Mono-Zukuri program, HRD for heavy-chemical industry at IUH</p>	<p>=> Consider expand to HE sector: foster internationalization of programs & quality assurance, aiming to supply to high-quality HR for HCMC in advance technology fields</p> <p>=> Consider to support for healthcare – nursing care HR as only HCMC is assigned to develop TVET nursing training programs reaching international level</p> <p>=> Consider to support labor market information system applying Japan experience</p>
Supporting industry	✓									
Healthcare	✓									
IT	✓									

Province	Key characteristics impact on HRD demand	Industry development directions	JICA HRD experience	Opportunities for JICA's HRD support
DONG NAI	<ul style="list-style-type: none"> An industrial center of the South East region, plenty of big industrial zones, concentrating many foreign enterprises Long Thanh international airport, considered to be the largest airport in Vietnam, would attract many investors and encourage the aviation economy, requiring new HR supply Promote the application of IT, high-technology in manufacturing, supporting industries Currently experience shortage of trained labor force due to low capacity of current existing TVETIs Plan to open more schools to meet province's training target 	<ul style="list-style-type: none"> Logistics Aviation Marine economy Hi-tech manufacturing and mechanic engineering (applying digital transformation and automation) Hi-tech agriculture Manufacturing, Processing, support industry-related fields <p style="text-align: center;">↓</p> <p style="text-align: center;">Industry to fit</p> <p>Supporting industry ✓</p>	<p>Medium</p> <p>Not having direct HRD project 01 SME support project "HD development for manufacturing industry in Dong Nai province" with the Dong Nai industrial complex administration office</p> <p>Seems to have small project on "5S program"</p>	<p>=> Consider HRD programs on TVET:</p> <ul style="list-style-type: none"> Continue some support at schools that used to received training from JICA Develop high skilled workforce for future Aviation industry Strengthen connection of Japanese enterprises with TVETIs in relevant training program (e.g. learning from enterprise-TVET council model)

b. Province factsheet

(next page)

a. Hanoi City

HANOI City - FACTSHEET																												
General Information		Information of HE & TVET																										
GDPR (2018, billion VND)	706,495	Number of HEIs	Public	120																								
Population (thousand people)	8,050		Non Public	15																								
Labor force (thousand people)	4,125	Number of TVETIs	College	60																								
Unemployment rate (%)	1.99%	(Public & Non-public)	VTS	86																								
			VTC	75																								
Key Industry for development		Main policy documents																										
<ul style="list-style-type: none"> IT/ Digitalization Mechanics & metallurgy/ supporting industry High-quality services, such as in tourism & hospitality, education & healthcare Others: advanced technologies for green & sustainable development 		<ul style="list-style-type: none"> Resolution No.20/NQ-HDND on 5-Year Social Development Plan 2021-2025 of Hanoi Decision No. 222/QD-TTg on Approving the Economic Development Strategy of Hanoi City to 2030, vision to 2050 																										
Occupations assigned for public TVETIs to develop at international level (only review target industries if have)	Supporting Industry	Automotive Technology Industrial electronics Mechatronics Metal Welding, Cutting Control Engineering and Automation																										
	Civil Engineering	Testing and quality inspection of road bridges Construction Equipment Operation Construction Engineering																										
	IT	Computer Network Administration IT - software application Information Technology																										
	Others	Industrial M&E installation Tourism & Hospitality related occupations																										
Main sector of Japanese Enterprises	<table border="1"> <caption>Top 3 industries having most of Japanese enterprises in Hanoi (2020)</caption> <thead> <tr> <th>Industry</th> <th>2016</th> <th>2017</th> <th>2018</th> <th>2019</th> <th>2020</th> </tr> </thead> <tbody> <tr> <td>Professional, Scientific & Technical Activities</td> <td>21%</td> <td>20%</td> <td>19%</td> <td>20%</td> <td>20%</td> </tr> <tr> <td>Manufacturing</td> <td>24%</td> <td>25%</td> <td>25%</td> <td>22%</td> <td>19%</td> </tr> <tr> <td>Wholesale & Retail</td> <td>20%</td> <td>18%</td> <td>18%</td> <td>17%</td> <td>19%</td> </tr> </tbody> </table>				Industry	2016	2017	2018	2019	2020	Professional, Scientific & Technical Activities	21%	20%	19%	20%	20%	Manufacturing	24%	25%	25%	22%	19%	Wholesale & Retail	20%	18%	18%	17%	19%
Industry	2016	2017	2018	2019	2020																							
Professional, Scientific & Technical Activities	21%	20%	19%	20%	20%																							
Manufacturing	24%	25%	25%	22%	19%																							
Wholesale & Retail	20%	18%	18%	17%	19%																							
Top 03 industries having most of Japanese enterprises in Hanoi (2020):	<ul style="list-style-type: none"> ✓ Professional, Scientific & Technical activities (20%) ✓ Manufacturing (19%) ✓ Wholesale & Retail (19%) 																											
Key challenges and priority from DOLISA perspective		Recommendation to JICA from the local counterpart(s)																										
<ul style="list-style-type: none"> The management capacity of TVETIs does not keep up with the growing demand of the labor market Weak cooperation between TVETIs and enterprises, which results in skill gap and low recognition of enterprises about TVET training quality Strong preference to enter HE system, lack of positive perception on TVET make people less prefer TVET Teachers slowly access to new technologies and new training methods because of lack of equipment, and lack of conditions to practice in preeminent conditions to improve practical skills 		<ul style="list-style-type: none"> Invest in TVET institutions in the supporting industry or provide financial support TVETIs generally to increase training quality, to equip essential technology in order to enhance students' understanding and practical skills for quick adaption to enterprises' works Improve capacity of TVET teachers, prioritizing skills, foreign languages and IT capacity Provide exchange programs to students or schools to Japan, for them learn experience & have better understanding of international labor market Improve state management capacity through either projects or information exchange 																										

b. Hai Phong City

HAI PHONG City - FACTSHEET																												
General Information		Information of HE & TVET																										
GDPR (2018, billion VND)	195,540	Number of HEIs	Public	4																								
			Non Public	2																								
Population (thousand people)	2,030	Number of TVETIs	College	16																								
Labor force (thousand people)	1,128	(Public & Non-public)	VTS	17																								
Unemployment rate (%)	2.13%		VTC	26																								
Key Industry for development		Main policy documents																										
<ol style="list-style-type: none"> Mechanical engineering; Ship-building Marine economy Logistics Aquaculture and seafood exploitation 		<ul style="list-style-type: none"> Resolution No.15-NQ/TW on Building and Development of Hai Phong City to 2030, vision to 2045 																										
Occupations assigned for public TVETIs to develop at international level <i>(only review target industries if have)</i>	Supporting Industry	Automotive Technology Industrial electronics Metal Welding, Cutting Ship hull manufacturing technology Mechatronics																										
	Others	Ship operation related occupations																										
Main sector of Japanese Enterprises	<table border="1"> <caption>Top 3 industries having most of Japanese enterprises in Hai Phong (2020)</caption> <thead> <tr> <th>Year</th> <th>Manufacturing</th> <th>Professional, Scientific & Technical Activities</th> <th>Wholesale & Retail</th> </tr> </thead> <tbody> <tr> <td>2016</td> <td>84%</td> <td>6%</td> <td>5%</td> </tr> <tr> <td>2017</td> <td>79%</td> <td>7%</td> <td>9%</td> </tr> <tr> <td>2018</td> <td>79%</td> <td>6%</td> <td>7%</td> </tr> <tr> <td>2019</td> <td>80%</td> <td>6%</td> <td>5%</td> </tr> <tr> <td>2020</td> <td>80%</td> <td>6%</td> <td>5%</td> </tr> </tbody> </table>				Year	Manufacturing	Professional, Scientific & Technical Activities	Wholesale & Retail	2016	84%	6%	5%	2017	79%	7%	9%	2018	79%	6%	7%	2019	80%	6%	5%	2020	80%	6%	5%
Year	Manufacturing	Professional, Scientific & Technical Activities	Wholesale & Retail																									
2016	84%	6%	5%																									
2017	79%	7%	9%																									
2018	79%	6%	7%																									
2019	80%	6%	5%																									
2020	80%	6%	5%																									
Key challenges and priority from DOLISA perspective		Recommendation to JICA from the local counterpart(s)																										
<ul style="list-style-type: none"> Increasing demand for skilled workforce for industrial zones and ports, while local work force is decreasing, leading to skilled labor shortage In need of developing high-quality vocational colleges that can supply HR for businesses working with international partners 		<ul style="list-style-type: none"> Support local government to improve the forecasting quality of labor market demand Promote cooperation between TVET with enterprises and the labor market, especially with Japanese enterprises Fund for the training of TVET administrators and teachers to improve vocational skills, pedagogical skills and foreign languages (Japanese, English) Financial support in training facilities and equipment for specialized TVET institutions to train people with disabilities Promote supporting policies and provide financial support to speed up the synchronous investment progress for high-quality schools in key occupations Support digitalization, especially in the training activity, in order to adapt to the requirements of innovation and training quality improvement according to international trends, and to meet the Japanese quality requirements of labor force 																										

c. Da Nang Province

DA NANG Province - FACTSHEET																																														
General Information		Information of HE & TVET																																												
GDPR (2018, billion VND)	90,022	Number of HEIs	Public	9																																										
Population (thousand people)	1,170		Non Public	4																																										
Labor force (thousand people)	586	Number of TVETIs (Public & Non-public)	College	20																																										
Unemployment rate (%)	8.83%		VTS	6																																										
			VTC	11																																										
Key Industry for development		Main policy documents																																												
<ol style="list-style-type: none"> Tourism and high-quality services Logistic with marine and aviation services High technology Information technology High-tech agricultural products and fishery 		<ul style="list-style-type: none"> Resolution No. 43NQ/TW on construction and development of Da Nang city to 2030, vision to 2045 																																												
Occupations assigned for public TVETIs to develop at international level (only review target industries if have)	Supporting Industry	Automotive Technology Mechanical equipment manufacturing Mechatronics																																												
	Civil Engineering	Road Bridge Construction																																												
	IT	IT - software application																																												
	Environment/Green	Biology Technology																																												
	Others	Tourism & Hospitality related occupations																																												
Main sector of Japanese Enterprises	<table border="1"> <caption>Percentage Distribution of Japanese Enterprises in Da Nang Province (2016-2020)</caption> <thead> <tr> <th>Year</th> <th>Total Enterprises</th> <th>Information & Communication</th> <th>Manufacturing</th> <th>Professional, Scientific & Technical Activities</th> <th>Accommodation & Food service</th> <th>Others</th> </tr> </thead> <tbody> <tr> <td>2016</td> <td>99</td> <td>26%</td> <td>38%</td> <td>15%</td> <td>7%</td> <td>14%</td> </tr> <tr> <td>2017</td> <td>108</td> <td>28%</td> <td>31%</td> <td>15%</td> <td>11%</td> <td>15%</td> </tr> <tr> <td>2018</td> <td>113</td> <td>32%</td> <td>31%</td> <td>13%</td> <td>12%</td> <td>12%</td> </tr> <tr> <td>2019</td> <td>133</td> <td>30%</td> <td>28%</td> <td>15%</td> <td>14%</td> <td>13%</td> </tr> <tr> <td>2020</td> <td>125</td> <td>33%</td> <td>26%</td> <td>16%</td> <td>11%</td> <td>14%</td> </tr> </tbody> </table>				Year	Total Enterprises	Information & Communication	Manufacturing	Professional, Scientific & Technical Activities	Accommodation & Food service	Others	2016	99	26%	38%	15%	7%	14%	2017	108	28%	31%	15%	11%	15%	2018	113	32%	31%	13%	12%	12%	2019	133	30%	28%	15%	14%	13%	2020	125	33%	26%	16%	11%	14%
Year	Total Enterprises	Information & Communication	Manufacturing	Professional, Scientific & Technical Activities	Accommodation & Food service	Others																																								
2016	99	26%	38%	15%	7%	14%																																								
2017	108	28%	31%	15%	11%	15%																																								
2018	113	32%	31%	13%	12%	12%																																								
2019	133	30%	28%	15%	14%	13%																																								
2020	125	33%	26%	16%	11%	14%																																								
Top 03 industries having most of Japanese enterprises in Da Nang province (2020):																																														
<ul style="list-style-type: none"> ✓ IT & Communication (33%) ✓ Manufacturing (26%) ✓ Professional, Scientific & Technical activities (16%) 																																														
Key challenges and priority from DOLISA perspective		Recommendation to JICA from the local counterpart(s)																																												
<ul style="list-style-type: none"> Slow and entangled in school development, leading to the lack of training facilities New port development since 2022 increase demand for HR the marine economy, while the current training for this sector has not yet developed 		<ul style="list-style-type: none"> Invest in vocational training in Japan's competitive advantages such as the automotive industry, nursing care, electronic components Support can be in the form of grants or loan, but should base on careful discussion of the two parties for sustainable coordination 																																												

d. Can Tho City

CAN THO City - FACTSHEET																																														
General Information		Information of HE & TVET																																												
GDPR (2018, billion VND)	103,225	Number of HEIs	Public	3																																										
Population (thousand people)	1,200		Non Public	2																																										
Labor force (thousand people)	717	Number of TVETIs	College	42																																										
Unemployment rate (%)	3.27%	(Public & Non-public)	VTS	14																																										
			VTC	22																																										
Key Industry for development		Main policy documents																																												
<ol style="list-style-type: none"> Food processing Chemical products manufacturing High technology Mechanical engineering Renewable energy industry 		<ul style="list-style-type: none"> Resolution No. 59-NQ/TW on Construction and Development of Can Tho city to 2030 and vision to 2045 																																												
Occupations assigned for public TVETIs to develop at international level <i>(only review target industries if have)</i>	Supporting Industry	Industrial Electronics Automotive Technology																																												
	IT	Computer Network Administration IT – software application																																												
	Others	Tourism & Hospitality related occupations																																												
Main sector of Japanese Enterprises	<table border="1"> <caption>MEKONG DELTA - Japanese Enterprises by Sector (2016-2020)</caption> <thead> <tr> <th>Year</th> <th>Manufacturing</th> <th>Wholesale & Retail</th> <th>Information & Communication</th> <th>Professional, Scientific & Technical Activities</th> <th>Agriculture, Forestry, Fishing</th> <th>Others</th> </tr> </thead> <tbody> <tr> <td>2016</td> <td>92%</td> <td>2%</td> <td>3%</td> <td>1%</td> <td>1%</td> <td>1%</td> </tr> <tr> <td>2017</td> <td>95%</td> <td>2%</td> <td>3%</td> <td>1%</td> <td>1%</td> <td>1%</td> </tr> <tr> <td>2018</td> <td>94%</td> <td>2%</td> <td>3%</td> <td>1%</td> <td>1%</td> <td>1%</td> </tr> <tr> <td>2019</td> <td>92%</td> <td>2%</td> <td>3%</td> <td>1%</td> <td>1%</td> <td>1%</td> </tr> <tr> <td>2020</td> <td>91%</td> <td>3%</td> <td>3%</td> <td>1%</td> <td>1%</td> <td>1%</td> </tr> </tbody> </table> <p>In general, there're not so many Japanese enterprises operating in Mekong Delta, not let alone in Can Tho City. There're just 3 Japanese enterprises in Can Tho, and they work in manufacturing industry, wholesale & retail, Information & Communication</p>				Year	Manufacturing	Wholesale & Retail	Information & Communication	Professional, Scientific & Technical Activities	Agriculture, Forestry, Fishing	Others	2016	92%	2%	3%	1%	1%	1%	2017	95%	2%	3%	1%	1%	1%	2018	94%	2%	3%	1%	1%	1%	2019	92%	2%	3%	1%	1%	1%	2020	91%	3%	3%	1%	1%	1%
Year	Manufacturing	Wholesale & Retail	Information & Communication	Professional, Scientific & Technical Activities	Agriculture, Forestry, Fishing	Others																																								
2016	92%	2%	3%	1%	1%	1%																																								
2017	95%	2%	3%	1%	1%	1%																																								
2018	94%	2%	3%	1%	1%	1%																																								
2019	92%	2%	3%	1%	1%	1%																																								
2020	91%	3%	3%	1%	1%	1%																																								
Key challenges and priority from DOLISA perspective		Recommendation to JICA from the local counterpart(s)																																												
<ul style="list-style-type: none"> Weak linkage between provinces in the region in TVET & labor related issues, lack of central coordination for strategy & implementation Low capability to forecast recruitment needs Weak cooperation between labor supply-demand sides, causing the unmet needs in recruitment requirements, together with the lack of field-training activities for students 		<ul style="list-style-type: none"> Support to establish accrediting program or quality control system for TVET institutions in order to match education training with regional and international standards, especially in prioritized industries Share experiences on tightening the collaboration between enterprises and TVET training institutions Support the development of education mechanisms and policies that closely link with local industries Organize experience-sharing seminars on HRD towards green economy and sustainable development Develop better linkage of Mekong Delta provinces in any HRD support programs 																																												

e. Ho Chi Minh City

HO CHI MINH City - FACTSHEET																																		
General Information		Information of HE & TVET																																
GDPR (2018, billion VND)	1,331,440	Number of HEIs	Public	36																														
Population (thousand people)	8,900		Non Public	15																														
Labor force (thousand people)	4,770	Number of TVETIs	College	90																														
Unemployment rate (%)	3.77%	(Public & Non-public)	VTS	79																														
			VTC	80																														
Key Industry for development		Main policy documents																																
1. Information technology	5. Finance & banking	<ul style="list-style-type: none"> The project to build Ho Chi Minh City into a smart city and the city's digital transformation program Directive No. 01/CT-UBND on Implementation of Economic - Social Development Tasks In 2022 																																
2. Mechanical automation	6. Medical																																	
3. Artificial intelligence	7. Tourism																																	
4. Corporate governance	8. Urban management																																	
Occupations assigned for public TVETIs to develop at international level (only review target industries if have)	Supporting Industry	<i>Automotive Technology</i> <i>Metal Welding, Cutting</i> <i>Industrial Electronics</i> <i>Mechatronics</i> <i>Mechanical equipment manufacturing</i> <i>Ship hull manufacturing technology</i>																																
	Healthcare	<i>Nursing</i> <i>Pharmacy</i>																																
	Civil Engineering	<i>Construction Engineering & Technology</i> <i>Construction Equipment Operation</i> <i>Road Construction</i> <i>Architectural Engineering technology</i>																																
	IT	<i>IT – software application</i> <i>Information Technology</i> <i>Computer Network Administration</i>																																
	Others	<i>Tourism & Hospitality related occupations</i> <i>Industrial M&E installation</i> <i>Ship operation related occupations</i> <i>Logistics</i>																																
Main sector of Japanese Enterprises	<table border="1"> <caption>Top 3 industries having most of Japanese enterprises in Hanoi (2020)</caption> <thead> <tr> <th>Year</th> <th>Total Enterprises</th> <th>Professional, Scientific & Technical Activities (%)</th> <th>Information & Communication (%)</th> <th>Wholesale & Retail (%)</th> </tr> </thead> <tbody> <tr> <td>2016</td> <td>769</td> <td>23%</td> <td>21%</td> <td>18%</td> </tr> <tr> <td>2017</td> <td>774</td> <td>24%</td> <td>20%</td> <td>20%</td> </tr> <tr> <td>2018</td> <td>852</td> <td>22%</td> <td>21%</td> <td>21%</td> </tr> <tr> <td>2019</td> <td>817</td> <td>19%</td> <td>20%</td> <td>23%</td> </tr> <tr> <td>2020</td> <td>1,025</td> <td>22%</td> <td>22%</td> <td>21%</td> </tr> </tbody> </table>				Year	Total Enterprises	Professional, Scientific & Technical Activities (%)	Information & Communication (%)	Wholesale & Retail (%)	2016	769	23%	21%	18%	2017	774	24%	20%	20%	2018	852	22%	21%	21%	2019	817	19%	20%	23%	2020	1,025	22%	22%	21%
Year	Total Enterprises	Professional, Scientific & Technical Activities (%)	Information & Communication (%)	Wholesale & Retail (%)																														
2016	769	23%	21%	18%																														
2017	774	24%	20%	20%																														
2018	852	22%	21%	21%																														
2019	817	19%	20%	23%																														
2020	1,025	22%	22%	21%																														
Top 03 industries having most of Japanese enterprises in Hanoi (2020):																																		
✓ Professional, Scientific & Technical activities (22%)																																		
✓ Information & Communication (22%)																																		
✓ Wholesale & Retail (21%)																																		
Key challenges and priority from DOLISA perspective	Recommendation to JICA from the local counterpart(s)																																	
<ul style="list-style-type: none"> Need to redefine high-quality HR, which means both HE and TVET; now it's still a lack of recognition for the need to develop high-quality vocational trained HR Need to foster internationalization of trainings Insufficient equipment for training in TVETIs 	<ul style="list-style-type: none"> Support international cooperation and experience sharing with a view to increase the training quality up to international standards and requirements Share IT knowledge & resource to support the city moving towards the 4.0 Industrial Revolution 																																	

f. Dong Nai Province

DONG NAI Province - FACTSHEET																												
General Information		Information of HE & TVET																										
GDPR (2018, billion VND)	300,278	Number of HEIs	Public	2																								
Population (thousand people)	3,000		Non Public	3																								
Labor force (thousand people)	1,788	Number of TVETIs	College	33																								
Unemployment rate (%)	1.80%	(Public & Non-public)	VTS	13																								
			VTC	25																								
Key Industry for development		Main policy documents																										
<ol style="list-style-type: none"> Logistics Aviation human resource Marine economy Hi-tech manufacturing and mechanic engineering (applying digital transformation and automation) Hi-tech agriculture Processing industry 		<ul style="list-style-type: none"> Resolution No. 89/NQ-HDND on Dong Nai Province Construction Planning to 2020 and vision to 2050 																										
Occupations assigned for public TVETIs to develop at international level <i>(only review target industries if have)</i>	Supporting Industry	Metal Welding, Cutting Industrial Electronics Automotive Technology Mechatronics Mechanical equipment manufacturing																										
	Civil Engineering	Construction Equipment Operation																										
	IT	Computer Network Administration																										
	Others	Industrial M&E installation																										
Main sector of Japanese Enterprises	<table border="1"> <caption>Percentage of Japanese Enterprises by Sector (2016-2020)</caption> <thead> <tr> <th>Year</th> <th>Manufacturing (%)</th> <th>Others (%)</th> <th>Total Count</th> </tr> </thead> <tbody> <tr> <td>2016</td> <td>96%</td> <td>4%</td> <td>188</td> </tr> <tr> <td>2017</td> <td>96%</td> <td>4%</td> <td>197</td> </tr> <tr> <td>2018</td> <td>95%</td> <td>5%</td> <td>218</td> </tr> <tr> <td>2019</td> <td>95%</td> <td>5%</td> <td>218</td> </tr> <tr> <td>2020</td> <td>94%</td> <td>6%</td> <td>221</td> </tr> </tbody> </table>				Year	Manufacturing (%)	Others (%)	Total Count	2016	96%	4%	188	2017	96%	4%	197	2018	95%	5%	218	2019	95%	5%	218	2020	94%	6%	221
Year	Manufacturing (%)	Others (%)	Total Count																									
2016	96%	4%	188																									
2017	96%	4%	197																									
2018	95%	5%	218																									
2019	95%	5%	218																									
2020	94%	6%	221																									
Almost all of Japanese enterprises operating in Dong Nai are manufacturing enterprises (96%)																												
Key challenges and priority from DOLISA perspective		Recommendation to JICA from the local counterpart(s)																										
<ul style="list-style-type: none"> There's no policies and mechanisms strong enough to encourage linkages between enterprises and training institutions Currently experience shortage of trained labor force due to low capacity of current existing TVETIs There is plan to open more school, prioritizing the private investment to easily connect training outputs with the needs of businesses, thus there are opportunities for Japanese foreign investment on TVET Current training quality cannot meet with high professional quality or international standards 		<ul style="list-style-type: none"> Provide exchange opportunities about educational programs, teachers and equipment Provide human resource training in aviation industry, through the cooperation with local schools or investing in local training schools Support pilot program to assess vocational skills test standards in order to improve the region's training standards, and the standards could be up to Japanese standards or equivalent, with an aim to attract Japanese businesses by sufficient labor resource Connect enterprises to human resource development activities, such as building labor database, or creating collaboration fund between schools and enterprises to use for training activities. 																										

6.2 Recommendations of focus support directions in the future period

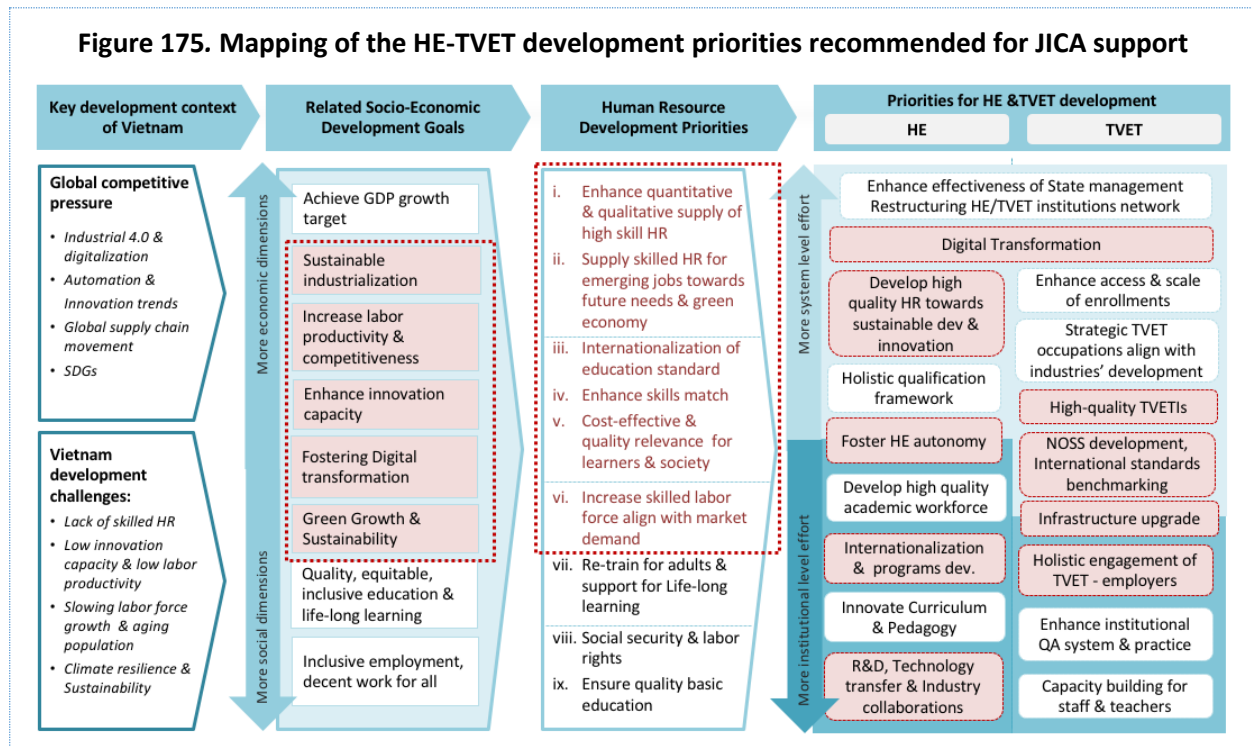
6.2.1 Matching the initiatives and recommendations of key actions

In this part, recommendations are made for some main intervention directions for JICA. There's the need to consider in parallel the factors of (i) industry priorities (part 6.1.2); (ii) Different HRD classification; (iii) Initiatives for improving/ expanding current running projects or new initiatives developed for new HRD target groups. In which, any direction for programs in HE or TVET should base on understanding the HRD priorities and main challenges of HE & TVET system, as shown in Figure 171 (*).

There are some basic hypotheses for setting recommendations:

- The framework to make recommendations of initiatives are still made up on five target industries for overall picture. In practice, time by time, JICA can decide to focus on less than five industries, and skip the initiatives related to the less prioritized one;
- Prioritize initiatives that enhance the existing HRD projects as this will enable the ability to leverage resources, network and counterparts experience, meanwhile contribute to develop long-term outcomes caused by accumulative efforts of JICA on the field;
- From on-going projects, JICA can consider to co-create with partners to develop new initiatives or expand to new target industries, or new target provinces.
- The recommendations are drawn up on understanding existing projects and policies of JICA at the time of this report, and should not reflect any change in Japan's cooperation strategy in the future

(*) Firstly, using framework in Figure 171, based on understanding existing JICA program (part 5.1) and reviewing target industries, some recommendations from Government counterparts, the focus for JICA's support are highlighted as below:



a. Matching of initiatives regarding HE sector - ① High quality human resources

Matching with the on-going projects and new initiatives for HE at system level or institution level, the below framework presents the main recommendations:

Figure 176. Mapping of initiatives for High quality HRD support

Target industries	Main projects in HE				New initiatives for HE sector	
	VJU	CTU	VJCC & Keiejuku	JDS Scholarship	At HE system level	At institution level
Mechanical/ Supporting industry <i>Cultivate Japanese knowhow reinforce network cooperation for impact</i>	-	-	A Increase reach of Keiejuku & VJCC courses; Initiatives to strengthen alumni activities to broaden the impact to the industry overall	-	-	-
Environment Green tech <i>Enhance training system to provide high quality HR for future green economy</i>	B Enhance more knowledge exchange activities to promote training & research capabilities in green tech	Strengthen TCP with CTU; Cooperation with JP HEIs for developing environmental science programs	Embed environmental & climate change response content into VJCC courses & activities	Promote courses on environment, green energy & Climate change; Consider flexible courses to increase reach	Promote knowledge exchange/ research between relevant HEIs on training programs for green economy HR Support collaboration between Japanese companies/ associations with relevant HEIs	
IT/ Digitalization <i>Strengthen IT & DX training & working capabilities for industry 4.0 labor market</i>	Strengthen capacity of VJU in ICT & Digitalization in learning, teaching & administration, developing case study for HE sector	Embed support activities to raise digital capacity of the university	Develop training & consulting related to AI, DX application in supporting industry with Japanese expert	Consider to expand training fields or include training activities on ICT & DX in JDS components	-	-
Healthcare <i>Enhance quality and scale of supply high-quality nursing & caring HR</i>	-	-	-	Expand to benefit HEIs that train managerial staff for healthcare for public health/caring model	-	C Expand JICA project in healthcare, take initiatives to engage with HEIs having nursing programs
Civil Engineering <i>Develop high-quality HR in for sustainable civil construction</i>	-	Consider support to enhance related training programs, especially towards green development & climate change response	-	-	-	-
Target province consideration	Hanoi	Can Tho	Hanoi (consider to connect/ expand to Hai Phong)	Nationwide	Hanoi	Healthcare: Hanoi, HCMC Green Tech: Hanoi, Da Nang

Note: Not include AUN/SEED-Net project, as of being focus on initiatives that can fully operate in Vietnam

As there are still many on-going projects in HE sector, the suggestions are mainly to enhance the existing commitment in project such as VJU, VJCC, JDS and CTU in the direction of exploring and expanding to purpose of developing HR for the targeted industries. Among mapping across the industries and projects, not every initiative could be taken as an independent program. As environmental & green technology is a cross-cutting, it is potential to consider a program that combine initiatives in various current projects with new initiatives towards new stakeholders in HE system. Regarding healthcare related initiative, it is suggested to combine with those for TVET sector. Besides Overall explanation of three program initiatives will be discussed in later part.

b. Matching of initiatives regarding TVET & general labor force issues: ② “Practice Engineers” and ③ Skilled technician/ skilled laborers

Matching with the on-going projects and new initiatives for TVET at system level or institution level, as well as for labor market issues generally, the below framework present the main recommendations:

Figure 177. Mapping of initiatives for HRD support to “Practice Engineers” and Skilled laborers

Target industries	New initiatives for TVET sector			New initiatives - Others	
	KOSEN project	At TVET system level	At TVET institution level	Labor market; enterprises linkage Impact Start-up	Support for TIT/RTT in Vietnam
Mechanical/ Supporting industry <i>Bring Japan model & quality standards to enhance quality of TVET graduates</i>	F Support for expanding KOSEN project Pilot and standardize to Kosen Vietnam model	D Develop more NOSS, organize test skills for occupations assigned to deliver training at international level;	D Strengthen practical collaboration of Japanese enterprises with key TVETIs & Vietnam associations for supporting industry	G Support for impact start-up & SMEs that contribute to green development, green economy	D Compare and benchmark Skills test system between Japan and Vietnam, focus on similar occupations that having RTT
Environment Green tech <i>Develop skilled workforce to prepare for future green economy</i>	-	-	H Support for TVETIs assigned with environment related training occupations at international or ASEAN level	I Support for impact start-up & SMEs that contribute to green development, green economy	-
IT/ Digitalization <i>Strengthen IT & DX training & working capabilities for industry 4.0 labor market</i>	-	-	H Develop capacity, equipment for Digitalization in teaching & learning for key TVETIs (training at international level, in target industries)	E Strengthen infrastructure to support TIT pre & post departure (with MOLISA-DOLAB) Initiatives to develop platform/tools to sharing information, matching supply and demand of RTT laborers; provide Information of training opportunities/ training resources, etc. for RTT	-
Healthcare <i>Enhance quality and scale of supplying high-quality nursing & caring HR</i>	-	C Support to strengthen skill standard system for nursing training programs at college & VTS level	H Support for TVETIs assigned with nursing training occupations at international level (expansion of JICA project in nursing)	I Support for impact start-up & SMEs that contribute develop and bring benefit for healthcare labor force	-
Civil Engineering <i>Develop skilled technical workforce for the industry</i>	-	D Expand support to develop NOSS, test skills for occupations assigned to train at international level	H Support to strengthen capacity of TVEIs assigned with training programs at international level, in target provinces	-	D Compare and benchmark Skills test system between Japan and Vietnam for similar occupations that having RTT
Target province consideration	Existing provinces	Support Industry: Hanoi, Hai Phong, Dong Nai, HCMC Healthcare: HCMC Environment : Can Tho, HCMC IT: Da Nang, HCMC Civil Engineering: Hanoi, HCMC, Da Nang		Select province based on RTT data or considered base on existing initiatives	

Note: The above frame excludes reviewing initiatives related to the Project for Strengthening the Urban Railway Training Capacity for Railway College (2021 – 2023) because the project is not directly related to five recommended target industries. It also did not mention the project Strengthening Vocational Training Sector in Vietnam due to lacking of comprehensive information on actual operating situation.

The TVET sector has been developed very dynamic, many opportunities at both system management level and institution level could be developed to new initiatives for JICA’s support in the future. The KOSEN international project between MOIT and KOSEN Japan is also much potential for JICA to provide future support for acceleration. Besides, JICA recently stated the goal to provide comprehensive support for technical intern trainees group when returning to Vietnam, thus the goal is put as one axis to brainstorm initiatives across target industries.

By brainstorming and cross mapping the initiatives, then considering the similarities in nature of activities, we come up with some broad programs to propose for future JICA’s actions. They will be discussed in the next part.

c. Suggestions of key actions for IHRD support

This part explains briefly the major initiatives presented in the above frame, which could act as basic for directions setting of new initiatives or program development of JICA’ support on IHRD. It is important to

note that, the below suggestions are still in form broad concept developed from data of this report, there should be other detail study if any initiative could be taken to planning steps.

(A) Foster the development of VJCC institute as the leading role model for developing high quality industrial human resource in Vietnam

VJCC Insitute model, and Keiejuku training courses as well as its active alumni network are quite unique model compared to other donors' similar programs in Vietnam. VJCC's development which focuses on developing managerial human resource is highly fit with solutions for HRD of Vietnam in the SEDS 2021 - 2030. It is obviously a recommendation for JICA to continue develop VJCC Insitute model as a leading organization to develop high-level managers in the manufacturing sector, especially in supporting industry for Vietnam.

Overall idea of this includes the recommendation for JICA to consider providing support or advice to the development of the Strategy for high quality human resource development of Vietnam and combine this with the support for VJCC Institute towards the leading organization focus in high quality managerial human resource, especially in industrial manufacturing sector.

Some specific recommendations:

With regards to support for high quality human resource strategy, there is opportunity for JICA to greatly contribute to the MOET via technical cooperation, such as experts dispatching to consult for the two important projects led by MOET: developing master plan to restructure the HEI networks in Vietnam, and building the Strategy for high quality human resource development of Vietnam. More practical project design, however, should be developed up on further in-depth discussions directly with the Department of Higher Education of MOET.

Support for VJCC Institute should focus on strengthening the networking, connection and alumni activities to broaden the impact to the industry overall and benefit more people. The *Keiejuku* enterprise representative share some suggestion to enhance the Keiejuku model for better impact, as follow:

- (i) Increase the number of classes, and replicate it to other provinces, this could be conducted by optimizing the organizing of the course, such as build up smaller learning team, which is more suitable for learners to stay connected while can still expand to more participants;
- (ii) Increase practical peer- learning experience; develop experienced learners to become trainers in the future via training of trainers programs, develop teaching resource for future courses;
- (iii) Strong suggestion to strengthen practical connection between Keiejuku enterprises and Japanese enterprises in Vietnam or in Japan. The parties should discuss solutions to promote practical connection, frequent information exchange and more dedicated effort to coordinate the networking and actual collaboration.
- (iv) Enhancing effective communication and promoting branding of Keiejuku is another important recommendation: issues such as selecting the message about value of the program, communicating the cost - benefit perspectives with real cases, the unique value of the courses for manufacturing enterprises, emphasize the overall benefits, communicate to the right audience.

- (v) Create activities or programs to involve the alumni enterprises (of Keieijuku and other training programs in VJCC institute) in JICA's HRD support such as: matching recruitment information of Keieijuku companies with RTTs (planning initiatives), connecting enterprises to strongly collaborate with TVETIs in related provinces & in target industries.

Besides, it is also one important suggestion to support VJCC Institute develop capacity of training and consulting for managers and leaders in the context of green economy and Industry 4.0. For example, expanding current programs or developing different learning activities on topic of green development technologies, ESG standards, SDGs planning for enterprises, response to climate change in manufacturing value chain etc.; Develop training programs and service in consulting for AI, DX application in supporting industry, with sharing experience from Japanese experts. This might be the priority for JICA's future technical cooperation support, to prepare for VJCC Institute new capacity with mission to provide high quality leaders for future green economy and industry 4.0 in industrial manufacturing.

(B) Initiatives to enhance higher education training system for providing high quality HR for future green economy

Human resource for green economy is a cross-cutting theme to apply in various existing project or new initiatives. Therefore, one direction for JICA to contribute to this trend providing support for the HEIs in Vietnam in terms of developing training facilities, knowledge, teaching capacity and training programs that could meet with demand of future jobs for green economy.

Regarding supporting scheme, there could be several ways such as providing ODA loans, technical cooperation projects to support selected HEIs, or foster the universities cooperation via JPP initiatives. Besides, as HR for green economy is still an emerging theme at HE level, it is suggested that involving multiple stakeholders' participation in a support program could be considered for better leveraging the efforts and experience of the stakeholders. Overall, it could aim for broader impact.

Existing counterparts of JICA can involve by taking initiatives from their sides, for example: VJU enhances knowledge exchange activities with Japanese universities and enterprises, promotes training & research capabilities in environmental engineering, green technology in the case of Vietnam; CTU continues to develop capacity of research and training on environmental science in response to practical climate change challenges of the Mekong Delta region; VJCC can participate in such effort by embedding new content into existing managerial training courses. JDS program can put more priority to promote appropriate courses on environment, green energy & climate change and increase the pro-active reach to candidates at institutes, associations or even in SMEs or startup companies. This also supports to one recommendation on JDS program, about strengthening the linkage of JDS activities with other ODA projects.

With regards to support in HE system, it is suggested that JICA should focus on existing counterparts because there are continuing projects. However, there is also a direction that JICA attract new HEIs to widen the impact reach to new beneficiaries. For example, a technical cooperation project to promote knowledge exchange and develop teaching capacity on training programs for green economy between

HEIs of interest. For such initiative, the current counterpart (such as VJU, VJCC Institute, CTU) can still play the central coordination role to facilitate other HEIs' participation.

(C) Initiatives to enhance the quality and scale of skilled nursing & caring HR

The basic idea of this initiative is to expand JICA's current projects in nursing care (which belong to healthcare programs) in a way that could further touch to training supply system. This will help to directly address the issues of HR shortage of the future "caring economy" of Vietnam.

Recently, JICA had implement the technical cooperation project: "Strengthening clinical training system for new-graduate nurses" with implementing partner of the Vietnam Nurses Association. It is suggested that such project should consider having initiatives to expand the support directly to the HE or TVET that trained nursing human resource.

The detail support should be considered based on evaluating demand of HE or TVETs, however, the direction would be on improving quality and scale of training, issues such as strengthening training program, quality assurance, capacity building for teachers, developing skills standards, etc. This support is especially helpful for training institutions that aiming for international-level standards.

In Vietnam, number of TVETs in healthcare is still modest. According to Decision 1769/QĐ-LĐTBXH, six occupations are chosen to be the key occupations for development in the period of 2016 -2020, towards 2025, including nursing, midwifery, pharmacy/ pharmaceutical techniques, rehabilitation/ physical therapy & rehabilitation, physician and medical laboratory technique. 100 public TVETs are assigned to train those key occupations, in which most concentrated on nursing, midwifery and pharmacy/ pharmaceutical techniques. The key occupation is classified into 3 levels: national level, regional level (ASEAN level) and international level. Only 10 colleges are assigned to train at international level, including for pharmacy (4), nursing (4), midwifery (1) and medical laboratory technique (1).

Among the 04 TVET institutions assigned with nursing vocational training program at international level, 03 are in Ho Chi Minh city (i.e. Nam Saigon Polytechnic College; Vien Dong College, Southeast Asian General Intermediate Vocational School), and 01 is in Hung Yen province (Hung Yen Medical College). With regards to target province consideration, Ho Chi Minh city could be potential to consider the support on nursing care for TVET college level.

Besides, the support for increasing quality and scale of training for nursing care at TVET level can also benefit for the group of TIT in nursing program. For example, they could have better information and training access from pre-departure phase. From that perspective, partnership with related College or VTS can be one suggestion to aim at dual goals: (i) support to raise capacity of Vietnam skilled laborers and (ii) comprehensively support for TIT in nursing care programs at pre-departure phase.

(D) Support to strengthen the NOSS system, with regards to target industries and occupations that having returned technical trainees

With the goal to make TVET education quality reaching international level standard, the ability to benchmark the quality of learners with foreign standards or mutually recognize skill standards is important. Thus, developing NOSS and support to organize skill test following Japanese skill standards is recommended as one good support direction to the TVET system in Vietnam in general.

Besides, Part 5.2 has mentioned one key challenges for RTTs is the mismatch in skill expectations and qualifications. The TIT when returning to Vietnam, depend on individual skill level, they could achieve skill certification at basic level (after 1st year), level 3 (after 3rd year) or level 2 (after 5th year) of practical skill following the Ginou Kentei system (Japanese national trade skill test system). However, as the skill test and skill qualification system is different between countries, Vietnamese RTTs normally face difficulties in proving the matching of their skills with Vietnamese potential employers.

Benchmarking the skill qualification of TIT working in Japan with Vietnam national occupation skill standard is one way to remove barriers for TIT when they return to Vietnam. This require some comparison of the two system.

The comparison between the whole Ginou Kentei (GK) system and NOSS of Vietnam is a highly complicated task that may need an independent research project. However, with the purpose to broadly imagine the mismatch of GK for RTT with NOSS in Vietnam, some broad observation was made as the table below:

Industries having TIT	No. of GK applied for TIT	Situation of similar skill standards in NOSS (basic observe based on name description)	Vietnam TIT to Japan (2019)		Japanese companies in VN (2020)
			Person	%	
Construction	27	About 3 potential similar standards (~10%): Construction carpentry and interior decoration (NOSS) - Carpentry work (GK) Formwork -Scaffolding (NOSS) - Scaffolding (GK), Construction formwork (GK)	47,457	24.2	98 companies total 5,100 laborers
Food manufacturing	3	No similar Vietnam standards (0%)	42,364	16.3	63 companies total 18,100 laborers
Machine-Metal	28	About 1 potential similar skill standards (3%): Forging, Stamping (NOSS) vs Hammer type forging work (GK)	32,028	21.6	372 companies total 70,800 laborers
Textile	11	About 1 potential similar skill standards (~10%): Industrial Sewing (NOSS)	9,898	5.0	147 companies total 66,700 laborers
Agriculture and Fishery	0	No similar skill standards (0%)	14,032	7.2	15 companies total 600 laborers
Other	17	No similar skill standards (0%)	50,222	25.7	n/a
Total	86	~ 6% of standards for GK have potential similarity			

It could be seen that the two systems are almost totally different, the trade skill system of Japan is often developed based on very detail specific skills, while the occupational skill standards in Vietnam are often defined broader by occupations. This issue is too technical for the RTT or the employers to understand and communicate, the mismatch of expectation thus continues.

In order to better support for RTT, it is necessary to understand the Vietnam's skill standards for the occupations that having large amount of technical intern trainees. Therefore, the support to develop NOSS in fields of Construction (civil engineering related work), metal - machine work (supporting industry related work) will benefit for the large number of RTTs. At the same time, it will create benefit for Vietnam TVET system as explained above.

Overall, we recommend one direction for JICA's program is to support developing NOSS focusing on the skills and occupations that highly related to technical intern trainees when they return to Vietnam, i.e. in construction/ civil engineering and mechanical/supporting industry.

(E) Comprehensive support for RTT in Vietnam

JICA has set a goal to support RTT comprehensively and develop RTT as from skilled technicians with expectation for them to gain management skills and contribute effectively to enterprises in Vietnam. There should be inter-related actions to address their employment challenges as well as challenges of state management coordination for this group, besides the effort to increase the match skill qualification of RTTs with the standard system in Vietnam as discussed above.

Firstly, lack of data sharing to local authorities enterprises for managing and supporting RTT is one key issue need to address. When returning to Vietnam, RTT is no longer under DOLAB centralize management, because by function, they are laborers at local provinces and thus they are under DOLISA's management role. But data of RTT is not available for DOLISA to access thus they could not provide support for this group (for examples: reskill trainings, connection to job matching, other social welfare policies etc.).

According to DOLAB, this agency is in discussion with JICA for a project to support the connection of job information for Vietnamese workers going to work abroad under contracts. This project includes the objective to connect and support workers after returning home to access full information about jobs in the country through recruitment information as well as supporting domestic enterprises to have better information access and direct connection with returning workers.

It is highly recommended that DOLISA in target provinces should have opportunities to take part in such initiative, by having information sharing of RTT, labor market information data exchange, plug in data system, or directly coordinate the employment matching at province. This recommendation is made due to several reasons: (i) Avoid overlapping: Each province has its own labor market information matching platform with information about supply and demand situation, managed by DOLISA, especially such operation in Da Nang, HCMC is very active. (ii) utilize right management function: the RTTs are under responsibility of DOLISA, involving local management authorities is necessary, and make RTTs be accessible to the support policies at local provinces.

Another aspect to provide support is the issue of skill and quality matching between RTT and employers in Vietnam. This is relatively separated from the issue of skill certificate. It is the fact that, before departing to Japan, the TTs were often unskilled laborers with almost no experience with Vietnam employers, therefore, they need certain support to integrate both in terms of working skills and working environment in Vietnam. Support in terms of supplementary trainings for technical skills, soft skills, working attitude, working culture are all necessary. JICA can consider to collaborate with TVET institutions to develop flexible and short-course training programs for RTTs, to deliver technical re-skill trainings, or soft-skills and management skill trainings for them.

Besides, as RTTs will compete fairly in the labor market, it is better to have market-based mechanisms such as job matching enterprises, labor dispatching companies, start-ups to take initiatives to increase access and employment opportunities for RTTs. Therefore, there should be initiatives to encourage private sector to develop platform/tools to sharing information, matching supply and demand of RTT laborers together with supply of training opportunities, training resources, etc.

Currently, matching between returned workers and Vietnamese companies are also under consideration in on-going supported programs of JICA. For example, the next phase of technical cooperation project to support VJCC Institute includes the initiative to match RTTs with KeieiJuku companies. Also, there is example of a JICA Partnership Program (JPP) initiative that aiming to provide matching of RTTs with enterprises in construction field: it is the collaboration between National University of Civil Engineering (NUCE) and Innovative Organization for Human Resource Cultivation and Encouragement (iForce) to develop a basic database for job matching in the North of Vietnam. It is recommended that such projects will be piloted, standardized, and there should be a plan to scale up the successful matching models to the wider Japanese-related enterprises community.

In addition, there should be considerations about priority fields for supporting RTT. For example, support for job matching of RTTs in Agriculture and Fishery could be challenging because the number of Japanese companies in Vietnam is too few, while Vietnamese companies are mainly SMEs might not be able to meet expectations of RTT. Difference in agriculture practice and thus in laborers' skills is another issue. The three industries having most RTTs, including construction, metal/machine and food manufacturing industry should be more prioritized for solutions as they expect the largest number of RTT in the near future. There are also many Japanese enterprises working in these industries in Vietnam compared to other fields, support to match RTTs with employers in these industries might be more effective.

Overall, the recommendations for long-term and comprehensive support for RTTs include (i) enhancing the access to information and increase role of DOLISA, (ii) matching skills evaluation and skill standard system in most potential industries, (iii) provide supplementary capacity building activities for RTTs to meet with the working requirement and environment in Vietnam, and (iv) empower more innovative solutions from grass-root level such as labor dispatching enterprises and job placement companies to provide solutions. The priority industries should be construction, metal/machine and food manufacturing.

(F) Support for the expansion of KOSEN project in Vietnam

The successful development of KOSEN model in Vietnam would contribute essentially to the HRD strategy overall as well as highly fit with TVET development strategy of Vietnam in period 2021 – 2030. Output of KOSEN model directly meet with the demand of high-quality vocational trained labor force, which is a current weakness in the labor force structure.

The running MOIT-KOSEN project is the collaboration between the MOIT and KOSEN Japan organization. Overall, it is recommended that JICA consider to foster the development of KOSEN model in Vietnam via specific technical cooperation projects. It can take lesson learnt from the existing program to design a new technical cooperation project afterwards or implement a project in parallel and expand the implementation of the model to more TVETIs of interest.

In order to successfully develop the KOSEN model in Vietnam, some following important aspects should be aware and taken in to account by JICA:

- Regarding legal basis: There is no specific legal document just for KOSEN model. But KOSEN has enough legal basis to be developed in Vietnam as it is considered as one direction to develop 9+ model, mainly the “9+5” program. However, it is recommended that JICA should be in close discussion with DVET to have updates about the the 9+ model legal basis, its progressing an whether there is any implication to the KOSEN model to be developed.
- Although there has been general positive perception, for example from DVET as well as the TVET institutions under MOLISA about this model, KOSEN in Vietnam is still in its piloting phase. There should be much discussion about how to harmonize the original model in order to apply successfully at TVETIs in Vietnam context. Besides, it is important to aware any related system challenges would occur if an TVET college apply the full model, and thus can find solutions. (please refer to Figure 177 on initial challenges of developing KOSEN in Vietnam).
- JICA can consider to support for an in-depth evaluation of the MOIT - KOSEN project. It is recommended to make an impact assessment report, in which the evaluation of the pilot KOSEN model in Vietnam should explain clearly the evidence of how KOSEN contribute to TVET development strategy in Vietnam, such as developing high-quality workforce, effectiveness of linkage between TVETIs and employers, achieving quality standards, improving skills mismatch, effectiveness of student enrollment, etc.
- There should be communication strategy to promote positive values and opportunities of developing KOSEN model among the network of TVETIs, as well as to generate positive public awareness about KOSEN in Vietnam.
- As DVET has the central management role in TVET reform progress in Vietnam, it is highly recommended that JICA’s support for future KOSEN project should be developed in partnership with DVET. With regards to current running project by MOIT, Effort to coordinating between MOIT project office and DVET should be enhanced by JICA.

Figure 178. Stakeholders' perception on challenges to develop KOSEN model in Vietnam

From discussions with various stakeholders in the process of this research, we record some key challenges for KOSEN to be developed in Vietnam:

- Generally, there still lack of positive social awareness from students and families about TVET career, and there haven't been clear evidence of its effectiveness the full KOSEN model application in Vietnam because it is still in piloting phase.
- The challenges from TVET partners in implementing the 9+ model generally are the challenges of KOSEN to be developed in Vietnam. It is essential to emphasize here, including: (i) low base capacity of the candidates attending 9+ program in Vietnam, which is different from Japan situation,(ii) lack of career orientation for the potential candidate when they are still at very young age; (iii) lack of supportive cooperation from MOET who governs the regulation on the standard amount of knowledge of upper-secondary education level that "9+" students have to complete in order to move to college level;
- Specifically, there are differences between TVET system in Vietnam and in Japan that will cause difficulties to ensure the quality when implementing KOSEN model. For example, the student/teacher ratio in KOSEN model in Japan is much smaller compared to normal ratio in Vietnam TVET institutions, which means more care and support need to spent for students, but it is still challenging for Vietnam TVETIs to ensure that characteristics in such heavy program like KOSEN. Besides, the base of investment in infrastructure and practicing resources in Japan is much higher compared to most TVET cases in Vietnam, thus from Vietnam side, it is difficult to apply the training at equal quality level.

The Vietnam Vocational Training Association and Vocational Social Work suggested that, in order to make the KOSEN model successfully work in Vietnam, it is necessary to build open resource centers and mobilize maximum financial resources from business enterprises; it also require changes in the State management that better empower TVETIs, and vocational education institutions also need to be more proactive.

From opinions of MOIT representative, there should be much effort to (i) designing training program, (ii) developing KOSEN program manual based on the experience gained from the pilot TVETIs to expand the KOSEN program to other TVETIs in Vietnam; (iii) training Vietnamese teachers and government officials about the program, (iv) strengthening the relationship between pilot schools and companies via seminars and conferences, an there should have preferential mechanisms to encourage enterprises to participate in the process of designing training programs at KOSEN-applied schools.

(G) Strengthen practical collaboration of Japanese enterprises with TVETIs

Rationales of why strengthen industry-academia collaboration in TVET is important for IHRD

Chapter 1 has pointed out four main global development trends with the same conclusion that increasing the supply of skilled and qualified workforce is extremely important for Vietnam to cope with global competitiveness pressures towards the country's sustainable socio-economic development. This leads to the demand to increase the supply and quality of vocational trained laborers. In other words, expanding

and reinforcing TVET development for up-skilling the workforce is one most critical area to increase the competitiveness of Vietnam in the global development context.

Recently there have been many important policies on human resource development for the future period 2021 – 2030. The Social Economic Development Strategy (SEDS) period 2021 – 2030 specifies that HRD is one of the three break-through solutions, in which emphasize technical HR is one of the four focus areas of demand, besides human & social care HR, digitalization and managerial HR. The Directive No. 24/CT-TTg dated May 28, 2020 of the Prime Minister on promoting skilled workforce development to contribute to improvement of productivity and national competitiveness in new situation has affirmed: “Strengthening the development of skilled workforce, thereby improving labor productivity and national competitiveness in the new situation”. Strategic development of TVET is re-emphasized as a key driven HR solution for economic recovery as well as for long-term sustainable development of the country.

During the last period 2011 – 2020, the TVET reform in Vietnam has achieved many positive results, yet there remain some key system challenges. In which, the weak linkage between TVET institution with employers in labor market is one most prominent challenges for improving the quality and supply of vocational training in Vietnam.

It is also necessary to mention that, one specific challenge of TVET development in the Vietnam context is the disadvantaged social perception about the quality and effectiveness of vocational education. Meanwhile, by its nature, vocational education could not deliver qualified outputs without strong linkage with enterprises. Therefore, support to strengthen the effective collaboration of TVETIs and enterprises (which can be broadly perceived as industry-academia collaboration in TVET) not only stands at the heart of TVET quality improvement, but also contributes to improve the positive social perception for TVET, and thus helps to increase the volume of student enrollment for vocational education.

In addition, this study also showed that Japanese enterprises clearly have higher requirement of qualifications for future laborers, TVET qualifications are more required for workers. However, currently, due to the lack of information on skill needs from enterprises and lack of active participation from enterprises, training programs of TVET institutions, in general, have not been updated to meet the actual requirements of enterprises. Accordingly, many enterprises, including Japanese enterprises in Vietnam, have difficulty in recruiting workers with highly-match vocational skills, problem-solving ability at practical working context, and appropriate working style (as has been presented in Chapter 3 on skill-gaps of TVET graduates).

Overall, promoting industry-academia collaboration in TVET is one cross-cutting solution, on the one hand, to contribute sustainable socioeconomic development of Vietnam, on the other hand, to practically solve the human resource challenges of Japanese enterprises in Vietnam in the future.

The current issues

However, the interviews and surveys of this study pointed out that enterprises, especially Japanese enterprises in Vietnam, currently haven’t been active in collaboration with TVEITs. The ratio of collaboration between Japanese enterprises and TVET currently is 7%, lower than average of all surveyed enterprises (12%). One of the main reasons is because the enterprises haven’t seen their benefit enough attractive for stronger commitment. In fact, enterprises haven’t preferred spending resources for long-term benefit of stabilizing the supply of laborers from good collaboration with TVET institutions.

Meanwhile, from the side of TVETIs, many TVET institutions recognized the importance of connecting with enterprises and they have been very active, but due to the lack of information exchange and two-way contributing efforts, TVETIs themselves could not enforce the effectiveness and efficiency of collaboration to prove that collaboration could benefit for the both sides.

Besides, although there are policy documents that regulate the “rights” and “responsibilities” of enterprises to involve in TVET activities, it is reflected that these documents are not practical enough. Without any specific incentive or compulsory regulations for companies to follow, they mainly serve as a regulative base for enterprises to recognize various way to take part in or collaborate with TVET sector, but not truly as encouragement policies. Some tax incentives stated in related documents are considered as not yet practical, because they mainly encourage the enterprises’s investment in TVET but not specifically encourage other forms of technical collaboration.

The demand for future collaboration and JICA’s role

There is an impressive increase in willingness of enterprises for future collaboration. For example, although there is only 7% of Japanese enterprises currently having actual collaboration with TVET (at the time of the study), there is 50% of Japanese enterprises show intention to collaborate with TVETIs in the future 5- 10 years, with more openness in collaboration types.

From TVETIs’ feedback, as there are many Japanese enterprises in Vietnam in the technical and engineering fields, all the interviewed TVET institutions have high demand to strengthen the collaboration Japanese companies. The recommendations from DVET, VCCI and professional industry associations such as VASI (Vietnam Association of Supporting Industry) also emphasize the importance of external encouragement support from JICA to enhance the active collaboration of Japanese enterprises with TVET institutions.

With regards to other donors’ actions, as mentioned in Part 2.4 – chapter 2 of this report, some donors have been putting much effort in connecting enterprises with TVETIs via multi-stakeholder engagement model, mainly focus on the industries that having most potential economic collaboration with Vietnam. This, again, shows that there has been a stronger movement of industry-academia collaboration that attracted strategic investment from Vietnamese government and bilateral donors.

Overall, it is strongly recommended that JICA should consider a strategic cooperation area in encouraging and supporting for effective collaboration of Japanese enterprises in Vietnam with the TVET institutions. From recognizing the challenges in collaboration, and from taking lessons learnt of other donors’ model, some specific recommendations for JICA’s cooperation are as below:

- Having industry focus: It is recommended that support for strengthening the collaboration between Japanese enterprises and TVETIs should focus on industrial manufacturing and supporting industry field.
- Technical cooperation project is recommended. There should be efforts both at broad level for awareness raising, demand information exchanging and practical level for fostering specific collaboration model and outputs.
- At broad level, many forms of dialogues between TVETIs and enterprises such as seminars, meetings, site visits are necessary to maintain communication and foster mutual understanding

between the two sides. TVETIs need to understand about quantity and quality of demand, the skill-gaps, specific mismatch of training conditions compared to practical working requirements, etc. While the enterprises should understand different opportunities that they can contribute to develop TVET and at the same time influence the TVETIs for more matching candidates.

- Besides, there should be supports aiming for specific, long-term and practical collaboration models. Key TVETIs and major enterprises should be selected for specific on-demand collaboration cases. In which, various collaboration activities could be pilot based on demand matching of the both sides and most appropriate activities to be maintained.
- During the support for collaboration between TVETIs and enterprises, the demand for upgrade teaching equipment, facilities for TVETIs would be recognized clearer. This demand could be addressed by other JICA's supporting scheme, such as loan or grant aid projects in TVET sector. Otherwise, there is still clearer demand information from the TVETIs for the state's investment.
- Other knowledge database and standard guidelines could be also helpful at broad level. For example, guidelines for enterprises-TVET collaboration specialized for Japanese enterprises in manufacturing industry, together with sharing database on TVETIs by regions, provinces could be helpful for any Japanese enterprises to start some new collaboration.
- Multi-stakeholder engagement is recommended:
 - DVET could be considered as central coordination role, especially for efforts of enhancing dialogues from TVET perspective, identifying and encouraging specific TVETIs to take active roles in collaboration, leading the process of policy advocacy for more practical encouragement schemes for enterprises to take part in TVET collaboration in the future.
 - Meanwhile, there should also be the role of Japanese association such as JCCI and JETRO to act as a bridge of Japanese enterprises with other stakeholders in the collaboration, they can co-ordinate with Japanese member enterprises, encourage specific Japanese enterprises to join, as well as organize demand assessment and dialogues with them.
 - For projects that involve both Japanese and Vietnamese enterprises (in the supporting industry value chain) it is also recommended to include VCCI and industrial association such as VASI to take part in such collaboration discussion. In which, VCCI takes the role of representing enterprises perspectives, networking and encouraging the participation of enterprises generally. VASI, on the other hand, could suggest specific enterprises in supporting industry field, follow-up the collaboration discussions, provides experts and coaching for Vietnamese enterprises to effectively joining the collaboration model.
 - Regarding key TVETIs, one direction is to wait for the introduction from DVET. Other direction is to involve key TVETIs assigned for training mechanical/ supporting industry occupations at international level, in target provinces (in particular: Hanoi, Hai Phong, Dong Nai, HCMC), or existing TVETIs who are participating in KOSEN pilot model.
 - In multi-stakeholder engagement, still it is recommended that DVET, Japanese associations should be the main actors in such initial cooperation projects.

(H) Support to enhance capacity of training for key TVETIs in target industries and target provinces

Besides supporting industry that JICA has rich experience, it is recommended to consider expanding the support to TVET in other target industries.

Key recommended TVETIs are those who are assigned to deliver selected training programs (focus on target industries) at international level, in target provinces. The target provinces for target industries having the assigned TVETIs (following Decision 1769/QĐ-LĐTBXH) are as below:

- Support Industry: Hanoi, Hai Phong, Dong Nai, HCMC
- Healthcare- Nursing: HCMC
- Environment: Can Tho, HCMC
- IT: Da Nang, HCMC
- Civil Engineering: Hanoi, HCMC, Da Nang

For detail planning, it is recommended that the list of TVETIs should be developed based on reviewing matrix of occupations assigned for training at international level, in the target provinces and target industries as above, from full data list of Decision 1769/QĐ-LĐTBXH.

(I) Support for Start-up and SMEs in healthcare, environmental - green development and agri-tech

As explained in chapter 5, support in terms of capacity building, training for start-ups and SMEs could be considered as one effort of JICA to contribute for human resource development of Vietnam. By reviewing target industries, it is recommended that JICA can consider initiatives to provide support for impact start-up & SMEs that contribute develop and bring benefit for healthcare labor force, or those that have solutions and technologies that contribute to green development, green economy. Besides, though agriculture is not considered as a target industry, JICA can still consider to support start-up model in agriculture that apply technology, digital transformation (agri-tech).

In terms of supporting activities, JICA could consider funding investment as some current pilot, or technical cooperation projects to provide trainings, capacity building, expert dispatching to support such businesses to improve the business models and management capacity. For example, from discussion with one start-up that is receiving investment from JICA (one of the two pilot model), the company show much appreciation for opportunities of having further technical assistance support, such as knowledge exchange, capacity buildings for leaders, learning best practice model from Japan, etc.

This is also consistent with a recommendation by the “Data collection survey on TA facility for impact investment and ecosystem development” by JICA in 2021, that stated the three fields for JICA to consider impact investment in Vietnam should be Agri-tech, Healthcare, and Green development.

(K) Next steps - Further technical & feasibility research

Besides the recommendations for specific directions as above, we also suggest that JICA should consider to conduct further in-depth preparatory research as next step to develop specific projects, especially those are new initiatives. Some broad suggestions are provided as below:

- To conduct a study on the overall status of education programs relating to human resource for green economy, both in HE and TVET sector, stakeholders’ roles, existing challenges and propose direction for JICA’s related HRD program to contribute for green growth strategy of Vietnam.
- To conduct a comprehensive data collection study on demand for caring human resource, with an in-depth view in topics such as nursing care HR training system & programs in HE and TVET

system, situation of quality assurance, skill standards, the quantity and quality of trainings, skill gaps and demand for support cooperation from JICA.

- Some other new & interesting topics for study would be: expanding entrepreneurship approach in HE & TVET system, social innovation in HRD, etc.

6.2.2 Recommendation of stakeholders engagement

This part is to note some information sharing and recommendation for the stakeholders that JICA should concern in IHRD projects.

- **Major Government Counterparts related to HE & TVET**

Department of Higher Education, Ministry of Education and Training (DHE) – MOET

The functions and duties of DHE are policy development, directing, implementing, inspecting and supervising the implementation of higher education. In regard to HRD support, it's expected and recommended to have a close and direct cooperation between JICA and DHE at activity-based level to utilize resources, expertise and experience.

Cooperating directly with DHE or MOET instead of university level is recommended for system level issues (explained in 6.1.1) with a view to identify the systematic issues and come up with solutions that can be applied broadly to many universities under monitoring of the ministry, beyond some specific universities.

Cooperation direction: It is strongly recommended by DHE that JICA should consider opportunity to co-develop and consult on the scheme to develop high-quality human resources strategy for Vietnam in period of 2021-2030, which MOET is assigned by the Government, and the DHE is taking charge of drafting the strategy. Besides, there has been a project to improve higher education capacity from 2021 to 2025 with provincial need-focus so JICA can cooperate in the form of a joint survey on the need for high-quality human resource training in the target provinces;

Besides, JICA and the DHE can keep frequent information/experience sharing through seminars or conferences with universities about HRD orientation, and to share HRD related research documents or collaborate in study activities, such as on high-quality HR;

In term of collaborating and working mechanism, there has already existed the MOU between MOET and JICA on The Project for Human Resource Development Scholarship (JDS). Therefore, it's not necessary to sign new MOU, and JICA can expand the cooperation purpose of the current one, which is an advantage to speed up the process.

The DHE strongly recommend JICA to establish a direct meeting discussion with DHE for understanding both sides' priorities, directions, common interest on the basis of mutual benefit before getting into any official agreement.

Directorate of Vocational Education and Training (DVET) – MOLISA

As stated in Chapter 1, DVET holds the central role of state management in TVET sector, prepares and implements the TVET development strategy and plan. In practice, with regards to donor projects, DVET also acts as an implementation agency. Through interview, DVET is appreciated by the TVETIs as well as some international donors for the active role in cooperation project. DVET currently facilitates a working group of donors in TVET sector, organizing annual donors conference. Therefore, it is highly recommended that JICA should keep close connection with DVET specifically in discussion and consulting for design any new project related to TVET in Vietnam. Besides, it is also possible to work with DVET as a project implementing partner.

Cooperation directions: Overall, DVET recommends JICA to develop practical interventions, that focus on specific issues of TVETIs such as capacity building, developing training programs, rather than policy consultation, sharing model or knowledge exchange, because there have been quite much efforts of various donors on such direction.

It is suggested that JICA should focus on transferring the implementing experience of KOSEN model to Vietnam. According to DVET, the initial feedback about KOSEN from TVETIs has been very positive, DVET expects that successfully implementing KOSEN model can prove the effectiveness of vocational training to learners and society. It is expected that JICA continue to provide practical support to realize the KOSEN model to more colleges.

One more important direction is to enhance close communication to promote and strengthen the cooperation between Japanese enterprises and TVETIs, ensures that training output meet with the practical requirement of enterprises

Regarding collaborating mechanism: It is recommended to have direct discussion with DVET to understand both sides' priority in HRD and to find the common of both sides in the objectives and implementation activities. After clearly discussing about both sides' views and need, a cooperation agreement would be signed, which covers the cooperation objectives, main activities, and implementation plan.

Provincial's Department of Labor, Invalids & Social Affairs (DOLISA)

DOLISA is a specialized agency under the Provincial People's Committee, and performs the function of advising and assisting the Provincial People's Committee in performing the function of state management, including: (i) Implementing, propagating and instructing legal documents on employment and vocational training; (ii) Managing quality and quantity of provincial vocational education system; (iii) Managing and coordinating labor-related issues in the province. In practice, DOLISA handles many practical activities for laborers such as manage the training, re-skill training for disadvantaged laborers, ensuring social welfares, labor information platform, etc. As discussed previously, the technical intern trainees when returning to local province, DOLISA will be the local authority organization to manage information, and implement any related support policies.

In case JICA has intentions to implement project about TVET and labor-related issues in a specific target province, especially with the TVETIs belongs to the province's management, local counterparts may need to involve provincial DOLISA. However, DOLISA will not directly work with donors since the beginning. The cooperation support with a province shall start with the official discussion with the Provincial People's Committee. Based on the purpose and scope of a project, DOLISA would play as a consulting unit, provide information for donors, or sometimes can act as implementing partner (depending on project design with the local authorities).

From perspective of DOLISA, there're common needs for donors' support at provincial level, including (i) Experience sharing and exchange programs, capacity building for administration staff; (ii) To strengthen the connection between TVETIs and enterprises operating in the province.

- **Associations that could act as implementing counterparts**

The Employers Office²²⁷, under Vietnam Chamber of Commerce and Industry (VCCI)

Originally, the main function of VCCI is to promote trade and investment. Since Vietnam joined the ILO in 1990, there was the agreement that a three-party²²⁸ mechanism has to be formed in dealing with all labor related policies and issues. VCCI represents the employers side in such mechanism.

Therefore, VCCI established a specialized committee, the Employer's Office, authorized to participate in activities and advise enterprises on the issues of labor, employment, and labor relations. In addition, VCCI has activities to promote, train and propagate to improve knowledge for businesses to implement policies and improve working conditions for employees, including improving employees' capacity action.

Importantly, since 2020, VCCI has joined the TVET sub-committee of the *National Council for Education and Human Resource Development²²⁹*, in which DVET is the leader of the sub-committee, and VCCI (Employers Office) acts as a member representing the enterprises' voice. Its roles including participating in the construction and contributing to the human resource development project during the period of 2020-2025, and the period of 2025-2030. VCCI has become a reputable voice of enterprises in discussing related policies and in HRD activities.

From reviewing other donors' projects, VCCI has been a very active implementing counterparts in projects that involve enterprise-TVETIs collaboration (see explanation part 2.4), and in projects engaging with enterprises (e.g. with ILO). Therefore, it is highly recommended that JICA should stay in strong connection with VCCI – the Employers' Office for the projects involving issues of enterprises collaboration, labor policies, SMEs development. VCCI also show their interest in cooperating with JICA in HRD projects, at the role of consulting unit or implementing partners depending on project design.

227 <https://vcci.com.vn/van-phong-gioi-su-dung-lao-dong>

228 the State, the laborers, and employers

229 <http://hoidongquocgiagiaduc.moet.gov.vn/gioi-thieu/Pages/default.aspx?ItemID=5289>

Regarding cooperating mechanism: it is recommended that the two sides need to hold an overall discussions to clarify directions and potential cooperating issues, after that a framework and detail cooperation plan would be developed. Initial recommendations from VCCI for JICA's HRD support include: (i) Encouraging and promoting the connection between Japanese enterprises and TVETIs; (ii) Sharing experiences and information, co-research on HRD

Vietnam Association for Supporting Industries (VASI)²³⁰

VASI was established in 2017, is a non-governmental organization with more than 300 members working in the fields of supporting industry, mainly mechanical and manufacturing of parts, for example: molding, automation, metal components, electrical - electronics, plastic - rubber, software solutions, etc. VASI members are both SMEs and large enterprises. Main activities of VASI are to help represent businesses to give suggestions to the government with regards to the supporting industry's development, to support capacity building, and connect members with customers. In term of capacity building, the focus is on improving production capacity or management capacity of the companies to have quality match with international market etc.

VASI has strong and practical connection with the enterprises members, also has direct consulting capabilities, thus could be a partner if JICA consider a project connecting both Japanese enterprises and Vietnamese enterprises in supporting industries. VASI is willing to collaborate with JICA in suitable activities, such as (i) Connecting Japanese enterprises and Vietnamese enterprises to strengthen value chain connection; (ii) collaborate in project of TVETIs/ HEIs – enterprises collaboration; (iii) Promoting and encourage enterprises to join Japanese training programs for managerial staff or training of trainer (TOT) projects for middle to high level managers of companies in the supporting industry;

Vietnam E-commerce Association (VECOM)²³¹

VECOM is established in 2007, and until now, VECOM has about 400 members, mainly SMEs operating in different fields, such as platform provider, logistics, insurance, telecommunication, trading, etc. VECOM main roles are policies reviewer for the government, support to connect members with local and foreign partners, transferring IT to community and training for enterprises by seminars or workshops, collaborating with universities/colleges/training centers/ Provincial Department of Industry & Trade. In its activities, VECOM annually holds forums and implement research on Vietnam E-commerce Index.

Similarly, VECOM can be considered to be a consulting unit and a promoting HRD project to enterprises through its members and its seminars, forums. In case JICA will implement a technical cooperation project that having the components related to promoting digitalization or e-commerce related, VECOM can be considered as one implementing counterpart for (i) research E-commerce market to provide market insights to stakeholders; (ii) Collaborate with universities and colleges to provide education/training

230 <https://vasi.org.vn/en/>

231 <https://vecom.vn/>

programs for students specialized in e-commerce; (iii) Provide training programs on digital transformation, associated with e-commerce content.

Generally, VECOM's activities are not strongly related to HRD projects; however, as VECOM has very strong network with IT businesses, start-ups community, we still recommend JICA to consider this association as one potential counterpart for relevant HRD projects that involve ICT enterprises knowledge and network.

- **Collaboration with other Donors**

Donors collaboration has been a lesson learn discussed in chapter 4. With regards to key recommendation for JICA, we emphasize the importance of maintaining regular information exchange about donors' engagement in HRD. JICA has been very active in group of major donors such as with the World Bank, ADB, GIZ, however, actively joining the wider donor working group facilitated by DVET could be beneficial for JICA to have most update information, and timely participate in important development topics. The donors mapping situation as of chapter 4 in this research could be considered as a baseline, regular simply update is recommended, for example, on a yearly basis.

Collaboration at project level need much feasibility evaluation and seems not possible between bilateral donors due to different working mechanism, thus it is difficult to give any specific recommendation. Possible consideration could be existing activities such as regional network and conference about good practice, active in sharing information and knowledge exchange.

---end---

APPENDIX 1. List of terminology in Chapter 2

Higher education (HE) refers to education provided by universities, leading to the award of an academic degree such as bachelor degree, master degree or PhD (*Vietnam Education Law – Law 43/2019/QH14, issued on June 14, 2019, took effect from July 1, 2020*)

Institutional autonomy means the right of a higher education institution to determine its own targets and how to achieve them; to decide and assume accountability for their professional and academic activities, organization, personnel, finance, assets and other activities within the law and the capacity of the higher education institution itself. (*Law 34/2018/QH14 on Amendments to the Vietnam Law on Higher Education, issued on November 19, 2018, took effect on July 1, 2019*)

Institutional accountability means the responsibility of a higher education institution to provide information for learners, the public, competent authorities, the owner and relevant parties about its conformity with law and its rules and commitment. (*Law 34/2018/QH14 on Amendments to the Vietnam Law on Higher Education, issued on November 19, 2018, took effect on July 1, 2019*)

University means a higher education institution that provides training in multiple academic disciplines and has an organizational structure conformable with this Law (*Law No. 34/2018/QH14 on Amendments to the Law on Higher Education, issued on November 19, 2018; took effect on July 01, 2019*)

“Parent university” also refers to a higher education institution that provides training in multiple fields, has an organizational structure conformable with this Law and multiple units that pursuit the same missions and objectives.

National universities and **regional universities** are parent universities responsible for achievement of strategic national and regional development objectives.

The conditions for establishment of universities including requirement for minimum investment capital, infrastructure, teaching capacity, etc. of universities are regulated by *Decree 46/2017/NĐ-CP and 135/2018/NĐ-CP*.

Vocational Education means a level of national education system which provides workers with elementary-level, intermediate-level, college-level vocational training and other vocational training programs in order to meet the needs of direct human resources in production, businesses and services, including: formal training and continuing training (*Vietnam Law on Vocational Education – Law No. 74/2014/QH13, issued on Nov. 27, 2014, took effect from Jul. 1, 2015*)

College is a type of vocational education institution, besides two other types: vocational education centers and vocational training schools. (*Vietnam Law on Vocational Education – Law No. 74/2014/QH13, issued on Nov. 27, 2014, took effect from Jul. 1, 2015*)

Colleges have the function to organize the implementation of training programs at college, intermediate and elementary level, and regular training programs according to regulations of the Minister of Labor, War Invalids and Social Affairs; (*Circular 15/2021/TT-BLĐTBXH, issued on October 21, 2021, took effect from December 31, 2021*).

The conditions for establishment of a college, i.e., minimum size of enrollment for college and intermediate level, investment capital, land size, education and training capacity etc. is regulated by *Decree 143/2016/ND-CP, issued and took effect on October 14, 2016.*

Vietnam Qualifications Framework (VQF) classify and standardize the capacity and minimum academic load and qualifications suitable for specific levels in vocational education and undergraduate education of Vietnam, contributing in the increase of quality of education of human resources. (*Decision No. 1982/QĐ-TTg issued and took effect on October 18, 2016; Decision No. 436/QĐ-TTg issued and took effect on March 30, 2020*)

Learning Outcome refers to the requirements of knowledge and skills the learners need to acquire. Outcome standards includes: (1) factual and theoretical knowledge; (2) awareness, professional practice skills and communication skills; (3) personal autonomy and responsibility in the application of knowledge and skills in the conduct of professional tasks (*Decision No. 1982/QĐ-TTg issued and took effect on October 18, 2016*)

National Occupational Skills Standards (NOSS) is the classification of occupational skills from level 1 to level 5 according to the description of criteria on: the nature, level of work must be performed and the scope, work situation; the flexibility, creativity, cooperation and responsibility in carrying out the work. (*Circular No. 56/2015/TT-BLĐTBXH dated December 24, 2015 and took effect from February 15, 2016*)

National Occupational Skills (NOS) Test is defined as a tool for measuring people's knowledge and skills at the time of the test based on NOSS. NOS test is the basis for assessment and grant of certificates of national occupational skills. (*Integrated document No. 5213/VBHN-BLĐTBXH dated December 11, 2018 Decree on guidelines for the Law on Employment regarding assessment and grant of certificates of national occupational skills; Decree No. 31/2015/ND-CP dated March 24, 2015 and took effect from May 15, 2015*)

Vocational Education Accreditation means the activity in which the evaluation and certification of the fulfillment of vocational education quality accreditation standards by vocational schools or vocational training programs for all levels are presented in accordance with the Ministry of Labor, War Invalids and Social Affairs. Accreditation standards means the series of requirements that specify what vocational institution shall meet in order to be fully accredited. (*Decree No. 49/2018/ND-CP dated March 30, 2018 and took effect from May 15, 2018*)

Career orientation in education is a system of measures implemented inside and outside educational institutions to provide students with knowledge about professions and the ability to choose a profession based on a combination of personal desires, fortes and social labor demand. (*Education Law No. 43/2019/QH14 issued on June 14, 2019 and took effect from July 01, 2020*)

Student classification is a measure of organizing educational activities on the basis of career orientation in education, enabling lower secondary and upper secondary graduates to continue with their studies in higher educational levels/qualifications or vocational education or to join the labor force with regard to personal capacity, circumstances and social demands, contributing to the regulation of the professional structure following the developing requirements of the country. (*Education Law No. 43/2019/QH14 issued on June 14, 2019 and took effect from July 01, 2020*)

APPENDIX 2. List of In-depth Interviews that contribute to the Study

List of interviewed experts for the Study - Government organizations

No.	Association Name	Name	Position
1	The Directorate of Vocational Education and Training (DVET) - MOLISA	Mr. Ha Duc Ngoc	Officer, The Official Training Department
2	The Higher Education Department (DHE) - MOET	Ms. Nguyen Thi Thu Thuy	Deputy Director
		Ms. Nguyen Thao Huong	Officer
3	Ministry of Industry and Trade (MOIT)	Mr. Nguyen The Long	Department of Organization and Human resource
4	Department of Overseas Labour (DOLAB) – MOLISA	Ms. Nguyen Thi Anh Hang	Deputy Head of the Japanese & SEA Department
5	Support for Autonomous Higher Education Project (SAHEP)	Mr. Le Trong Hung	Director
6	Hanoi Department of Labour, Invalids and Social Affairs (DOLISA Hanoi)	Ms. Nguyen Thanh Nhan	Deputy Director
7	Hai Phong Department of Labour, Invalids and Social Affairs (DOLISA Hai Phong)	Ms. Pham Thi Huyen	Deputy Director
8	Da Nang Department of Labour, Invalids and Social Affairs (DOLISA Da Nang)	Mr. Nguyen Van An	Deputy Director
9	Dong Nai Department of Labour, Invalids and Social Affairs (DOLISA Dong Nai)	Mr. Nguyen Huu Khanh Linh	Head of the Department of Vocational Education
10	Can Tho Department of Labour, Invalids and Social Affairs (DOLISA Can Tho)	Mr Tieu Minh Duong	Deputy Director
11	Center of Forecasting Manpower Needs and Labor Market Information HCMC (FALMI) – under DOLISA HCMC	Mr. Do Thanh Van	Vice Director
12	Ho Chi Minh City Institute for Development Study (HIDS) – Under HCMC People’ Committee	Ms. Tran Van Bich	Economic Development Research Department
		Ms. Nguyen Thi Le Uyen	Socio-Cultural Research Department

List of interviewed experts for the Study - Donors

No.	Association Name	Name	Position
1	World Bank office in Vietnam	Mr. Michael Drabble	Senior Education Specialist
2	Asian Development Bank (ADB)	Mr. Ngo Quang Vinh	Social Sector Officer
3	International Labor Organization (ILO) Project Sustainable supply chains to build forward better – Project linked to electronics manufacturing in Viet Nam	Ms. Vu Kim Hue	Program Manager
4	Embassy of Canada	Ms. Sandra Le Courtois	First Secretary (Development)
5	GIZ - Project "Reform of TVET in Vietnam"	Ms. Nguyen Thanh Tu	Senior Officer
6	GIZ - Project "RECOTVET"	Mr. Darjursch Tafreschi	Senior Officer
7	Australian Embassy	Ms. Ton Thi Hue Chi	Senior Manager
		Ms. Nguyen Thuy Hang	Senior Manager
8	British Council in Vietnam	Ms. Nguyen Phuong Chi	Program Manager of Higher Education/ Education program
9	Korean International Cooperation Agency (KOICA)	Ms. Sooyeon Soo	Deputy Country Director
		Ms. Miyoung Seo	Deputy Country Director
10	Irish Aid	Ms. Nguyen Thi Huong	Bilateral Relations Adviser

List of interviewed experts for the Study - Associations

No.	Association Name	Name	Position
1	Vietnam Chamber of Commerce & Industry (VCCI)	Ms. Vi Thi Hong Minh	Deputy director of The Bureau for Employer's activities in Vietnam
2	Association of Vietnam Universities and Colleges	Mr. Le Viet Khuyen	Director - Higher education quality support department
3	Vietnam Association for Supporting Industries	Ms. Truong Chi Binh	Deputy General Secretary
4	Vietnam E-commerce Association (VECOM)	Mr. Tran Van Trong Mr. Nguyen Binh Minh	General Secretary Head of Human Resource Development Department
5	National Graduate Institute for Policy Studies (GRIPS)	Mr. Kenichi Ohno	Professor (Specialty: Development Economics, Industrial Policy)
6	Japan International Cooperation Agency (JICA)	Mr. Junichi Mori	JICA Expert
7	Osaka Prefectural Government	Mr. Makoto Ryoke	Ex-Deputy Director, Monodzukuri Business Information-Center Osaka
8	Vietnam - Japan Institute for Human Resources Development (VJCC)	Mr. Masayuki Karasawa (Hanoi)	Chief Advisor of VJCC Institute
		Ms. Ogawa Kumiko (HCMC)	JICA Expert in VJCC Institute HCMC

9	Keiejuku Club Vietnam	Ms. Tran Thi Thu Trang	Chairwoman of KEIEIJUKU VN Club, General Director of Hanel PT Company
10	The Japan External Trade Organization (JETRO)	Mr. Takeo Nakajima	Chief Representative of JETRO Office in Hanoi
		Ms. Mihoko Kurosu	Representative of JETRO Hanoi
11	The Japanese Chamber of Commerce and Industry in Vietnam (JCCI)	Mr. Hiroyoshi Masuoka	General Director of Thang Long Industrial Park (TLIP), Representative of JCCI
		Ms. Satsuki Tanimoto	Representative of JCCI

List of interviewed experts for the Study - HE/TVET

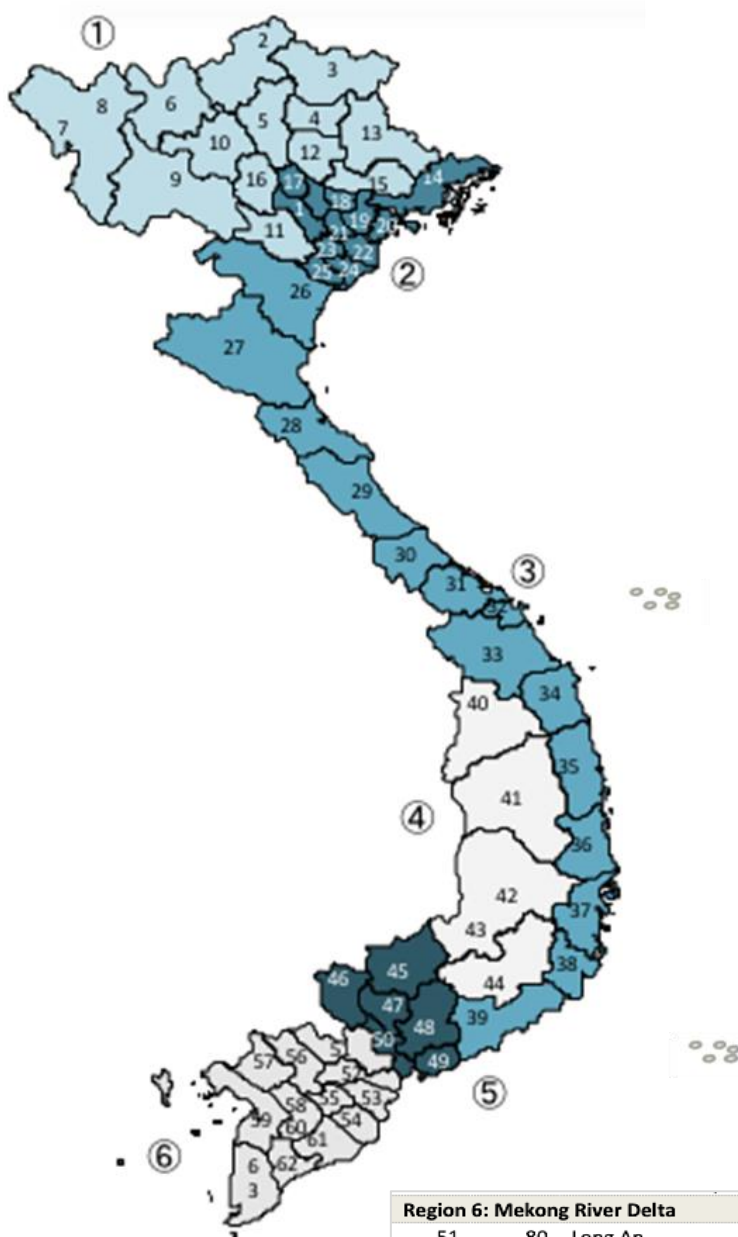
No.	HE/TVET Name	Position	Region
1	Foreign Trade University (FTU)	Director of International Office	North
2	Hanoi Vocational College of High Technology (HHT)	Specialist of Enrollment and Employment Center	North
3	Vocational College of Technique and Technology Hanoi (HTTC)	Deputy Head of Training Department	North
4	Hanoi Industrial Vocational College (HNIVC)	Training Department	North
5	FPT Polytechnic College (FPTPC)	Training Management Department	North
6	Vietnam Japan University (VJU)	Research Promotion, Cooperation and Development Department	North
7	Phenikaa University (Phenikaa)	Vice President	North
8	Hai Phong University of Medicine and Pharmacy (HPMU)	International Relations Department	North
9	Hai Phong Industrial Vocational College (HPIC)	Vice Principal	North
10	University of Foreign Language, Hue University (HUCFL)	International Relations Department	Central
11	The University of Danang (UDN)	Head of International Relations Department	Central
12	The Central Vocational College of Transport No. 5 (CCoT5)	The Principal	Central
13	Hoa Sen University (HSU)	Principal	South
14	University of Economics and Law - VNU - HCMC (UEL)	Office of Educational Testing and Quality Assurance	South
15	Industrial University of Ho Chi Minh City (IUH)	Office of Science Management and International Relations	South
16	Cao Thang Technical College (CTTC)	Deputy Head of International Relations Department	South
17	Ho Chi Minh City Vocational College (HCVC)	Vice Principal	South

18	Ho Chi Minh City University of Technology (HCMUT)	Faculty of Applied Sciences, Department of Engineering Mechanics	South
19	Fulbright University (Fulbright)	President	South
20	College of Machinery and Irrigation Dong Nai (VCMI)	Head of Training Department	South
21	Dongnai College of High Technology (DCoHT)	Deputy Rector	South
22	Can Tho University (CTU)	International Relations Department	South
23	Can Tho Technical Economic College (CTEC)	Training Department	South

Interviewed experts for the Study - Enterprises

- Number of interviewed experts for the Study - Japan-enterprises: 37
- List of interviewed experts for the Study - Non-Japan-enterprises: 44

APPENDIX 3. Map of 6 socio-economic regions of Vietnam



No.	Code*	City/ Province
Region 1: Northern midlands and mountain areas		
2	2	Ha Giang
3	4	Cao Bang
4	6	Bac Kan
5	8	Tuyen Quang
6	10	Lao Cai
7	11	Dien Bien
8	12	Lai Chau
9	14	Son La
10	15	Yen Bai
11	17	Hoa Binh
12	19	Thai Nguyen
13	20	Lang Son
15	24	Bac Giang
16	25	Phu Tho
Region 2: Red River Delta		
1	1	Hanoi
14	22	Quang Ninh
17	26	Vinh Phuc
18	27	Bac Ninh
19	30	Hai Duong
20	31	Hai Phong
21	33	Hung Yen
22	34	Thai Binh
23	35	Ha Nam
24	36	Nam Dinh
25	37	Ninh Binh
Region 3: Northern Central area and Central coastal area		
26	38	Thanh Hoa
27	40	Nghe An
28	42	Ha Tinh
29	44	Quang Binh
30	45	Quang Tri
31	46	Thua Thien Hue
32	48	Da Nang
33	49	Quang Nam
34	51	Quang Ngai
35	52	Binh Dinh
36	54	Phu Yen
37	56	Khanh Hoa
38	58	Ninh Thuan
39	60	Binh Thuan
Region 4: Central Highlands		
40	62	Kon Tum
41	64	Gia Lai
42	66	Dak Lak
43	67	Dak Nong
44	68	Lam Dong
Region 5: South East		
45	70	Binh Phuoc
46	72	Tay Ninh
47	74	Binh Duong
48	75	Dong Nai
49	77	Ba Ria - Vung Tau
50	79	Ho Chi Minh City
Region 6: Mekong River Delta		
51	80	Long An
52	82	Tien Giang
53	83	Ben Tre
54	84	Tra Vinh
55	86	Vinh Long
56	87	Dong Thap
57	89	An Giang
58	91	Kien Giang
59	92	Can Tho
60	93	Hau Giang
61	94	Soc Trang
62	95	Bac Lieu
63	96	Ca Mau

Source: Decision 124/2004/QĐ-TTg

(*) Code is administrative code

APPENDIX 4. About the KOSEN - MOIT project in Vietnam

About KOSEN and the KOSEN project in Vietnam

KOSEN (国立高等専門学校/National Institute of Technology) is a system of national technical training schools in Japan that was established in 1961 to meet the great demand for human resources from the industry when Japanese industry is at a remarkable level of development. Currently, KOSEN graduates in Japan are actively contributing to both industry and academia sector. Today, KOSEN is widely recognized around the world, not only because they offer high-quality vocational programs, but also because KOSEN's qualifications meet the needs of the Japanese industry,

The basic features of the KOSEN Model include:

- 5-year continuous training from the age of 15: students graduating from junior high school can choose KOSEN Education instead of entering high school as traditional method. However, high school graduates who do not attend a university can transfer to KOSEN to obtain a college degree to continue higher education.
- V-model Education: Most schools General Education (GE) subjects are taught in the first school year and decrease year by year. As for major subjects, they are also increased year by year. This education model is built to create a spiral for knowledge and skills development. It helps students develop their learning skills through three phases: Theory Learning, Researching and Practicing.
- Collaborate with local and nation industry through internships and other educational programs.
- The main education fields of KOSEN: Mechanics Engineering - Materials Sciences; Information Technology; Construction Engineering; Marine Engineering; Electronic and Electricity Engineering; Biotechnology and Chemistry; and other special fields are current to meet the needs of the labor market.
- Based on problem-based learning method (PBL) for the teaching curriculum, Student-centered pedagogy helps students promote active learning skills, problem solving skills and critical thinking skills. At the same time, learners can acquire many necessary skills; such as develop good habit toward working/document reading and analyzing skills, finding and evaluate research materials, scientific debate, teamwork, and quickly understand real problems.

KOSEN development in Vietnam

Since November 2013, a project to support human resource training for heavy industry chemicals has been started, between JICA and IUH (Ho Chi Minh University of Industry) under the MOIT and the Japanese KOSEN side has sent to Vietnam a number of experts. The construction of the new Nghi Son oil refinery (NSRP: Nghi Son Refinery Petrochemical) in Thanh Hoa province require the demand for high-quality human resources in the heavy chemical industry. The Thanh Hoa branch of IUH (IUH-TH), a typical school aiming to train high-quality human resources, started to bring the KOSEN model here. Since period 2016, KOSEN has strongly supported some schools under the Ministry of Industry and Trade (MOIT) including universities and industrial colleges. The history of KOSEN development in Vietnam could be marked by the below table:

Process of implement the Kosen program in Vietnam

Year	Main parties	Activities
2012-2016	Ministry of Industry and Trade (MOIT) and JICA	Organizing experimental training according to KOSEN model at several Vocational schools under the purview of MOIT, includes: Phuc Yen College of Industry and Trade, Huế Industrial College, Cao Thang Technical College, Ho Chi Minh College of Foodstuff Industry, Sao Do Industrial College, Electric Power University, Ha Noi Industrial University.
01/2017	National Institute of Technology (Japan), MOIT, MOLISA	Signing a comprehensive cooperation agreement related to the implementation of improving the quality of training for practical engineers in Vietnam.
06/2017	Prime Minister Nguyen Xuan Phuc during his official visit to Japan	It is clearly stated in the "Joint Statement on Deepening the Japan – Vietnam extensive strategic partnership" that the goal is "Both countries will also cooperate in setting up KOSEN (NIT) office in Hanoi which will contribute to the improvement of quality of vocational education in Viet Nam."
2018 – 2023	MOIT and National Institute of Technology (Japan)	The MOIT-KOSEN cooperation project for introducing the Kosen program to agencies and organizations in Vietnam. Participating parties: Vietnam side: College of Industry and Trade (COIT), Hue Industrial College (HUE-IC), Cao Thang Technical College (CTTC), Japanese side: Ube College, Hakodate College, Tsuruoka College, Gifu College and Ariake College.
07/2018	MOIT and the Minister of Economy, Trade and Industry of Japan (METI)	The Minister of Industry and Trade (MOIT) asked METI to support in training consultants, improving resources according to Japan's KOSEN model as a premise to promote the development of Vietnam's supporting industry.
07/2018	National Institute of Technology (Japan), MOIT, MOLISA	Holding "KOSEN forum in Hanoi" event to propagate and promote the cooperation activities of 3 agencies in the implementation of the KOSEN Education Model.
07/2019	DVET-MOLISA, National Institute of Technology (Japan) in the witness of the Prime Ministers of the 2 countries	Memorandum of Understanding on continuing to carry out cooperation activities in order to apply the KOSEN training model to colleges of Vietnam.
10/2019	National Institute of Technology (Japan), MOIT	Establish KOSEN representative office in Vietnam
09/2020	MOIT, MOLISA JETRO Hanoi Office, JICA Hanoi, JASSO, JCCI, Thang Long Industrial Park, Canon Vietnam Representative office of KOSEN Vietnam	Conference exchanged opinions between three parties which are training institutions, enterprises and state management agencies on human resource training, propose the direction for the application of the KOSEN model (KOSEN).
10/2020	Cao Thang Technical College	Opening the Mechatronics class – KOSEN which was the first course applied the KOSEN model prototype in Vietnam with 174 students.
03/2021	MOIT, National Institute of Technology (Japan); Representative office of KOSEN Vietnam, College of Industry and Trade (COIT), Hue Industrial College (Hue- IC) and Cao Thang Technical College (CTTC).	Summary report for 2020 of 3 KOSEN prototype pilot training schools and plans for 2021

The KOSEN project period 2018 – 2023 in Vietnam is set up mainly under the central co-ordination of the Ministry of Industry and Trade (MOIT). After piloting the KOSEN model at the Industrial University of Ho Chi Minh City, the Ministry of Industry and Trade took the initiative with the support of Japanese experts to select and continue to deploy KOSEN model at 3 colleges: Cao Thang Technical College, Hue Industrial College and College of Industry & Commerce.

Regarding applying the KOSEN model for Vietnam, industrial universities and colleges in Vietnam set up training criteria that follow the technician education system at KOSEN Japan, such as improving the curriculum systematically, discussing and synergizing with the Vietnamese side to improve and develop training program together, implement trainings following the KOSEN' principles. In addition, the TVETIs also actively implement programs to connect with the near-by production zones (local companies, Japanese capital companies) for the purpose of job placement for students after graduation, etc.

Since 2018, KOSEN organization in Japan provided experts to work in Vietnam as well as built a mechanism of support cooperation at pilot schools. In addition to the schools KOSEN has supported under the MOIT, it will expand to other schools under the management system of the MOLISA.

- *Activities & initial results of KOSEN project in Vietnam*

Report by MOIT about implementing KOSEN model has shown some initial results.

Regarding developing training programs

Based on the output standards and orientation of the KOSEN for all disciplines, the participating schools have applied to develop their programs, with principles:

- To create a clear systematic learning program according to the output standards, helping students easily orient and grasp the learning process.
- Develop training programs systematically, and policies for the TVET institution. Students are guided to understand the training program and learning progress before starting the course and before starting each subject.
- Bringing 5S and occupational safety content into skill training for students. The school organized a Knowledge Training Program on quality improvement methods, tools and techniques.
- Strengthening the integration of skills improvement education for students in both theoretical and practical classes, including improving students' soft skills, foreign language skills and computer skills. In addition, students are also taught Japanese online weekly by Kosen professors to improve foreign language skills.
- Applying active learning methods in schools, implementing PBL programs and experimenting with EDE programs. Every month, Kosen experts meet face-to-face or online with faculty teachers to comment and improve training programs, as well as discuss measures to improve training quality, methods of testing and evaluating content. training program content.
- Out of the total of 3 schools participating in the project, Hue Industrial College and the College of Industry and Commerce deploy the 9+5 model training, while the Cao Thang Technical College applied the enrollment only for students who have graduated from high school (the 12+3 model).

Regarding implementing activities

- In 2020, the three pilot training schools have enrolled a total of 264 students for 3 majors of Electricity- Electronics (58 students at Hue Industrial College), Industrial Electronics (32 students at the College of Industry and Commerce), Mechatronics (174 students at Cao Thang Technical College)
- Completion of creating training program based on the output standards of KOSEN students, including 5S, occupational safety and soft skills for the teaching content.
- Regarding extracurricular activities and internships, the schools have cooperated with businesses enterprises on implementing activities such as experience visiting, organizing Robocon contest, learning Japanese, organizing seminars, some enterprises also provide support in terms of equipment for the schools.

Besides, the partnership of KOSEN Japan with MOLISA to develop KOSEN model in Vietnam also started since 2018 but until now, there have been only at level of sharing information, coordinating seminars, organizing study tours to introduce and share about KOSEN model with the TVETIs.

APPENDIX 5. List of main legal documents on HE in Vietnam

Reference number	Issued by	Issued on	Effective from	Vietnamese name	English name
Circular					
23/2014/TT- BGDĐT	MOET	18/7/2014	1/9/2014	Ban hành quy định về đào tạo chất lượng cao trình độ đại học	Promulgate regulations on high-quality training at university level
45/2014/TT-BGDĐT	MOET	17/12/2014	01/02/2015	Quy định về việc chuyển đổi loại hình trường đại học dân lập sang loại hình trường đại học tư thục	Provisions on converting the form of a people-founded university to a private university
03/2015/TT-BGDĐT	MOET	26/2/2015	13/4/2015	Ban hành quy chế tuyển sinh đại học, cao đẳng hệ chính quy	To promulgate the Regulation on full-time university and college enrolment
07/2015/TT- BGDĐT	MOET	16/4/2015	01/06/2015	Ban hành quy định về khối lượng kiến thức tối thiểu, yêu cầu về năng lực mà người học đạt được sau khi tốt nghiệp đối với mỗi trình độ đào tạo của giáo dục đại học và quy trình xây dựng, thẩm định, ban hành chương trình đào tạo trình độ đại học, thạc sĩ, tiến sĩ	Promulgating regulations on the minimum amount of knowledge, the competency requirements that learners gain after graduation for each training level of higher education and the process of building, evaluating and promulgating the training programs at bachelor, master and doctoral levels
08/2015/TT- BGDĐT	MOET	21/4/2015	4/6/2015	Sửa đổi, bổ sung một số điều của quy định đào tạo liên thông trình độ cao đẳng, đại học ban hành kèm theo thông tư số 55/2012/tt-bgdđt ngày 25 tháng 12 năm 2012 của bộ trưởng bộ giáo dục và đào tạo	To amend and supplement a number of articles of the attached regulations on joint training at college and university levels issued together with the Circular No. 55/2012 / TT- BGDĐT dated December 25, 2012 of the Minister of Education and Training
16/2015/TT- BGDĐT	MOET	12/8/2015	28/9/2015	Ban hành quy chế đánh giá kết quả rèn luyện của người học được đào tạo trình độ đại học hệ chính quy	To promulgate the Regulation on assessment of training results of students trained at full-time university degrees
24/2015/TT-BGDĐT	MOET	23/9/2015	9/11/2015	Quy định chuẩn quốc gia đối với cơ sở giáo dục đại học	on National standards for higher education institutions
03/2016/TT- BGDĐT	MOET	14/3/2016	29/4/2016	Về việc sửa đổi, bổ sung một số điều của quy chế tuyển sinh đại học, cao đẳng hệ chính quy ban hành kèm theo thông tư số 03/2015/tt-bgdđt ngày 26 tháng 02 năm 2015 của bộ trưởng bộ giáo dục và đào tạo	Amending and supplementing a number of articles of the Regulations on full-time university and college enrolment promulgated together with the Minister of Education and Training 's Circular No. 03/2015 / TT-BGDĐT dated February 26, 2015

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

Reference number	Issued by	Issued on	Effective from	Vietnamese name	English name
04/2016/TT- BGDĐT	MOET	14/3/2016	29/4/2016	Ban hành quy định về tiêu chuẩn đánh giá chất lượng chương trình đào tạo các trình độ của giáo dục đại học	Issuing the regulations on the quality assessment standards of higher education programs
10/2016/TT- BGDĐT	MOET	5/4/2016	23/5/2016	Ban hành quy chế công tác sinh viên đối với chương trình đào tạo đại học hệ chính quy	Student work for full-time university training program
06/2017/TT- BGDĐT	MOET	15/3/2017	1/5/2017	Ban hành quy chế đào tạo vừa làm vừa học trình độ đại học	To promulgate the Regulation on training while working at the university level
12/2017/TT- BGDĐT	MOET	19/5/2017	4/7/2017	Ban hành quy định về kiểm định chất lượng cơ sở giáo dục đại học	Promulgating the Regulations on higher education institutions quality accreditation
22/2017/TT- BGDĐT	MOET	6/9/2017	23/10/2017	Ban hành quy định điều kiện, trình tự, thủ tục mở ngành đào tạo và đình chỉ tuyển sinh, thu hồi quyết định mở ngành đào tạo trình độ đại học	Promulgating the Regulation on conditions, order and procedures for opening training majors and suspending enrolment and revoking decisions to open training majors at bachelor level
24/2017/TT- BGDĐT	MOET	10/10/2017	25/11/2017	Ban hành danh mục giáo dục, đào tạo cấp cao trình độ đại học	Issuing list of education and training at level iv of university level
38/2020/TT- BGDĐT	MOET	6/10/2020	20/11/2020	Quy định về liên kết đào tạo với nước ngoài trình độ đại học, thạc sĩ, tiến sĩ theo hình thức trực tuyến và hình thức trực tiếp kết hợp trực tuyến	Regulations on association of training with foreign training university, master, program online form of online and direct combination online
39/2020/TT- BGDĐT	MOET	9/10/2020	9/10/2020	Quy định về tiêu chuẩn đánh giá chất lượng chương trình đào tạo từ xa trình độ đại học	Regulations on the quality assessment standards of distance learning programs at university level
Decision					
2077/QĐ-BGDĐT	MOET	19/6/2017	19/6/2017	Ban hành quy định chức năng, nhiệm vụ, quyền hạn và cơ cấu tổ chức của các đơn vị giúp bộ trưởng thực hiện chức năng quản lý nhà nước thuộc bộ giáo dục và đào tạo	Promulgate regulations on functions, tasks, powers and organizational structure of units that help the minister to perform the state management function by the ministry of education and train
436/QĐ-TTg	Prime Minister	30/3/2020	30/3/2020	Ban hành kế hoạch thực hiện khung trình độ quốc gia việt nam đối với các trình độ của giáo dục đại học, giai đoạn 2020 - 2025	Issuing a plan for implementation of Vietnam's national qualification framework for university education levels, for the period 2020 - 2025
1373/QĐ-TTg	Prime Minister	30/7/2021	30/7/2021	Phê duyệt đề án "xây dựng xã hội học tập giai đoạn 2021 - 2030"	Approving the project "Building a learning society in the period of 2021-2030"
Decree					

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

Reference number	Issued by	Issued on	Effective from	Vietnamese name	English name
90/2013/NĐ-CP	Government	8/8/2013	30/9/2013	Quy định trách nhiệm giải trình của cơ quan nhà nước trong việc thực hiện nhiệm vụ, quyền hạn được giao	Regulations on responsibilities and responsibilities of state agencies in the implementation of also guaranteed tasks and powers
99/2019/NĐ-CP	Government	30/12/2019	15/2/2020	Quy định chi tiết và hướng dẫn thi hành một số điều của luật sửa đổi, bổ sung một số điều của luật giáo dục đại học	Detailing and guiding the implementation of a number of articles of the law amending and supplementing a number of articles of the law on university education N
Law					
43/2019/QH14	National Assembly	14/6/2019	1/7/2020	Luật giáo dục	LAW OF EDUCATION
Resolution					
29-NQ/TW	The central executive committee	14/6/2019	1/7/2020	Đổi mới căn bản, toàn diện giáo dục và đào tạo	Fundamental and comprehensive innovation in education

APPENDIX 6. List of main legal documents on TVET in Vietnam

Reference number	Issued by	Issued on	Effective from	Vietnamese name	English name
Circular					
56/2015/TT-BLĐTBXH	MOLISA	24/12/2015	15/02/2016	Hướng dẫn việc xây dựng, thẩm định và công bố Tiêu chuẩn Kỹ năng Nghề Quốc Gia	Guiding the development, appraisal and publication of National Occupational Skills Standard
03/2017/TT-BLĐTBXH	MOLISA	01/03/2017	14/04/2017	Quy định về quy trình xây dựng, thẩm định và ban hành chương trình; tổ chức biên soạn, lựa chọn, thẩm định giáo trình đào tạo trình độ trung cấp, trình độ cao đẳng	Prescribing the procedures for design, evaluation and issuance of the training programs; writing, selection and evaluation of the training materials for intermediate – and college-level vocational education.
05/2017/TT-BLĐTBXH	MOLISA	02/03/2017	15/04/2017	Quy định quy chế tuyển sinh và xác định chỉ tiêu tuyển sinh trình độ trung cấp, cao đẳng	Regulations of enrollment and determination of enrollment targets at intermediate and college level
15/2017/TT-BLĐTBXH	MOLISA	08/06/2017	24/07/2017	Quy định tiêu chí, tiêu chuẩn kiểm định chất lượng giáo dục nghề nghiệp	Prescribing criteria and standards for vocational education quality accreditation
38/2017/TT-BLĐTBXH	MOLISA	29/12/2017	12/02/2018	Quy định chương trình bồi dưỡng nghiệp vụ sư phạm cho nhà giáo dạy trình độ sơ cấp; mẫu chứng chỉ, mẫu bản sao; quản lý phôi và chứng chỉ nghiệp vụ sư phạm dạy trình độ sơ cấp	Prescribing the pedagogical training program for elementary-level teachers; certificate sample, copy sample; management of embryos and certificates of pedagogical skills teaching elementary-level
03/2018/TT-BLĐTBXH	MOLISA	15/06/2018	01/08/2018	Quy định tiêu chuẩn chức danh nghề nghiệp viên chức chuyên ngành giáo dục nghề nghiệp	Regulations on standards for professional titles of public employees in vocational education industry
06/2018/TT-BLĐTBXH	MOLISA	01/08/2018	15/09/2018	Quy định danh mục cơ sở vật chất, trang thiết bị đánh giá kỹ năng nghề quốc gia cho các nghề kỹ thuật khai thác mỏ hầm lò; kỹ thuật xây dựng mỏ hầm lò và kỹ thuật cơ điện mỏ hầm lò ở các bậc trình độ kỹ năng nghề 1,2,3	Prescribing a list of facilities and equipment for national skill assessment for technical occupations in mining; mine construction techniques and mine electromechanical techniques at vocational skill levels 1,2,3
08/2018/TT-BLĐTBXH	MOLISA	14/08/2018	01/10/2018	Quy định định mức kinh tế-kỹ thuật về đào tạo trình độ trung cấp, trình độ cao đẳng cho các nghề: điện công nghiệp; kỹ thuật máy lạnh và điều hòa không khí; vận hành máy thi công nền; vận hành cần, cầu trục; kỹ thuật xây dựng; bảo vệ thực vật; chế biến và bảo quản thủy	Prescribing economic-technical norms for training at intermediate and college levels for the following occupations: industrial electricity; air conditioning engineering; operating foundation construction machines; operating cranes; construction engineering;

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

Reference number	Issued by	Issued on	Effective from	Vietnamese name	English name
				sản; quản trị mạng máy tính; quản trị kinh doanh xăng dầu và gas	plant protection; processing and preserving seafood; computer network administration; petroleum and gas business administration
76/2018/TT-BTC	MOF	17/08/2018	03/10/2018	Hướng dẫn nội dung, mức chi xây dựng chương trình đào tạo, biên soạn giáo trình môn học đối với giáo dục đại học, giáo dục nghề nghiệp	Guidelines for content and expenditure levels for developing training programs, compiling subject curricula for higher education and vocational education
10/2018/TT-BLĐTBXH	MOLISA	26/09/2018	15/11/2018	Quy định chương trình, tổ chức dạy học và đánh giá kết quả học tập môn học giáo dục quốc phòng và an ninh thuộc khối các môn học chung trong chương trình đào tạo trình độ trung cấp, trình độ cao đẳng	Regulations on the curriculum, organization of teaching and assessment of learning results in defense and security education subjects in the general subjects in the training program at the intermediate and college level
11/2018/TT-BLĐTBXH	MOLISA	26/09/2018	15/11/2018	Ban hành chương trình môn học tin học thuộc khối các môn học chung trong chương trình đào tạo trình độ trung cấp, trình độ cao đẳng	Promulgating the program of informatics subject in the block of general subjects in the training program at intermediate and college levels
12/2018/TT-BLĐTBXH	MOLISA	26/09/2018	15/11/2018	Ban hành chương trình môn học giáo dục thể chất thuộc khối các môn học chung trong chương trình đào tạo trình độ trung cấp, trình độ cao đẳng	Promulgating the physical education subject program in the block of general subjects in the training program at intermediate and college levels
13/2018/TT-BLĐTBXH	MOLISA	26/09/2018	15/11/2015	Ban hành chương trình môn học pháp luật thuộc khối các môn học chung trong chương trình đào tạo trình độ trung cấp, trình độ cao đẳng	Promulgating the program of legal subjects in the block of general subjects in the training program at intermediate and college levels.
21/2018/TT-BLĐTBXH	MOLISA	30/11/2018	15/01/2019	Quy định tiêu chí xác định chương trình chất lượng cao trình độ trung cấp, trình độ cao đẳng	Prescribing criteria for determination of high-quality education programs at the intermediate diploma and associate degree level
23/2018/TT-BLĐTBXH	MOLISA	06/12/2018	21/01/2019	Quy định về hồ sơ, sổ sách trong đào tạo trình độ trung cấp, trình độ cao đẳng	Regulations on records and documents in training at intermediate and college levels
24/2018/TT-BLĐTBXH	MOLISA	06/12/2018	21/01/2019	Ban hành chương trình môn học giáo dục chính trị thuộc khối các môn học chung trong chương trình đào tạo trình độ trung cấp, trình độ cao đẳng	Promulgating the political education subject program in the block of general subjects in the training program at intermediate and college levels

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

Reference number	Issued by	Issued on	Effective from	Vietnamese name	English name
27/2018/TT-BLĐTBXH	MOLISA	25/12/2018	15/02/2019	Quy định về quy chế đánh giá cấp thẻ kiểm định viên chất lượng giáo dục nghề nghiệp; quy trình, chu kỳ kiểm định chất lượng giáo dục nghề nghiệp	Regulations on assessment and issuance of vocational education quality accreditor cards; process and cycle of vocational education quality accreditation
28/2018/TT-BLĐTBXH	MOLISA	25/12/2018	08/02/2019	Quy định chương trình bồi dưỡng nghiệp vụ sư phạm cho nhà giáo dạy trình độ trung cấp, dạy trình độ cao đẳng; mẫu và quy chế quản lý, cấp chứng chỉ nghiệp vụ sư phạm dạy trình độ trung cấp, dạy trình độ cao đẳng	Prescribing pedagogical training programs for teachers of intermediate and college degrees; templates and regulations on management and granting of professional certificates of pedagogy for intermediate and college level teaching
32/2018/TT-BLĐTBXH	MOLISA	26/12/2018	08/02/2019	Hướng dẫn việc tổ chức đào tạo nghề đối với lao động đang làm việc trong doanh nghiệp nhỏ và vừa	Guidelines for vocational training assistance for employees in small and medium-sized enterprises
33/2018/TT-BLĐTBXH	MOLISA	26/12/2018	08/02/2019	Quy định về đào tạo trình độ cao đẳng, trung cấp, sơ cấp theo hình thức đào tạo từ xa, tự học có hướng dẫn	Regulations on training at college, intermediate and elementary levels in the form of distance training, guided self-study
38/2018/TT-BLĐTBXH	MOLISA	28/12/2018	10/02/2019	Quy định tiêu chuẩn, định mức sử dụng diện tích công trình sự nghiệp thuộc lĩnh vực giáo dục nghề nghiệp	Regulations on standards and norms for using areas of non-business facilities in the field of vocational education
40/2018/TT-BLĐTBXH	MOLISA	28/12/2018	10/02/2019	Quy định khối lượng kiến thức tối thiểu, yêu cầu về năng lực mà người học đạt được sau khi tốt nghiệp trình độ trung cấp, trình độ cao đẳng các ngành, nghề thuộc lĩnh vực nghệ thuật, mỹ thuật và ngôn ngữ	Prescribing the minimum levels of knowledge and competency requirements to be achieved by learners upon graduation from intermediate and college level VET programmes for training occupations in the field of arts, fine arts and languages
41/2018/TT-BLĐTBXH	MOLISA	28/12/2019	10/02/2019	Quy định khối lượng kiến thức tối thiểu, yêu cầu về năng lực mà người học đạt được sau khi tốt nghiệp trình độ trung cấp, trình độ cao đẳng các ngành, nghề thuộc lĩnh vực báo chí, thông tin, kinh doanh và quản lý	Prescribing the minimum levels of knowledge and competency requirements to be achieved by learners upon graduation from intermediate and college level VET programmes for training occupations in the field of journalism, information, business and management
44/2018/TT-BLĐTBXH	MOLISA	28/12/2019	10/02/2019	Quy định khối lượng kiến thức tối thiểu, yêu cầu về năng lực mà người học đạt được sau khi tốt nghiệp trình độ trung cấp, trình độ cao	Prescribing the minimum levels of knowledge and competency requirements to be achieved by learners upon graduation from

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

Reference number	Issued by	Issued on	Effective from	Vietnamese name	English name
				đăng các ngành, nghề thuộc lĩnh vực máy tính và công nghệ thông tin	intermediate and college level VET programmes for training occupations in the field of computer and information technology
45/2018/TT-BLĐTBXH	MOLISA	28/12/2018	10/02/2019	Quy định khối lượng kiến thức tối thiểu, yêu cầu về năng lực mà người học đạt được sau khi tốt nghiệp trình độ trung cấp, trình độ cao đẳng nhóm các ngành, nghề thuộc lĩnh vực công nghệ kỹ thuật kiến trúc, công trình xây dựng, cơ khí, điện, điện tử, truyền thông và hóa học	Prescribing the minimum levels of knowledge and competency requirements to be achieved by learners upon graduation from intermediate and college level VET programmes for training occupations in the field of architectural technology and engineering, civil works, mechanics, electricity, electronics, communication and chemistry
46/2018/TT-BLĐTBXH	MOLISA	28/12/2018	10/02/2019	Quy định khối lượng kiến thức tối thiểu, yêu cầu về năng lực mà người học đạt được sau khi tốt nghiệp trình độ trung cấp, trình độ cao đẳng các ngành, nghề thuộc lĩnh vực vật liệu, luyện kim, sản xuất và công nghệ kỹ thuật khác	Prescribing the minimum levels of knowledge and competency requirements to be achieved by learners upon graduation from intermediate and college level VET programmes for training occupations in the field of materials, metallurgy, manufacturing and other engineering technologies
48/2018/TT-BLĐTBXH	MOLISA	28/12/2018	10/02/2019	Quy định khối lượng kiến thức tối thiểu, yêu cầu về năng lực mà người học đạt được sau khi tốt nghiệp trình độ trung cấp, trình độ cao đẳng các ngành, nghề thuộc lĩnh vực kỹ thuật điện, điện tử và viễn thông	Prescribing the minimum levels of knowledge and competency requirements to be achieved by learners upon graduation from intermediate and college level VET programmes for training occupations in the field of electrical engineering, electronics and telecommunications
50/2018/TT-BLĐTBXH	MOLISA	28/12/2018	10/02/2019	Quy định khối lượng kiến thức tối thiểu, yêu cầu về năng lực mà người học đạt được sau khi tốt nghiệp trình độ trung cấp, trình độ cao đẳng các ngành, nghề thuộc lĩnh vực kỹ thuật mỏ và kỹ thuật khác	Prescribing the minimum levels of knowledge and competency requirements to be achieved by learners upon graduation from intermediate and college level VET programmes for training occupations in the field of mine engineering and other techniques
52/2018/TT-BLĐTBXH	MOLISA	28/12/2018	10/02/2019	Quy định khối lượng kiến thức tối thiểu, yêu cầu về năng lực mà người học đạt được sau khi tốt nghiệp trình độ trung cấp, trình độ cao	Prescribing the minimum levels of knowledge and competency requirements to be achieved by learners upon graduation from intermediate and college level VET

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

Reference number	Issued by	Issued on	Effective from	Vietnamese name	English name
				đăng các ngành, nghề thuộc lĩnh vực nông, lâm nghiệp, thủy sản và thú y	programmes for training occupations in the field of agriculture, forestry, fisheries and veterinary
54/2018/TT-BLĐTBXH	MOLISA	28/12/2018	10/02/2019	Quy định khối lượng kiến thức tối thiểu, yêu cầu về năng lực mà người học đạt được sau khi tốt nghiệp trình độ trung cấp, trình độ cao đẳng các ngành, nghề thuộc lĩnh vực sức khỏe và dịch vụ xã hội	Prescribing the minimum levels of knowledge and competency requirements to be achieved by learners upon graduation from intermediate and college level VET programmes for training occupations in the field of healthcare and social services
55/2018/TT-BLĐTBXH	MOLISA	28/12/2018	10/02/2019	Quy định khối lượng kiến thức tối thiểu, yêu cầu về năng lực mà người học đạt được sau khi tốt nghiệp trình độ trung cấp, trình độ cao đẳng các ngành, nghề thuộc lĩnh vực du lịch, khách sạn, thể thao và dịch vụ cá nhân	Prescribing the minimum levels of knowledge and competency requirements to be achieved by learners upon graduation from intermediate and college level VET programmes for training occupations in the field of tourism, hospitality, sports and personal services
56/2018/TT-BLĐTBXH	MOLISA	28/12/2018	10/02/2019	Quy định khối lượng kiến thức tối thiểu, yêu cầu về năng lực mà người học đạt được sau khi tốt nghiệp trình độ trung cấp, trình độ cao đẳng các ngành, nghề thuộc lĩnh vực dịch vụ vận tải, môi trường và an ninh	Prescribing the minimum levels of knowledge and competency requirements to be achieved by learners upon graduation from intermediate and college level VET programmes for training occupations in the field of transport services, environment and security
Decision					
630/QĐ-TTg	The Prime Minister	29/05/2012	29/05/2012	Phê duyệt Chiến lược phát triển Dạy nghề thời kỳ 2011-2020	Approving the Vocational Training Development Strategy for the 2011-2020 period
1600/QĐ-TTg	The Prime Minister	16/08/2016	16/08/2016	Phê duyệt Chương trình mục tiêu quốc gia xây dựng nông thôn mới giai đoạn 2016-2020	Approving the National Target Program on building new rural areas for the 2016-2020 period
1982/QĐ-TTg	The Prime Minister	18/10/2016	18/10/2016	Phê duyệt Khung trình độ quốc gia Việt Nam	Approval for Vietnam Qualifications Framework
899/QĐ-TTg	The Prime Minister	20/06/2017	20/06/2017	Phê duyệt Chương trình mục tiêu Giáo dục nghề nghiệp – Việc làm và An toàn lao động giai đoạn 2016-2020	Approving Target Program for Vocational Education, Employment and Occupational Safety during 2016-2020

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

Reference number	Issued by	Issued on	Effective from	Vietnamese name	English name
522/QĐ-TTg	The Prime Minister	14/05/2018	14/05/2018	Phê duyệt đề án “Giáo dục hướng nghiệp và định hướng phân luồng học sinh trong giáo dục phổ thông giai đoạn 2018-2025”	Approving the scheme “Vocational education and student stream orientation in general education for the 2018-2025 period”
1821/QĐ-LĐTBXH	MOLISA	19/12/2018	19/12/2018	Ban hành các chỉ số theo dõi, giám sát, đánh giá các hoạt động Giáo dục nghề nghiệp của dự án “Đổi mới và nâng cao chất lượng Giáo dục Nghề nghiệp” thuộc Chương trình Mục tiêu Giáo dục Nghề nghiệp – Việc làm – An toàn lao động giai đoạn 2016-2020	Promulgating indicators to monitor, supervise and evaluate Vocational Education activities of the project "Innovation and quality improvement of Vocational Education" under the Target Program of Vocational Education - Employment – Occupational Safety for the 2016-2020 period
1769/QĐ-LĐTBXH	MOLISA	25/11/2019	25/11/2019	Phê duyệt ngành, nghề trọng điểm; Trường được lựa chọn ngành, nghề trọng điểm giai đoạn 2016-2020 và định hướng đến năm 2025	Approving key industries, occupations; institution has been selected for key industries and occupations for the 2016 – 2020 period and orientation to 2025
2222/QĐ-TTg	The Prime Minister	30/12/2021	30/12/2021	Phê duyệt chương trình chuyển đổi số trong giáo dục nghề nghiệp đến năm 2025, định hướng đến năm 2030	Approving digital transformation program in vocational education until 2025 and orientation until 2030
2239/QĐ-TTg	The Prime Minister	30/12/2021	30/12/2021	Phê duyệt chiến lược phát triển giáo dục nghề nghiệp giai đoạn 2021-2030, tầm nhìn đến năm 2045	Approving the vocational education and training development strategy for the period of 2021-2030, with a vision to 2045
Decree					
48/2015/NĐ-CP	The Government	15/05/2015	01/07/2015	Quy định chi tiết một số điều của Luật Giáo dục Nghề nghiệp	Guidelines for Law on Vocational Education
14/2017/NĐ-CP	The Government	17/02/2017	17/02/2017	Quy định chức năng, nhiệm vụ, quyền hạn và cơ cấu tổ chức của Bộ Lao động- Thương binh và Xã hội	Functions, tasks, powers and organizational structure of the Ministry of Labor, War Invalids and Social Affairs
24/2018/NĐ-CP	The Government	27/02/2018	15/04/2018	Quy định về giải quyết khiếu nại, tố cáo trong lĩnh vực lao động, giáo dục nghề nghiệp, hoạt động đưa người lao động Việt Nam đi làm việc ở nước ngoài theo hợp đồng, việc làm, an toàn, vệ sinh lao động	Providing for settlement of complaints about and denunciations of labour, vocational education, Vietnamese guest workers, employment, occupational safety and hygiene
49/2018/NĐ-CP	The Government	30/03/2018	15/05/2018	Quy định về kiểm định chất lượng giáo dục nghề nghiệp	Vocational education accreditation

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

Reference number	Issued by	Issued on	Effective from	Vietnamese name	English name
15/2019/NĐ-CP	The Government	01/02/2019	20/03/2019	Quy định chi tiết một số điều và biện pháp thi hành Luật giáo dục nghề nghiệp	Guidelines for some articles and implementation of the Law on Vocational Education
Law					
74/2014/QH13	The National Assembly	27/11/2014	01/07/2015	Luật Giáo dục Nghề nghiệp	Law on Vocational Education
Integrated Document					
4986/VBHN-BLĐTBXH	MOLISA	23/11/2018	N/A	Hợp nhất Nghị định quy định điều kiện đầu tư và hoạt động trong lĩnh vực giáo dục nghề nghiệp	Integrating the Decrees on investment and operation conditions in the field of vocational education
Resolution					
617-NQ/BCSĐ	MOLISA	28/12/2018	N/A	Tiếp tục đổi mới và nâng cao chất lượng giáo dục nghề nghiệp đến năm 2021 và định hướng đến năm 2030	Continue to innovate and improve the quality of vocational education to 2021 and orientation to 2030

APPENDIX 7. List of strategy, implementation schemes, programs and projects attached to Decision 2239/QĐ-TTg

(On Strategy to develop vocational education and training in Vietnam period 2021-2030, with vision to 2045)

No.	Scheme/Program/Project	Host	Partner	Decision No./ Promulgation Time	Text Form/Product
Approved Schemes, Programs and Projects					
1	Implementation plan of Vietnam's National Qualifications Framework for vocational education qualifications in the period of 2021 - 2025	MOLISA	Related ministries, industries, and local governments	1232/QĐ-TTg dated 15/7/2021	Decision of the Prime Minister
2	Program "Strengthening legal dissemination and education in vocational education institutions in the period of 2022 - 2027"	MOLISA	Related ministries, industries, and local governments	1260/QĐ-TTg dated 19/7/2021	Decision of the Prime Minister
3	Program "Training and retraining to improve human resource skills to meet the requirements of the Fourth Industrial Revolution"	MOLISA	Related ministries, industries, and local governments	1446/QĐ-TTg dated 30/8/2021	Decision of the Prime Minister
4	Sub-project "Development of vocational education in poor and disadvantaged areas in the investment policy of the National Target Program for Sustainable Poverty Reduction in the 2021-2025 period"	MOLISA	Related ministries, industries, and local governments	24/2021/QH15 dated 28/7/2021	Resolution of the National Assembly
5	The content "Vocational training for rural workers" belongs to the investment policy of the National Target Program on building new rural areas for the period of 2021 - 2025.	Ministry of Agriculture and Rural Development	Related ministries, industries, and local governments	25/2021/QH15 dated 28/7/2021	Resolution of the National Assembly
6	Sub-project "Developing vocational education and creating jobs for workers in ethnic minority and mountainous areas under the National Target Program on socio-economic development in ethnic minority and mountainous areas period 2021 - 2030: Phase 1 from 2021 to 2025"	Committee for Ethnic Affairs	Related ministries, industries, and local governments	1719/QĐ-TTg dated 14/10/2021	Decision of the Prime Minister
7	The project "National center for high-quality vocational training and practice in the three regions of North, Central and South" belongs to the Medium-term public investment plan with state budget capital for the period 2021-2025".	Ministry of Planning and Investment	Related ministries, industries, and local governments	1535/QĐ-TTg dated 15/9/2021	Decision of the Prime Minister
8	Digital transformation in vocational education until 2025, orientation to 2030	MOLISA	Related ministries, industries, and local governments	2222/QĐ-TTg dated 30/12/2021	Decision of the Prime Minister

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

No.	Scheme/Program/Project	Host	Partner	Decision No./ Promulgation Time	Text Form/Product
Newly Issued Programs and Projects					
1	Public investment program "Synchronous investment in facilities, equipment and quality assurance conditions for high-quality vocational education institutions, approaching the level of ASEAN-4 and G20 countries"	MOLISA	Related ministries, industries, and local governments	2022-2023	Decision of the Prime Minister
2	Planning for the network of vocational education institutions for the period of 2021 - 2030, with a vision to 2045	MOLISA	Related ministries, industries, and local governments	2021-2022	Decision of the Prime Minister
3	Upgrading Vietnamese labor skills	MOLISA	Related ministries, industries, and local governments	2021-2022	Decision of the Prime Minister
4	Innovating and improving the quality of rural vocational training	MOLISA	Ministry of Agriculture and Rural Development, Vietnam Cooperative Union, Vietnam Farmers' Association and related ministries, industries, and local governments	2021-2022	Decision of the Prime Minister
5	Forecast of human resource demand through vocational education training in the period of 2021 - 2030, with a vision to 2045	MOLISA	Ministry of Planning and Investment, MOET and related ministries, industries, and organizations	2022-2023	Decision of the Prime Minister
6	Establishing a number of regional centers for high-quality vocational training and practice	MOLISA	Related ministries, industries, local governments and organizations	2022-2023	Decision of the Prime Minister
7	Vocational training to develop human resources in the collective and cooperative economic sector	Vietnam Union of Cooperatives	MOLISA, related ministries, industries, local governments and organizations	2022-2023	Decision of the Prime Minister

Source: Decision No. 2239/QĐ-TTg dated and took effective on December 30, 2021

APPENDIX 8. List of Vietnam National Occupational Skills Standards (NOSS) as of July 2021

No.	NOSS (VI)	NOSS (EN)
A. Occupation Group: Industry, Commerce and Service		
1	Cơ điện tử	Mechatronics
2	Thiết kế đồ họa	Graphic design
3	Công nghệ dệt	Textile technology
4	Công nghệ thông tin	Information technology
5	Sản xuất nước giải khát	Beverage production
6	Nguội chế tạo	Cool crafting
7	Vận hành sửa chữa thiết bị lạnh	Operation and repair of refrigeration equipment
8	Khoan thăm dò địa chất	Geological exploration drilling
9	Nguội lắp ráp cơ khí	Cool mechanical assembly
10	Vận hành thiết bị hóa dầu	Petrochemical equipment operating
11	Kiểm nghiệm bột giấy và giấy	Pulp and paper testing
12	Quản lý kinh doanh điện	Electricity business management
13	Luyện thép	Steelmaking
14	Vận hành thiết bị sàng tuyển than	Operation of coal screening equipment
15	Quản lý vận hành đường dây và trạm biến áp có điện áp 220kv trở lên	Management and operation of lines and substations with voltage of 220kv or above
16	Giám định khối lượng và chất lượng than	Coal quality and quantity inspection
17	Sửa chữa thiết bị mỏ hầm lò	Repair of mining equipment
18	Kỹ thuật Tua-bin hơi	Steam Turbine engineering
19	Thí nghiệm điện	Electrical test
20	Thương mại điện tử	Ecommerce
21	Vận hành bơm quạt, máy nén khí	Operation of fan pump, air compressor
22	Kỹ thuật lò hơi	Boiler engineering
23	Vận hành nhà máy thủy điện	Operation of hydroelectric plants
24	Vận hành và sửa chữa trạm thủy điện	Operation and repair of hydroelectric stations
25	Hệ thống điện	Electric system
26	Đo lường điện	Electrical measurement
27	Lắp đặt đường dây tải điện và trạm biến áp	Installation of power transmission lines and substations
28	Vận hành nhà máy nhiệt điện	Operation of a thermal power plant
29	Điện công nghiệp	Industrial Electrics
30	Công nghệ nhiệt luyện	Heat treatment technology
31	Công nghệ mạ	Plating technology
32	Sản xuất pin - ắc quy	Production of batteries accumulators
33	Sản xuất các chất vô cơ	Production of inorganic substances
34	Thí nghiệm các sản phẩm hóa dầu	Experiment with petrochemical products
35	Sản xuất phân bón	Fertilizer production
36	Chế biến dầu thực vật	Vegetable oil processing
37	Sửa chữa máy tính xách tay	Repair of laptop
38	Quản trị doanh nghiệp vừa và nhỏ	Medium and small enterprise administration
39	Điện tử công nghiệp	Industrial Electronics

40	Sản xuất bánh kẹo	Production of confectionery
41	Công nghệ sợi	Fiber Technology
42	Chế biến nông sản thực phẩm	Processing agricultural products and food
43	Sản xuất rượu bia	Alcohol production
44	Sửa chữa thiết bị máy	Repair of machine equipment
45	Sản xuất hàng may công nghiệp	Industrial sewing production
46	Đo đạc bản đồ	Cartography
47	Rèn, dập	Forging, stamping
48	Luyện gang	Iron
49	May công nghiệp	Industrial sewing
50	Vẽ và thiết kế trên máy tính	Draw and design on computer
51	Kiểm tra và phân tích hóa chất	Chemical testing and analysis
52	Thiết kế web	Web design
53	Kỹ thuật khai thác mỏ hầm lò	Underground Mining Techniques
54	Kỹ thuật xây dựng mỏ hầm lò	Mining Construction Techniques
55	Kỹ thuật cơ điện mỏ hầm lò	Underground Electro-Mechanical Engineering
56	Cắt gọt kim loại trên CNC	CNC metal cutting
57	Công nghệ thông tin (ứng dụng phần mềm)	Information technology (software application)
58	Kỹ thuật lắp đặt điện và điều khiển trong công nghiệp	Electrical installation and control technology in industry
59	Tiện vẠN năng	Universal lathe
60	Sửa chữa máy may	Repair of sewing machines
61	Sản xuất thiết bị máy	Repair of sewing equipment
62	Cắt gọt kim loại – tiện	Metal cutting – turning
63	Sản xuất cao su	Rubber production
64	Khai thác và thu gom than cứng	Mining and collecting hard coal
65	Sửa chữa thiết bị điện tử và quang học	Repair of electronic and optical equipment
66	Chế tạo thiết bị cơ khí	Mechanical equipment manufacturing
67	Giúp việc gia đình	Housekeepers
68	Phay vẠN năng	Universal milling
69	Vệ sinh lau dọn các công trình cao tầng	Cleaning high-rise buildings
70	Giải pháp phần mềm công nghệ thông tin	Information technology software solutions
71	Kết nối vẠN vật - IOT	Internet – IOT
72	Lắp cáp mạng thông tin	Install information network cable
73	Robot di động	Mobile robot
74	Lập trình máy tính	Computer programming
75	Thiết kế kỹ thuật cơ khí - CAD	Mechanical engineering design - CAD
76	Quản trị mạng máy tính	Computer network administration
77	Thiết kế thời trang kỹ thuật số	Digital fashion design
78	Quản trị cơ sở dữ liệu	Database administration
79	Phay CNC	CNC milling
80	Tiện CNC	CNC lathe
81	Bảo trì máy CNC	CNC machine maintenance
82	Công nghệ nước	Water technology
83	Tự động hóa công nghiệp	Industrial automation

84	Công nghệ thời trang	Fashion technology
85	Sản xuất cơ khí	Mechanical manufacturing
B. Occupation Group: Transportation		
1	Lắp đặt cầu	Bridge installation
2	Vận hành máy thi công mặt đường	Road machinery operator
3	Vận hành máy ủi, xúc, san	Operating bulldozers, excavators, sanders
4	Vận hành cần trục	Crane operator
5	Xây dựng công trình thủy	Construction of water works
6	Quản trị kinh doanh vận tải đường thủy nội địa	Inland waterway transport business management
7	Công nghệ ô tô	Automotive Technology
8	Phóng dạng và gia công khuôn dưỡng tàu thủy	Forming and processing ship maintenance molds
9	Trắc địa công trình	Geodetic works
10	Thí nghiệm và kiểm tra chất lượng cầu đường bộ	Road-bridge quality testing and evaluation
11	Công nghệ sản xuất bê tông nhựa nóng	Technology of producing hot asphalt concrete
12	Quản trị kinh doanh vận tải đường bộ	Road transport business administration
13	Gia công lắp ráp hệ thống ống tàu thủy	Processing and assembling ship's pipe system
14	Gia công lắp ráp hệ thống nội thất tàu thủy	Processing and assembling ship interior systems
15	Xây dựng và bảo dưỡng công trình giao thông đường sắt	Construction and maintenance of railway traffic works
16	Quản trị kinh doanh vận tải đường sắt	Railway transport business administration
17	Điều khiển phương tiện thủy nội địa	Inland waterway vehicle control
18	Kiểm soát không lưu	Air traffic control
19	Tiếp viên hàng không	Flight attendant
20	Kiểm tra soi chiếu an ninh hàng không	Aviation security screening
21	Kỹ thuật thiết bị thông tin hàng không	Engineering of aeronautical information equipment
22	Đặt chỗ bán vé	Ticket Reservations
23	Kỹ thuật dẫn đường hàng không	Aeronautical engineering
24	Xây dựng cầu đường bộ	Road bridge construction
25	Khai thác máy tàu thủy	Ship engine exploitation
26	Điều khiển tàu biển	Ship control
27	Lắp ráp hệ thống động lực tàu thủy	Assembling ship propulsion system
28	Thông tin tín hiệu đường sắt	Railway signal information
29	Công nghệ chế tạo và bảo dưỡng đầu máy	Technology for manufacturing and maintaining locomotives
30	Làm thủ tục hàng không tại cảng hàng không	Airline procedures at the airport
31	Quản trị kinh doanh vận tải biển	Shipping Management
32	Bảo đảm an toàn hàng hải	Maritime safety assurance
33	Bảo vệ môi trường biển	Protect marine environment
34	Vận tải hàng hóa thuộc dịch vụ vận tải đường sắt	Transport of goods under the railway transport service
35	Công nghệ sửa chữa ô tô	Automotive repair technology
C. Occupation Group: Agriculture		
1	Kiểm nghiệm chất lượng lương thực thực phẩm	Food quality testing
2	Kiểm nghiệm đường mía	Test of cane sugar
3	Vận hành và sửa chữa trạm bơm điện	Operation and repair of electric pump station

4	Chế biến và bảo quản thủy sản	Processing and preserving seafood
5	Mộc mỹ nghệ	Fine art carpentry
6	Mộc dân dụng	Civil woodworks
7	Xây dựng và hoàn thiện công trình thủy lợi	Construction and completion of irrigation works
8	Bảo vệ thực vật	Plant protection
9	Lâm sinh	Forestry Culture
10	Chăn nuôi gia súc, gia cầm	Breeding livestock and poultry
11	Thú y	Veterinary
12	Nuôi trồng thủy sản nước ngọt	Freshwater aquaculture
13	Nuôi trồng thủy sản nước mặn, nước lợ	Aquaculture in salt water, brackish water
14	Khai thác thủy sản biển	Seafood exploitation
15	Quản lý khai thác công trình thủy lợi	Management and exploitation of irrigation works
16	Trồng cây thuốc lá	Planting tobacco plants
17	Trồng cây cao su	Planting and tending rubber trees
18	Trồng cây cà phê	Planting and tending coffee trees
19	Chế biến mủ cao su	Latex processing
20	Vận hành máy nông nghiệp	Agricultural machine operation
21	Cơ điện nông thôn	Rural electro-mechanical engineering
22	Sản xuất hàng mây tre đan	Production of bamboo and rattan goods
23	Trồng lúa	Rice planting
24	Trồng đậu, đỗ	Planting beans and peas
25	Trồng rau	Vegetable planting
26	Trồng cây ăn quả	Planting fruit trees
27	Kỹ thuật dâu tằm tơ	Silk mulberry technique
28	Chế biến rau quả	Processing vegetables
29	Công nghệ sản xuất đường mía	Cane sugar production technology
30	Phòng và chữa bệnh thủy sản	Prevention and treatment of aquatic diseases
31	Công nghệ sản xuất ván nhân tạo	Technology for manufacturing artificial boards
32	Đúc, dát đồng mỹ nghệ	Casting, inlaid bronze art
33	Vận hành sửa chữa máy tàu cuốc	Operation and repair of dredger engine
D. Occupation Group: Construction		
1	Nề - Hoàn thiện	Masonry – finishing
2	Cốp pha – Giàn giáo	Formwork – Scaffolding
3	Cốt thép – Hàn	Steel reinforcement – welding
4	Bê tông	Concrete
5	Sản xuất gốm thô	Raw ceramic production
6	Sản xuất gạch Ceramic	Ceramic tile production
7	Sản xuất sứ vệ sinh	Production of sanitary ware
8	Sản xuất kính	Glass production
9	Quản lý cây xanh đô thị	Urban green tree management
10	Chạm khắc đá	Stone carving
11	Mộc xây dựng và Trang trí nội thất	Construction carpentry and interior decoration
12	Cấp nước	Water supply
13	Thoát nước	Drainage
14	Lắp đặt đường ống nước	Installation of water pipes

15	Kỹ thuật lắp đặt ống công nghệ	Installation of pipelines
16	Vận hành thiết bị sản xuất xi măng	Operating cement production equipment
17	Sửa chữa máy thi công xây dựng	Repair of construction machines
18	Gia công lắp dựng kết cấu thép	Fabrication and erection of steel structures
19	Lắp đặt điện công trình	Construction electrical installation
20	Quản lý khu đô thị	Urban area management
21	Hàn	Welding
22	Vận hàng máy xây dựng	Transporting construction machines
23	Vận hành Nhà máy xử lý chất thải rắn	Operation of Solid Waste Treatment Plant
24	Điện dân dụng	Civil electricity
25	Kỹ thuật sơn mài và khảm trai	Lacquer and mosaic techniques
26	Khoan đào đường hầm	Drilling tunnels
27	Phân tích cơ lý – hóa xi măng	Physico-chemical analysis of cement
28	Giám sát thi công công trình xây dựng dân dụng và công nghiệp	Supervision of civil and industrial construction works
29	Mộc nội thất	Interior carpentry
30	Ốp lát tường và sàn	Wall and floor tiling
E. Tourism and Hospitality		
1	Dịch vụ Nhà hàng	Restaurant services
2	Kỹ thuật chế biến món ăn	Cooking techniques
3	Quản trị Khách sạn	Hotel management
4	Quản trị Khu Resort	Resort area management
5	Quản trị Dịch vụ giải trí, thể thao	Management of entertainment and sports services
6	Hướng dẫn du lịch	Tourist guide
7	Quản trị Lữ hành	Tour management
8	Quản trị du lịch MICE	MICE tourist management
9	Phục vụ buồng	Room services
10	Lễ tân	Receptionist
F. Occupation Group: Communication		
1	Lắp đặt thiết bị đầu cuối viễn thông	Installation of telecommunications terminal equipment
2	Bảo dưỡng trạm thu phát sóng vô tuyến	Maintenance of radio transceiver stations
G. Occupation Group: Others		
1	Chăm sóc sức khỏe và công tác xã hội	Health care and social work
2	Chăm sóc sắc đẹp	Beauty care
3	Chăm sóc da	Skin care
4	Thiết kế các kiểu tóc	Hair style design

Source: Decision 1169/QĐ-LĐTĐBXH issued on 20 August 2019; Website of Department of Skills Development - <http://kynangnghe.gov.vn/>; Circular 13/2014/TT-BXD issued on 24 April 2013; Circular 13/2014/TT-BXD issued on 29 August 2014; Circular 05/2012/TT-BNNPTNT issued on 19 January 2012; Circular 42/2014/TT-BNNPTNT issued on 18 November 2014; Circular 46/2013/TT-BNNPTNT issued on 6 November 2013; Decision 1383/QĐ-LĐTĐBXH issued on 31 August 2017; Decision 1856/QĐ-BTTTT issued on 10 December 2014; Circular 01/2014/TT-BVHTTDL issued on 15 January 2014;

APPENDIX 9. Comparison of Vietnam Qualification Framework (VQF) with ASEAN Qualifications Reference Framework (AQRF), and European Qualifications Framework (EQF)

Agenda	Vietnamese Qualifications Framework (VQF)	Asean Qualifications Reference Framework (AQRF)	European Qualifications Framework (EQF)
Structure	The VQF includes eight learning outcomes-based levels. The requirements of knowledge, skill, autonomy and individual responsibility increase from level 1 to level 8. The VQF acts as a benchmark for the level of learning recognized in the national qualifications system, and an indication of volume and type of learning	The AQRF is well-defined by eight learning outcomes-based levels. Level descriptors show how expectations of knowledge and skills, application and responsibilities increase as learners progress from level 1 to level 8. The AQRF act as a benchmark for the level of any learning recognized in a qualification or defined in a National Qualifications Framework (NQF) linked to the AQRF	The EQF is defined by eight learning outcomes-based levels. The expectations of knowledge, skills, responsibility and autonomy ascend gradually from level 1 to level 8. These levels, along with the descriptors, function as a translation grid and make it possible to compare qualifications from different countries and institutions.
Learning outcome standards	(1) Practical knowledge and theoretical knowledge (2) Cognitive skills, professional practice skills, and communication and behavioral skills (3) Degree of autonomy and personal responsibility in applying knowledge and skills to perform professional tasks	(1) Knowledge (such as facts and theories) and Skills (such as practical and cognitive skills) (2) Application (the context in which the knowledge and skills are used in reality) and Responsibilities (the level of independence, including the capacity to make decisions and the responsibility for oneself and others)	(1) Knowledge: theoretical and/or factual (2) Skills: cognitive (related to the use of logical, intuitive and creative thinking) and practical (related to manual dexterity and the use of methods, materials, tools and instruments) (3) Responsibility and Autonomy: the ability of applying knowledge and skills autonomously and with responsibility
Quality based on	Practices of Vietnamese bodies and learning institutions	Common application of the 11 referencing criteria, and formalities and the forcefulness of the referencing process linking NQF levels to the AQRF levels	Common application of the 10 referencing criteria

Source: Decision No.1982/QĐ-TTg on Approval for Vietnamese Qualifications Framework by the Prime Minister on 18 October 2016; Asean Qualifications Reference Framework (AQRF) Referencing guideline, August 2020; Asean Qualifications Reference Framework (AQRF) Referencing guideline, August 2020

APPENDIX 10. Accreditation criteria of HCERES, AUN-QA Assessment and Vietnam Accreditation Standards for TVET

• **The Accreditation Criteria of HCERES**

No.	Area	Accreditation Criterion
For the accreditation of foreign institutions		
1	Strategy and Governance	<ul style="list-style-type: none"> - Governance strategy fits to institution's environment and identity - Clear and effective internal organizational structure - There is the participation of institution's stakeholders in its governance
2	Research and Teaching	<ul style="list-style-type: none"> - Research and teaching policies are suitable with institution's strategy and the demand of the socioeconomic and cultural environment - Study programmes are matched and coordinated with the institution's research activities - Clear programme, student admission, progress and qualification procedures
3	Student Academic Pathways	<ul style="list-style-type: none"> - Learning resources and the life quality of students are cared to make sure that all of them are well-informed and offered full services throughout their academic careers. - Students must have a chance to join in governance structures
4	External Relations	<ul style="list-style-type: none"> - Designing and establishing an effective partnership policy to create added value for the institution - The institution's external relations have been structured as well as internationalization mechanisms have been developed to adapt to institution's strategy
5	Management	<ul style="list-style-type: none"> - Human, budgetary and financial resources are managed and organized well and effectively to so they could be adapted to the institution's strategy and multiyear planning. - There is a suitable and effective IT system - The institution's assets are well managed and famous
6	Quality and Ethics	<ul style="list-style-type: none"> - A quality policy is defined for all of institution's missions and continuously improved. - The institution upholds ethical values and professional standards. Those values and standards are applied in institution's day-to-day operations.
For the accreditation of foreign bachelor's and master's degree study programmes		
1	Aims of the Study Programme	<ul style="list-style-type: none"> - The aims related to knowledge and skills to be acquired of the study programme are well defined and communicated. - Outcomes in terms of job opportunities and further studies are informed fully to students and other stakeholders
2	Position of the Study Programme	<ul style="list-style-type: none"> - A comprehensive positioning including a clear connection with research, scholarly partnerships, national and/or international partnerships and/or with the economic and social world has been set to fit the study programme's objectives
3	Study Programme Teaching Structure	<ul style="list-style-type: none"> - The study programme contains a set of coherent and suitable teaching units which let students to obtain useful additional skills for employment or further study - Internships and projects, TICE (Technologies de l'Information et de la Communication dans l'Enseignement = Information and Communication Technologies in Education) and education innovations are included in the study programme curriculum - The study programme allows student to be ready with the international environment.
4	Study Programme Management	<ul style="list-style-type: none"> - The study programme is carried out by a formally recognized and effective teaching team including stakeholder and student participation - The study programme is implemented by an educational team which benefits from clear and updated data - Checking knowledge methods are clearly specified and transferred to students - Teaching and practical professional units are stated in terms of skills - There are anti-fraud measures

Source: Hceres website - <https://www.hceres.fr/en/evaluation-and-accreditation>

• **AUN-QA Assessment**

No.	Category	Criteria
At programme level (version 4.0)		
1	Expected Learning Outcomes	<ul style="list-style-type: none"> - The expected learning outcomes are fittingly formulated consistent with an established learning taxonomy, the university's vision and mission as well as well-known to all stakeholders - The expected learning outcomes for all courses are fittingly formulated and are associated to the expected learning outcomes of the programme - The expected learning outcomes contains both generic outcomes and subject specific outcomes - The requirements of the stakeholders, especially the external stakeholders are gathered and reflected in the expected learning outcomes - The expected learning outcomes are achieved by the students when they graduate
2	Programme Structure and Content	<ul style="list-style-type: none"> - The programme and all its courses are comprehensive, up-to-date and provided and transferred to all stakeholders - The curriculum design is constructively aligned with achieving the expected learning outcomes - The design of the curriculum must contain feedback from stakeholders, especially external stakeholders - The contribution of each course into achieving the expected learning outcomes is clear - The curriculum has option(s) for students to chase major and/or minor specializations - The curriculum is reviewed periodically following an established procedure, relevant to industry and remains up-to-date
3	Teaching and Learning Approach	<ul style="list-style-type: none"> - The educational philosophy is shown clearly, transferred to all stakeholders, and reflected in the teaching and learning activities - The teaching and learning activities permit students to join in the learning process responsibly - The teaching and learning activities include active learning by the students - Promoting learning, learning how to learn and inspiring motivations for students about life-long learning - Inculcating in students, new ideas, innovation, creative thought and an entrepreneurial mindset - The teaching and learning processes are continuously improved to make sure that they are relevant to the needs of industry and the expected learning outcomes
4	Student Assessment	<ul style="list-style-type: none"> - A variety of assessment methods are used and constructively aligned to achieving the expected learning outcomes and the teaching and learning objectives - The assessment and assessment-appeal policies are explicit, informed students and applied consistently - Student progression and degree completion assessment standards and procedures are explicit, informed clearly students and applied consistently - The assessment methods including marking schemes, rubrics, regulations and timelines are shown to make sure reliability, validity, and fairness in assessment - The assessment methods measure the achievement level of the expected learning outcomes

		<ul style="list-style-type: none"> - Feedback of student assessment is provided in a timely manner - The student assessment and its processes are continuously reviewed and improved to make sure their relevance to industry's demands and the expected learning outcomes
5	Academic Staff	<ul style="list-style-type: none"> - Academic staff planning is implemented effectively to make sure that the quality and quantity of the academic staff satisfy the requirements for education, research and service - Staff workload is measured and supervised to improve the quality of education, research and service - The competences of the academic staff are determined, reviewed and multiway communicated - The duties have been allocated based on the academic staff's qualifications, experience and aptitude - The promotion of the academic staff is based on their contribution and achievement in teaching, research and service - The rights, benefits, roles and other responsibilities of the academic staff, including professional ethics and their academic freedom, are defined clearly and understood - The training and developmental demands of the academic staff are systematically identified and satisfied appropriately - Performance management is carried out to assess teaching and research quality of academic staff
6	Student Support Services	<ul style="list-style-type: none"> - The admission policy, criteria and procedures are clearly defined, published and updated - Academic and non-academic support services planning are implemented to make sure sufficiency and quality of support services - A tracking system for student progress, academic performance, and workload monitoring exist. And feedback to students and corrective actions are made if needed - Co-curricular activities, competitions and other student support services are available to improve learning experience and employability - The recruitment requirements of the support staff are defined clearly and continuously reviewed to ensure the relevance to stakeholders needs - Student support services must be evaluated and improved
7	Facilities and Infrastructure	<ul style="list-style-type: none"> - Sufficient physical resources to deliver the curriculum - The laboratories and equipment are updated, readily available and deployed effectively - Library is digitalized, consistent with progress in information and communication technology - The information technology system is set up - A highly accessible information technology infrastructure is provided to meet the needs of information exploiting of the campus community - The health, safety and environmental standards and access for people having special needs are defined and carried out - A social, physical and psychological environment which is conducive for education, research and personal wellbeing is provided - The competences of the support staff are identified and reviewed regularly to meet stakeholder needs - The quality of the facilities must be evaluated and improved

8	Output and Outcomes	<ul style="list-style-type: none"> - The pass rate, dropout rate and average learning time to graduate are established, supervised and benchmarked for enhancement - Employability, self-employment and entrepreneurship as well as advancement for further studies are established, supervised and benchmarked for enhancement - Research and creative work output and activities implemented by the academic staff and students are established, supervised and benchmarked for enhancement - Data provided to show directly the success of the programme outcomes, are established and supervised - Satisfaction level of the several stakeholders is established, supervised and benchmarked for enhancement
For institutional level		
1	Strategic QA	<ul style="list-style-type: none"> (1) Vision, mission and culture (2) Governance (3) Leadership and management (4) Strategic management (5) Policies for education, research and service (6) Human resources management (7) Financial & physical resources management (8) External relations & networks
2	Systemic QA	<ul style="list-style-type: none"> (9) Internal quality assurance system (10) Internal and external QA assessment (11) IQA information management (12) Quality enhancement
3	Functional QA	<p>Education</p> <ul style="list-style-type: none"> (13) Student recruitment and admission (14) Curriculum design and review (15) Teaching and learning (16) Student assessment (17) Student services and support <p>Research</p> <ul style="list-style-type: none"> (18) Research management (19) Intellectual property management (20) Research collaboration and partnerships <p>Service</p> <ul style="list-style-type: none"> (21) Community engagement and service
4	Results	<ul style="list-style-type: none"> (22) Educational results (23) Research results (24) Service results (25) Financial & market results

Source: Guide to AUN-QA Assessment at Institutional Level – Version 2.0, June 2016; Guide to AUN-QA Assessment at Programme Level – Version 4.0, August 2020

• **Vietnamese Accreditation Standards for TVET**

No.	Category	For Elementary Level/Vocational Centres	For Intermediate and College Level
1	Accreditation Criteria at Institutional Level	(1) Objectives, mission, organization and management (2) Training activities (3) Teachers, managers, officials and employees (4) Programmes and Textbooks (5) Training facilities and equipment (6) Financial management (7) Support services for learners (8) Monitoring and evaluating quality	(1) Objectives, mission, organization and management (2) Training activities (3) Teachers, managers, officials and employees (4) Programmes and textbooks (5) Facilities, training equipment and libraries (6) Scientific research, technology transfer and international cooperation (7) Financial management (8) Support service for learners (9) Quality monitoring and evaluating
2	Accreditation Criteria at Programme Level	(1) Objectives and finances (2) Training activities (3) Teachers, administrators and employees (4) Programs and textbooks (5) Training facilities and equipment (6) Support services for learners (7) Quality monitoring and evaluation	(1) Objectives, management and finance (2) Training activities (3) Teachers, administrators and employees (4) Programs and textbooks (5) Facilities, training equipment and libraries (6) Support services for learners (7) Quality monitoring and evaluation

Source: Circular 15/2017/TT-BLDTBXH, issued on 08 August 2017, by MOLISA, regulating the accreditation criteria and standards for VET programmes at the elementary, intermediate and college levels

APPENDIX 11. List of collaboration between Japanese and Vietnamese Universities

No.	Programs	Program content
1	Vietnam Japan University (VJU) (a member of VNU-HN) (2015)	An initiative between Vietnam and Japan based on agreement between 2 Prime Ministers after 40 years of diplomatic relations between 2 countries. VNU-HN and JICA became 2 key stakeholders to develop the project (2015) VJU focuses on 3 educational areas: sustainable development, engineering and technology, and public policy. Education programs: Bachelor Programs: Japanese studies; Computer Science and Engineering Master Programs: Climate change & Development; Business Administration; Public Policy; Global Leadership; Area Studies; Environmental Engineering; Infrastructure Engineering; Nanotechnology
2	VNU-Hanoi (not included VJU)	University: Chuo University, Daito Bunka University, Ehime University, Ibaraki University, Kansai University, Kanazawa University, Kyoto University, United Nations University, Meijo University, Fukuoka Women University, Osaka Foreign Language University, Tokyo Foreign Language University, Osaka University, Osaka Prefecture University, Okayama University, Tohoku University, Tokyo University, Showa University, Senshu University, Osaka Medical University, Kumamoto Institute Fund: Fujitsu Fund, Nippon Fund, Sanwa Fund, Yamada Fund Japan Institute for Science & Technology (JAIST)
3	VNU-HCMC	University: Ochanomizu University, Osaka University, University of Tsukuba, Yamagata University, Toyohashi University of Technology, University of the Ryukyus, Japan Advanced Institute of Science and Technology, Osaka Prefecture University, Kobe University, Dohto University, Waseda University, Tokai University, Toyo University, Shibaura Institute of Technology, Kanda University of International Studies, Aichi Shukutoku University, Nagoya University of Commerce & Business, Osaka Sangyo University, Kansai Gaidai University, Kyoto Institute of Technology, Kyoto Notre Dame University, Ritsumeikan Asia Pacific University, Kansai University of International Studies
4	Hanoi University of Science & Technology (HUST)	University (34 partners): Tohoku University, Akita University, Yamagata University, Utsunomiya University, Gunma University, Tokyo Institute of Technology, Shinshu University, Nagoya Institute of Technology, Gifu University, Kyoto University, Kyoto Institute of Technology, Nagaoka University of Technology, Japan Advanced Institute of Science and Technology, Kobe University, Okayama University, Kochi University, Kyushu Institute of Technology, The University of the Ryukyus, Osaka Prefecture University, The University of Aizu, Keio University, Shibaura Institute of Technology, Tokai University, Meijo University, Toyota Technological Institute, Kansai University, Ritsumeikan Asia Pacific University
5	Foreign Trade University (FTU)	University (36 universities): Kobe University, Kagoshima University, Kansai University, Momoyama Gakuin University, University of Marketing and Distribution Sciences, Asia University, Osaka University of Economics, Osaka International University, Ritsumeikan Asia Pacific University, Nagoya University of Foreign Studies, Aomori Chuo Gakuin University, ...

6	Can Tho University	University (23 universities): Tokyo University of Agriculture and Technology, Kyushu University, Sophia University, ...
7	Da Nang University	University: Gifu University, Nagaoka University of Technology, Kumamoto University, Osaka Prefecture University, J. F. Oberlin University, Haboromo University of International Studies
8	Thai Nguyen University of Technology	University: The University of Tokyo; Nagaoka University, Saitama University
9	Hanoi University of Agriculture	University: Yamagata University, The University of Tokyo, Chiba University, Kyoto University, Kobe University, Yamaguchi University, Saga University, Kyushu University, University of Miyazaki, Kagoshima University, The University of the Ryukyus, Tokyo University of Agriculture
10	University of Agriculture and Forestry in HCMC	University: The University of Tokyo, Kobe University, Hiroshima University, Ehime University, Kyushu University, Saga University
11	University of Agriculture and Forestry in Hue University	University: Obihiro University of Agriculture and Veterinary Medicine, Tokyo University of Agriculture and Technology, Kyoto University, Okayama University, Tottori University, Kumamoto University, University of Shizuoka, Waseda University, Chuo University, Nippon Veterinary and Life Science University, Ritsumeikan Asia Pacific University
12	Vietnam Water Resources University	University: Kyushu University, Tohoku University
13	Vietnamese Academy of Science and Technology	University: The University of Tokyo, Tohoku University, Osaka University, Nagoya Institute of Technology, Japan Advanced Institute of Science and Technology, Osaka Prefecture University, Kyoto Institute of Technology
14	Hanoi Medical University	University: The University of Tokyo, Kanazawa University, Kyoto University, Kyoto Institute of Technology, Kobe University, Shimane University, Oita University, Kagoshima University, Aichi Gakuin University
15	FPT University	University: Shinshu University, Kyushu Institute of Technology, The University of Aizu, Wakkanai Hokusei Gakuen University

APPENDIX 12. Comparison of the three university models (FULBRIGHT - FPT – PHENIKAA)

	FULBRIGHT	FPT	PHENIKAA
Establishment	<p>Year of establishment: 2016</p> <p>Fulbright's origin story dates to the establishment of the Fulbright Economics Teaching Program (FETP), now the Fulbright School of Public Policy and Management (FSPPM), in 1994 by the Harvard Vietnam Program. Powered by funding from the U.S. Department of State, FETP built a reputation as a center of excellence in public policy research and teaching in Vietnam.</p>	<p>Year of establishment: 2006</p> <p>A member unit of FPT Corporation, a pioneer in the field of information technology</p>	<p>Year of establishment: 2007</p> <p>A member of Phenikaa Group (- Vietnam's leading industrial corporation - in 2017)</p>
Model	<p>An independent university with 100% foreign investment under the sponsorship of the US Government, operating not for profit</p>	<p>FPT University is a private university founded by 100% capital from FPT Corporation</p>	<p>Phenikaa University is a private university founded by 100% capital from Phenikaa Corporation.</p>
Strategy, Vision and Objectives	<p>Fulbright University Vietnam strives to close the gap between higher education and Vietnam's greatest needs.</p> <p>Fulbright's undergraduate and graduate programs reimagine the university in Vietnam, building the next generation of Vietnamese leaders equipped with the skills to tackle global challenges.</p>	<p>Mission: The University provides global competitive advantages to massive learners and contributes for the expansion of national intellectual border.</p> <p>Vision [Industry Relevant – Global – Smart Education – Mega (iGSM)]: To become a Mega internationalized education system, to meet the needs of the society, and to base on state of the art education technology.</p> <p>Cultures & Values: Respect individual – Innovative spirit – Team spirit – Objectivity – Exemplarity – Wisdom, Doing differently makes it better, Authentic learning, Authentic testing, Authentic success</p> <p>Philosophy: Education is the process of organizing and managing students' self-learning.</p> <p>This mission is accomplished by offering quality curricula that are delivered by qualified, involved faculty dedicated to improvement processes in order to prepare the graduates to contribute to the world of knowledge economy.</p>	<p>Vision</p> <p>To become a multidisciplinary University that is excellent in training, research, career development, and incubation of talents and freedom of creativity, relevant to developmental needs, and creates new values for the community.</p> <p>To be ranked among the Top 100 best universities in Asia within the next two decades.</p> <p>Mission</p> <p>Train and provide high-quality human resources on the basis of scientific research, technological development, and practice.</p> <p>Facilitate an environment for both professional research and freedom of creativity for individuals to achieve breakthroughs in science, technology, and socio-economic development.</p>

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

	FULBRIGHT	FPT	PHENIKAA
Master Plan	<p>On June 6, 2019, in Ho Chi Minh City, Fulbright University Vietnam held the ground-breaking ceremony, students will move to the headquarters in 2022.</p> <p>In 25 years, Fulbright University Vietnam will be the top choice for students in Vietnam and across Asia. Fulbright’s students will represent the full regional, disciplinary, socio-economic and gender diversity we deeply value</p>	N/A	<p>PHENIKAA University was built on a scale of about 13 hectares in Ha Dong District, Hanoi with an investment capital of phase 1 (2018-2020) of VND 1600 billion. The university aims to be in the Top 100 best universities in Asia within 2 decades</p>
Stakeholders/ Supporting parties	<ul style="list-style-type: none"> - The Trust for University Innovation in Vietnam, an American nonprofit corporation, was established to sponsor and shepherd the idea of setting up this school. - After donating 15 hectares of land for our future campus in Ho Chi Minh City’s District 9, the Vietnamese government granted Fulbright our operating license in 2017. - Receiving generous support from the Department of State Bureau for Educational and Cultural Affairs and the United States Agency for International Development to advance the University’s mission and goals. 	N/A	N/A
Governance & operation	<p>On May 16, 2016, Fulbright University Vietnam officially received the establishment decision of the Prime Minister under Decision No. 819/QD-TTg</p> <p>Fulbright University Vietnam (FUV) is allowed to organize training activities according to Decision No. 1943/QD-BGDĐT dated June 2, 2017 of the Ministry of Education and Training.</p>	<p>FPT University was established on September 8, 2006 under Decision No. 208/2006/QD-TTg of the Prime Minister and operates under the Regulation on organization and operation of a private university under Decision No. 61. /2009/QD-TTg issued on 17/4/2009 by the Government.</p>	<p>Pursuant to Decision No. 70/2014/QD-TTg dated December 10, 2014 of the Prime Minister on the promulgation of the university charter</p> <p>The school was established in 2007 under Decision No. 1368/QD-TTg dated 10/10/2007 of the Prime Minister; became a member of Phenikaa Group in 2017; By November 2018, Thanh Tay University was renamed Phenikaa University according to Decision No. 1609/QD-TTg dated November 21, 2018 of the Prime Minister.</p> <p>Pursuant to Decision No. 03/QD-DHP-HDQT dated September 22, 2019 of the Board of</p>

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

		FULBRIGHT	FPT	PHENIKAA
				Directors on promulgating regulations on organization and operation of Phenikaa School
Consortium	N/A	Currently, FPT University has implemented a cooperation program with 65 schools in 27 countries around the world and continues to expand		P2A - Non-profit Student Exchange Network of Southeast Asian Countries (Passage to ASEAN) ATU-Net - Asia Technological University Network : Universities from 15 Asian countries VOHUN – Vietnam One Health University Network (Vietnam One Health University Network): Consists of more than 20 member universities in the fields of health sciences
Campus	15-hectare land in High-Tech Park District 9	About 30km from Hanoi city center, FPT University is located on Km 29 Thang Long Boulevard, Thach That District, Hanoi.	7 floors with a total usable area of 11,065 m ²	Located in Yen Nghia, Ha Dong District, Hanoi with an area of 14,000m ² . total investment amounts up to 1,600 billion VND
Program development	Bachelor program: 04 programs Master program: 05 programs	4 majors training		Bachelor: 32 programs Master: 7 programs Doctor: 4 programs
Training programs	Education program Bachelor Optional Bridge Program (7 weeks) Arts and Humanities (Art and Media Studies, Vietnam Studies, Literature). Social Sciences (History, Economics, Anthropology, Psychology, Vietnam Studies). Sciences and Engineering (Natural Sciences, Engineering). Mathematics and Computing (Mathematics, Statistics, Computer Science, Data Science).	Bachelor program (4 year) - Business Administration - Finance and Banking - International Business - Hospitality Management		Bachelor program - English language - Korean language - Chinese language - Business Administration - Accounting - Finance – Banking - Human Resource Management - Economic Law - Biotechnology - Environmental Science

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

FULBRIGHT	FPT	PHENIKAA
<p>Fulbright School of Public Policy and Management (FSPPM) Master in Public Policy (Policy Analysis) Master in Public Policy (Leadership & Management) Executive Programs in Leadership and Management Vietnam Executive Leadership Program</p>		<ul style="list-style-type: none"> - Chemical Engineering - Material Technology (Advanced Materials and Nano Nano) - Materials technology (Intelligent materials and artificial intelligence) - Computer Science - Information Technology - Information Technology Vietnam - Japan - Automotive Engineering - Automotive Engineering (Automotive Mechatronics) - Mechatronic Engineering - Mechanical Engineering - Engineering control and automation - Control and automation engineering (Artificial Intelligence Robot) - Electronic engineering - telecommunications - Biomedical Engineering - Pharmacology - Nursing - Medical Laboratory Technique - Rehabilitation Engineering - Tourism (Tourism Management) - Hotel Management - Physics - Business Administration (Affiliate Andrews University) Master programs - Nursing - Mechanical Engineering - Chemical Engineering - Materials science - Business Administration - Economic management - Computer Science

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

	FULBRIGHT	FPT	PHENIKAA
			<ul style="list-style-type: none"> - Pharmacology and Clinical Pharmacology Doctor - Theoretical Physics and Mathematical Physics - Materials science - Mechanical Engineering - Chemical Engineering
Training duration	Bachelor programs: 4 years Master program: 15 months	Bachelor: + 9 semesters + 4 months/ 1 semester English Preparatory Program + 6 level + 2 months/ 1 level + For students who do not have enough English proficiency equivalent to TOEFL iBT 80 or IELTS (Academic) 6.0 or equivalent. Students who have obtained official certificates according to the above standards are exempt from this program. Other students are assigned to study levels corresponding to their level through a placement test at the beginning of the course held before the opening ceremony. Students need to achieve the highest level of English before starting the full-time program.	Bachelor program: 4 years Master program: 2 years Doctor program: 3 years
Tuition fee	<i>Bachelor program:</i> + Tuition: 467,600,000 VND/ year + Fulbright dormitory fee (if any): VND 58,450,000/ year <i>Master program (Harvard):</i> + 508 million VND/ year	Bachelor program + 25,3 million VND/semester English Preparatory Program +10,350,000 VND/level	Bachelor program + 20 million → 32 million VND/year + Training association with Andrews University (USA): 88 million VND/ year Master program: + 50 million -> 70 million VND/1 course/ 2 year Doctor program: + 30 million/ year
Flying faculty	30% lecture is foreign people	Foreign lecturers and experts will account for a significant proportion at FPT University. In charge of English and Japanese subjects, he is a foreigner with	Vietnamese lecturers will take charge of general subjects, basic subjects and some specialized subjects. Foreign lecturers will

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

	FULBRIGHT	FPT	PHENIKAA
		more than five years of experience in teaching and teaching management.	teach specialized subjects. The ratio of Vietnamese lecturers to foreign lecturers is 75%/25%.
Accreditation	<p>The Master of Public Policy program of the Fulbright School of Public Policy and Management (Fulbright School) of Fulbright University Vietnam has been approved by the US Global Network of Schools of Public Policy, Public Administration and Management (NASPAA). The accreditation period meets the quality standards with a maximum term of up to 7 years.</p> <p>The NASPAA is a global accrediting agency for Master's programs in public policy, public administration and public management, headquartered in Washington D.C. and is accredited by the Council for Higher Education Accreditation (CHEA).</p>	<p>The Accreditation Council for Business Training Programs ACBSP has officially recognized the quality of FPT University's business administration training as meeting international standards.</p>	<p>The Andrews University International Bachelor of Business Administration program in association with Phenikaa University (BBA Andrews Phenikaa) is implemented and taught in Vietnam.</p> <p>Founded in 1874, Andrews University is considered one of the world's leading prestigious schools for business administration training in the US. The school that has achieved regional accreditation (the highest accreditation of American education) is The Higher Learning Commission of North Central Association (HLCNCA) under the Higher Learning Accreditation Council (CHEA) - the US Department of Education. Not only meeting quality accreditation standards, the practicality of Andrews University's training programs has also been repeatedly appreciated by prestigious ranking organizations such as US News & World Report, Forbes, Newsweek</p>
Internship	<p>In April 2020, the Center of Entrepreneurship & Innovation (CEI) at Fulbright University Vietnam (Fulbright) launched its flagship Venture Fellows Program (VFP), which prepares, places and supports students to work at Vietnam's most exciting startup and technology companies. <i>While it is true that many internship opportunities are geared towards students in their junior year. Fulbright University Vietnam believes that students should have the opportunities to intern as early as in their freshmen year</i></p>	<p>Before graduation, 100% of FPT University students will do internships at domestic and foreign enterprises. On the job training (OJT) is the learning experience of FPT University students. When entering the 3rd year, FPT University students are prepared mentally, with knowledge and skills to enter the corporate internship.</p> <p>After the first 5 semesters, with English and basic skills of the discipline, students are sent to work as interns in member companies of FPT for 4 to 8 months. Here students receive practical training on future careers, participate in real projects and can</p>	<p>Phenikaa University has a direct investment from the leading economic group in Vietnam - Green Phoenix A&A Group (Phenikaa Group). This is a great opportunity for Phenikaa University students to practice and work at member units of Phenikaa Group in the country and offices located abroad. Materials Technology students who graduate with good grades and on time are guaranteed jobs at member companies of Phenikaa Group.</p>

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

	FULBRIGHT	FPT	PHENIKAA
		<p>be paid. That is the typical On-the-Job-Training (OJT) phase of FPT University. Some majors such as Japanese, Hotel Management, students going to OJT in Japan, in Malaysia, etc.</p> <p>The school's employment rate is also impressive. 96% of FPT University students have jobs after graduation with an average salary of about 8.3 million VND/person/month, 100% of students have the opportunity to work at FPT after graduation; 19% of alumni work abroad (2017 figures).</p>	
Scholarships granted	<p>For the major in Policy Analysis, the Fulbright School of Public Policy and Management continues to provide full scholarships, with a total scholarship value of about VND 550 million/student for students studying at the University.</p>	<p>Every year, hundreds of 50% -100% Nguyen Van Dao scholarships are awarded to new students in all fields of study at FPT University.</p> <p>Preferential credit program: 50% - 70% of the course fee; The maximum credit period is 5 years from the date of admission.</p>	<p>Scholarship fund for students who are admitted to full-time university in 2021 with a total value of over 50 billion VND.</p> <p>Scholarship policy (except for the MBA program - Affiliated with Andrews University of the United States)</p> <p>Talent Scholarship - Free tuition for the whole course (worth 80 - 170 million VND)</p> <p>Excellence Scholarship - Free tuition for the first 2 years (worth 40 - 80 million VND)</p> <p>Winged Future Scholarship - First year tuition fee waiver (worth 20-40 million VND)</p> <p>Companion scholarship - 50% tuition fee waiver for the first year (worth 10-20 million VND)</p> <p>Tuition Support Policy</p> <p>Phenikaa University and Phenikaa Group will support 20% of the whole course fee for all students who pass in 2021.</p> <p>Other supporting policies: Good academic results, policy beneficiaries, and students participating in scientific research</p>

The Data Collection Survey and Situation Analysis on Industrial HR Development in Vietnam (2022)

	FULBRIGHT	FPT	PHENIKAA
Laboratories and Research	In addition to the regular library, the Fulbright Open Learning Materials are free to access and download. If you study in the US, there are new materials that have to pay royalties. There are many foreign copyrighted materials here that have been paid for by the school, learners only have to worry about reading, understanding and absorbing	With the strength of Information Technology training, and majors that require students to work with high-configuration computers, FPT University chooses the most modern equipment to provide a quality learning environment for students. pellets. FPT University has established a Technology Research Institute with initial activities focusing on four research directions including: IT application; Clean energy and energy saving; Biotechnology and Space Technology	The Nano Institute laboratory area for research groups managed by the Institute includes - Biomedical and Environmental Nanomaterials Department (NEB Lab) - Nano Biomedical Product Research and Development Department (nBIORD Lab).
Scientific publications	The Fulbright School of Public Policy and Management is pleased to introduce the international journal Fulbright Review of Economics and Policy (FREP), published on the system of Emerald Group Publishing. This is a peer-reviewed academic journal specialized in publishing articles, theoretical and empirical research in the fields of economics and public policy.	The Institute has more than 10 research and development projects at the Institute of Technology Research The article on Institute for Scientific Information Journal Standard List The article con Institute for Scientific Information Journal Expanded List	Total: 42 papers ISI-Scopus (Institute for Scientific Information) (2021)

Source: Fulbright University: <https://fulbright.edu.vn/>; FPT University: <https://fptshop.com.vn/>; Phenikaa University: <https://phenikaa-uni.edu.vn/vi>

APPENDIX 13. List of Universities and public TVET institutions in 6 target provinces

Source:

- HE: MOET list

- TVET: Decision 1769/QĐ-LĐTĐ on November 25, 2019 (Note: Public TVET institutions in below lists only includes public TVET institutions assigned key occupation by Decision 1769/QĐ-LĐTĐ)

Province	HE		TVET	
	Public	Non-Public	Public	Non-Public
Hanoi	120	15	40	14
HCMC	36	15	28	10
Da Nang	9	4	9	3
Dong Nai	2	3	8	0
Can Tho	3	2	11	0
Hai Phong	4	2	16	5

Province: Hanoi

- List of main HE Institutions (Universities) in Hanoi

No.	Name of HE Institutions (VI)	Name of HE Institutions (EN)	Types
1	Học Viện Âm Nhạc Quốc Gia Việt Nam	Viet Nam National Academy of Music	Public
2	Học Viện Múa Việt Nam	Viet Nam Dance College	Public
3	Trường Đại Học Mỹ Thuật Công Nghiệp	Ha Noi University of Industrial Fine Arts	Public
4	Trường Đại Học Sư Phạm Thể Dục Thể Thao Hà Nội	Hanoi University of Physical Education and Sports	Public
5	Học Viện Khoa Học Xã Hội	Graduate Academy of Social Sciences	Public
6	Học Viện Quân Y	Vietnam Military Medical University	Public
7	Trường Đại Học Anh Quốc - Việt Nam	British University Viet Nam	Non-Public
8	Trường Đại Học Tài Chính - Ngân Hàng Hà Nội	Hanoi Financial and Banking University	Non-Public
9	Đại Học Quốc Gia Hà Nội	Viet Nam National University - Ha Noi	Public
10	Trường Đại Học Y Dược - Đại Học Quốc Gia Hà Nội	VNU University of Medicine and Pharmacy	Public
11	Trường Đại Học Công Nghệ - Đại Học Quốc Gia Hà Nội	VNU University of Engineering and Technology	Public
12	Trường Đại Học Giáo Dục - Đại Học Quốc Gia Hà Nội	VNU University of Education	Public
13	Trường Đại Học Khoa Học Tự Nhiên - Đại Học Quốc Gia Hà Nội	VNU University of Science	Public
14	Trường Đại Học Khoa Học Xã Hội Và Nhân Văn - Đại Học Quốc Gia Hà Nội	VNU University of Social Sciences and Humanities	Public
15	Trường Đại Học Kinh Tế - Đại Học Quốc Gia Hà Nội	VNU University of Economics and Business	Public
16	Trường Đại Học Ngoại Ngữ - Đại Học Quốc Gia Hà Nội	VNU University of Languages and International Studies	Public

No.	Name of HE Institutions (VI)	Name of HE Institutions (EN)	Types
17	Trường Đại Học Việt Nhật - Đại Học Quốc Gia Hà Nội	VNU Vietnam - Japan University	Public
18	Trường Đại Học Sư Phạm Hà Nội	Ha Noi University of Education	Public
19	Trường Đại Học Sư Phạm Nghệ Thuật Trung Ương	National University of Art Education	Public
20	Trường Đại Học Tài Nguyên Và Môi Trường Hà Nội	Ha Noi University of Natural Resource and Environment	Public
21	Trường Đại Học Thủ Đô Hà Nội	Hanoi Metropolitan University	Public
22	Trường Đại Học Vinuni	VinUniversity	Non-Public
23	Trường Đại Học Công Nghiệp Dệt May Thời Trang Hà Nội	Ha Noi Industrial College for Textile Garment and Fashion	Public
24	Trường Đại Học Nội Vụ Hà Nội	Ha Noi University of Home Affairs	Public
25	Trường Đại Học Phenikaa	Phenikaa University	Non-Public
26	Trường Đại Học Sân Khấu Điện Ảnh Hà Nội	Hanoi Academy of Theatre and Cinema	Public
27	Trường Đại Học Trần Quốc Tuấn	Tran Quoc Tuan University	Public
28	Trường Đại Học Văn Hoá - Nghệ Thuật Quân Đội	Military University of Culture and Arts	Public
29	Trường Đại Học Văn Hoá Hà Nội	Ha Noi University of Culture	Public
30	Trường Sĩ Quan Đặc Công	Officer of the Vietnamese Special Forces	Public
31	Trường Sĩ Quan Pháo Binh	Artillery Officer School in Vietnam	Public
32	Trường Sĩ Quan Phòng Hoá	Commender of Chemical Engineering	Public
33	Học Viện Ngoại Giao	Diplomatic Academy of Viet Nam	Public
34	Trường Đại Học Điện Lực	Electric Power University	Public
35	Trường Đại Học Nguyễn Trãi	Nguyen Trai University	Non-Public
36	Học Viện Công Nghệ Bưu Chính Viễn Thông	Posts and Telecommunications Institute of Technology	Public
37	Học Viện Tòa Án	Vietnam Court Academy	Public
38	Trường Đại Học Kiểm Sát Hà Nội	Hanoi Procuratorate University	Public
39	Trường Đại Học Kinh Doanh Và Công Nghệ Hà Nội	Ha Noi University of Business and Technology	Non-Public
40	Trường Đại Học Luật Hà Nội	Ha Noi Law University	Public
41	Học Viện Phụ Nữ Việt Nam	Vietnam Women's Academy	Public
42	Học Viện Thanh Thiếu Niên Việt Nam	Vietnam Youth Academy	Public
43	Trường Đại Học Công Đoàn	Trade Union University	Public
44	Trường Đại Học Mỏ - Địa Chất	Ha Noi University of Mining and Geology	Public
45	Học Viện Ngân Hàng	Banking Academy of Viet Nam	Public
46	Trường Đại Học Bách Khoa Hà Nội	Hanoi University of Science and Technology	Public
47	Trường Đại Học Công Nghiệp Hà Nội	Ha Noi University of Industry	Public
48	Trường Đại Học Private Phương Đông	Phuong Dong University	Non-Public
49	Trường Đại Học Hoà Bình	Hoa Binh University	Non-Public
50	Trường Đại Học Kinh Tế Quốc Dân	National Economic University	Public
51	Trường Đại Học Ngoại Thương	Foreign Trade University	Public
52	Trường Đại Học Thăng Long	Thang Long University	Non-Public
53	Trường Đại Học Thương Mại	Viet Nam University of Commerce	Public

No.	Name of HE Institutions (VI)	Name of HE Institutions (EN)	Types
54	Trường Đại Học Xây Dựng Hà Nội	National University of Civil Engineering	Public
55	Trường Cao Đẳng Sư Phạm Hà Tây	Ha Tay Teacher Training College	Public
56	Học Viện An Ninh Nhân Dân	People's Security Academy	Public
57	Học Viện Báo Chí Và Tuyên Truyền	Academy of Journalism and Communication	Public
58	Học Viện Cảnh Sát Nhân Dân	People's Police Academy	Public
59	Học Viện Chính Trị Công An Nhân Dân	Police Political Academy	Public
60	Học Viện Chính Trị Khu Vực I	Academy of Politics - Public Administration Region I	Public
61	Học Viện Chính Trị Quốc Gia Hồ Chí Minh	Ho Chi Minh National Academy of Politics	Public
62	Học Viện Dân Tộc	Vietnam Academy for Ethnic Minorities	Public
63	Học Viện Quốc Tế	International University	Public
64	Trường Đại Học Phòng Cháy Chữa Cháy	The University of Fire Fighting and Prevention	Public
65	Trường Cao Đẳng Sư Phạm Trung Ương	National College of Education	Public
66	Trường Đại Học Lâm Nghiệp	Viet Nam Forestry University	Public
67	Học Viện Y Dược Học Cổ Truyền Việt Nam	Viet Nam University of Traditional Medicine & Pharmacy	Public
68	Trường Đại Học Dược Hà Nội	Ha Noi University of Pharmacy	Public
69	Trường Đại Học Hà Nội	Ha Noi University	Public
70	Trường Đại Học Y Hà Nội	Ha Noi Medical University	Public
71	Trường Đại Học Y Tế Công Cộng	Ha Noi School of Public Health	Public
72	Học Viện Nông Nghiệp Việt Nam	Ha Noi University of Agriculture	Public
73	Trường Đại Học Khoa Học Và Công Nghệ Hà Nội	University of Science and Technology of Hanoi	Public
74	Trường Đại Học Kiến Trúc Hà Nội	Ha Noi Architectural University	Public
75	Trường Đại Học Công Nghiệp Việt – Hung	Vietnam - Hungary Industrial University	Public
76	Trường Đại Học Đông Đô	Dong Do University	Non-Public
77	Trường Đại Học Thành Đô	Thanh Do University	Non-Public
78	Trường Đại Học Thủy Lợi	Thuyloi University	Public
79	Học Viện Biên Phòng	Academy of Border Defence	Public
80	Học Viện Chính Trị	Political Academy	Public
81	Học Viện Hành Chính Quốc Gia	National Academy of Public Administration	Public
82	Học Viện Hậu Cần	Military Academy of Logistics	Public
83	Học Viện Khoa Học Quân Sự	Academy of Military Science	Public
84	Học Viện Kỹ Thuật Mật Mã	Academy of Cryptography Techniques	Public
85	Học Viện Kỹ Thuật Quân Sự	Military Technical Academy	Public
86	Học Viện Phòng Không - Không Quân	Air Defence - Air Force Academy	Public
87	Học Viện Quốc Phòng	Academy of National Defence	Public
88	Học Viện Khoa Học, Công Nghệ Và Đổi Mới Sáng Tạo	Vietnam Institute of Science Technology and Innovation	Public
89	Trường Đại Học Công Nghệ Và Quản Lý Hữu Nghị	University of Technology and Management	Non-Public
90	Trường Đại Học Đại Nam	Dai Nam University	Non-Public

No.	Name of HE Institutions (VI)	Name of HE Institutions (EN)	Types
91	Trường Đại Học Fpt	FPT University	Non-Public
92	Học Viện Tài Chính	Academy of Finance	Public
93	Trường Đại Học Lao Động - Xã Hội	University of Labour and Social Affairs	Public
94	Học Viện Quản Lý Giáo Dục	National Academy of Education Management	Public
95	Trường Đại Học Mở Hà Nội	Ha Noi Open University	Public
96	Trường Đại Học Mỹ Thuật Công Nghiệp Á Châu	Asia University of Art & Design	Non-Public
97	Trường Đại Học Mỹ Thuật Việt Nam	Vietnam University of Fine Arts	Public
98	Trường Đại Học Công Nghệ Giao Thông Vận Tải	University of Transport Technology	Public
99	Trường Đại Học Giao Thông Vận Tải	University of Transport and Communications	Public
100	Học Viện Khoa Học Và Công Nghệ	Vietnam Academy of Science and Technology	Public
101	Viện Chăn Nuôi	National Institute of Animal Sciences	Public
102	Viện Chiến Lược Phát Triển	Vietnam Institute for Development Strategies	Public
103	Viện Cơ Điện Nông Nghiệp Và Công Nghệ Sau Thu Hoạch	Vietnam Institute of Agricultural Engineering And Post-Harvest Technology	Public
104	Viện Công Nghiệp Thực Phẩm	Food Industry Research Institute	Public
105	Viện Dầu Khí Việt Nam	PetroVietnam Institute	Public
106	Viện Dinh Dưỡng	National Institute of Nutrition	Public
107	Viện Dược Liệu	National Institute of Medical Materials	Public
108	Viện Hoá Học Công Nghiệp	Vietnam Institute of Industry Chemistry	Public
109	Viện Khoa Học Công Nghệ Xây Dựng	Vietnam Institute for Building Science and Technology	Public
110	Viện Khoa Học Địa Chất Và Khoáng Sản	Vietnam Institute of Geosciences and Mineral Resources	Public
111	Viện Khoa Học Đo Đạc Và Bản Đồ	Vietnam Institute of Geodesy and Cartography	Public
112	Viện Khoa Học Giáo Dục Việt Nam	The Vietnam National Institute of Education Sciences	Public
113	Viện Khoa Học Khí Tượng Thủy Văn Và Biến Đổi Khí Hậu	Vietnam Institute of Meteorology, Hydrology and Climate Change	Public
114	Viện Khoa Học Lâm Nghiệp Việt Nam	Vietnamese Academy of Forest Sciences	Public
115	Viện Khoa Học Nông Nghiệp Việt Nam	Vietnam Academy of Agriculture Sciences	Public
116	Viện Khoa Học Thể Dục Thể Thao	Vietnam Sport Science Institute	Public
117	Viện Khoa Học Thủy Lợi Việt Nam	Vietnam Academy for Water Resources	Public
118	Viện Khoa Học Và Công Nghệ Giao Thông Vận Tải	Institute of Transport Science and Technology	Public
119	Viện Khoa Học Và Công Nghệ Quân Sự	Institute of Military Science and Technology	Public
120	Viện Kiểm Nghiệm Thuốc Trung Ương	National Institute of Drug Quality Control	Public

No.	Name of HE Institutions (VI)	Name of HE Institutions (EN)	Types
121	Viện Kiến Trúc Quốc Gia	Vietnam Institute of Architecture	Public
122	Viện Lịch Sử Quân Sự Việt Nam	Institute of Military History	Public
123	Viện Máy Và Dụng Cụ Công Nghiệp	Industrial Machinery and Instruments Holding	Public
124	Viện Năng Lượng Nguyên Tử Việt Nam	Vietnam Atomic Energy Institute	Public
125	Viện Nghiên Cứu Chiến Lược, Chính Sách Công Thương	Viet Nam Institute of Industrial and Trade Policy and Strategy – VIOIT	Public
126	Viện Nghiên Cứu Cơ Khí	National Research Institute of Mechanical Engineering	Public
127	Viện Nghiên Cứu Điện Tử, Tin Học, Tự Động Hoá	Vietnam Research Institute of Electronics, Informatics and Automation	Public
128	Viện Nghiên Cứu Khoa Học Y Dược Lâm Sàng 108	108 Institute of Clinical Medical and Pharmaceutical Sciences	Public
129	Viện Nghiên Cứu Và Quản Lý Kinh Tế Tw	Central Institute for Economic Management (CIEM)	Public
130	Viện Sốt Rét Ký Sinh Trùng - Côn Trùng Tw	National Institute of Malariology Parasitology and Entomology	Public
131	Viện Sức Khoẻ Nghề Nghiệp Và Môi Trường	National Institute of Occupational and Environmental Health	Public
132	Viện Thú Y	National Institute of Veterinary Research	Public
133	Viện Toán Học	Institute of Mathematics	Public
134	Viện Ứng Dụng Công Nghệ	National Center for Technology Progress	Public
135	Viện Văn Hoá Nghệ Thuật Việt Nam	Vietnam National Institute of Culture and Arts Studies	Public
136	Viện Vệ Sinh Dịch Tễ Trung Ương	National Institute of Hygiene and Epidemiology	Public
137	Viện Y Học Cổ Truyền Dân Tộc Quân Đội	Military Institute of Traditional Medicine	Public

- List of main TVETs Institutions (VTS and Colleges) in Hanoi

No.	Name of TVET Institutions (VI)	Name of TVET Institutions (EN)	Types	
1	Cơ sở Sơn Tây (Trường Đại học Lao động - Xã hội)	University of Labour and Social Affairs Sontay Branch	College	Public
2	Trường Cao đẳng Cơ điện Hà Nội	Hanoi College of Mechanical and Electrical Engineering	College	Public
3	Trường Cao đẳng Cơ điện và Công nghệ thực phẩm Hà Nội	Hanoi College of Electrical Engineering and Food Technology	College	Public
4	Trường Cao đẳng Cộng đồng Hà Nội	Hanoi Community College	College	Public
5	Trường Cao đẳng Cộng đồng Hà Tây	Ha Tay Community College	College	Public
6	Trường Cao đẳng Công nghệ In	College of Printing Industry	College	Public
7	Trường Cao đẳng Công nghệ và Kinh tế Hà Nội	Hanoi College of Technology and Economics	College	Public
8	Trường Cao đẳng Điện tử - Điện lạnh Hà Nội	Hanoi Electronics and Refrigeration College	College	Public
9	Trường Cao đẳng Du lịch Hà Nội	Hanoi Tourism College	College	Public

No.	Name of TVET Institutions (VI)	Name of TVET Institutions (EN)	Types	
10	Trường Cao đẳng Giao thông vận tải Trung ương I	Central Transport College No. 1	College	Public
11	Trường Cao đẳng Kinh tế - Kỹ thuật Thương mại	College of Trade, Economics and Techniques	College	Public
12	Trường Cao đẳng Kinh tế - Kỹ thuật Trung ương	National Economic Technical College	College	Public
13	Trường Cao đẳng Kinh tế Công nghiệp Hà Nội	Hanoi College of Industrial Economics	College	Public
14	Trường Cao đẳng Kỹ thuật trang thiết bị y tế	College of Medical Equipment Engineering	College	Public
15	Trường Cao đẳng nghề Công nghệ cao Hà Nội	Hanoi Vocational College of High Technology	College	Public
16	Trường Cao đẳng nghề Công nghiệp Hà Nội	Hanoi Industrial Vocational College	College	Public
17	Trường Cao đẳng nghề Kỹ thuật - Công nghệ	College of Engineering and Technology	College	Public
18	Trường Cao đẳng nghề Kỹ thuật - Mỹ nghệ Việt Nam	Vietnam Vocational College of Technology – HANDICRAFT	College	Public
19	Trường Cao đẳng nghề Kỹ thuật và Nghiệp vụ Hà Nội	Hanoi College for Technical and Professional Skills Training	College	Public
20	Trường Cao đẳng Nghệ thuật Hà Nội	Hanoi College of Arts	College	Public
21	Trường Cao đẳng nghề Việt Nam - Hàn Quốc Thành phố Hà Nội	Vietnam - Korea Vocational College of Hanoi City	College	Public
22	Trường Cao đẳng Nông nghiệp và Phát triển nông thôn Bắc Bộ	The North Vietnam College of Agriculture and Rural Development	College	Public
23	Trường Cao đẳng Thương mại và Du lịch Hà Nội	Hanoi College of Commerce and Tourism	College	Public
24	Trường Cao đẳng Truyền hình	Vietnam Television College	College	Public
25	Trường Cao đẳng Xây dựng Công trình đô thị	College of Urban Works Construction	College	Public
26	Trường Cao đẳng Xây dựng số 1	Construction Technical College No 1	College	Public
27	Trường Cao đẳng Y tế Bạch Mai	Bach Mai Medical College	College	Public
28	Trường Cao đẳng Y tế Đặng Văn Ngữ	Dang Van Ngu Medical College	College	Public
29	Trường Cao đẳng Y tế Hà Đông	Ha Dong Medical College	College	Public
30	Trường Cao đẳng Y tế Hà Nội	Hanoi Medical College	College	Public
31	Trường Trung cấp Kinh tế - Kỹ thuật Bắc Thăng Long	North Thang Long Technical and Economic College	VTS	Public
32	Trường Trung cấp nghề Cơ khí Xây dựng	Vocational College of Construction Engineering	VTS	Public
33	Trường Trung cấp nghề Cơ khí I Hà Nội	Hanoi Vocational Technical School	VTS	Public
34	Trường Trung cấp nghề Giao thông công chính Hà Nội	Vocational School of Transport and Public Works in Hanoi	VTS	Public

No.	Name of TVET Institutions (VI)	Name of TVET Institutions (EN)	Types	
35	Trường Trung Cấp Nghề Nấu Ăn - Nghiệp Vụ Du Lịch Và Thời Trang Hà Nội	Hanoi Vocational School of Cookery – Tourism and Fashion	VTS	Public
36	Trường Trung cấp nghề số 1 Hà Nội	Vocational School No. 1 in Hanoi.	VTS	Public
37	Trường Trung cấp Nghệ thuật Xiếc và Tạp kỹ Việt Nam	Vietnam Circus Arts and Intermediate School	VTS	Public
38	Trường Trung cấp nghề Tổng hợp Hà Nội	Hanoi General Vocational College	VTS	Public
39	Trường Trung cấp nghiệp vụ và Dạy nghề Công đoàn Hà Nội	Hanoi Trade Union Vocational and Technical College	VTS	Public
40	Trường Trung cấp Nông dân Việt Nam	Vietnam Farmer School	VTS	Public
41	Trường Cao đẳng Công nghệ và Thương mại Hà Nội	Hanoi College of Technology and Trading	College	Non-public
42	Trường Cao đẳng Công thương Hà Nội	Hanoi College of Industry and Trade	College	Non-public
43	Trường Cao đẳng Điện lực miền Bắc	Northern Power College	College	Non-public
44	Trường Cao đẳng Đường sắt	Vietnam Railway College	College	Non-public
45	Trường Cao đẳng nghề Bách Khoa Hà Nội	Hanoi Vocational College of Technology	College	Non-public
46	Trường Cao đẳng nghề Công nghệ và kinh tế Hà Nội	Hanoi College of Technology and Economics	College	Non-public
47	Trường Cao đẳng nghề Công nghệ và Kỹ thuật Trần Hưng Đạo	Tran Hung Dao Vocational College of Technology and Technology	College	Non-public
48	Trường Cao đẳng nghề Kỹ thuật - Công nghệ - Kinh tế SIMCO Sông Đà	Song Da SIMCO Vocational College of Engineering, Technology, Economics	College	Non-public
49	Trường Cao đẳng nghề Long Biên	Long Bien Vocational College	College	Non-public
50	Trường Cao đẳng nghề Thăng Long	Thang Long Vocational College	College	Non-public
51	Trường Cao đẳng nghề Trần Hưng Đạo	Tran Hung Dao Vocational College	College	Non-public
52	Trường Cao đẳng Quốc tế Hà Nội	Hanoi International College	College	Non-public
53	Trường Trung cấp nghề Dân lập kỹ thuật tổng hợp Hà Nội	Hanoi General Technical Vocational School	VTS	Non-public
54	Trường Trung cấp nghề Việt Tiệp	Viet Tiep Vocational School	VTS	Non-public

Province: Ho Chi Minh City

- List of main HE Institutions (Universities) in Ho Chi Minh City

No.	Name of HE Institutions (VI)	Name of HE Institutions (EN)	Types
1	Nhạc Viện Tp. Hồ Chí Minh	Ho Chi Minh City Conservatory of Music	Public
2	Trường Đại Học Sư Phạm Thể Dục Thể Thao Tp. Hồ Chí Minh	Ho Chi Minh City University of Physical Education and Sports	Public
3	Trường Đại Học Thể Dục Thể Thao Tp. Hồ Chí Minh	Ho Chi Minh City University of Physical Education and Sports	Public
4	Trường Đại Học Nguyễn Tất Thành	Nguyen Tat Thanh University	Non-Public
5	Trường Đại Học Sư Phạm Kỹ Thuật Tp. Hồ Chí Minh	University of Technical Education Ho Chi Minh City	Public
6	Trường Đại Học Y Khoa Phạm Ngọc Thạch	Pham Ngoc Thach University of Medicine	Public
7	Trường Đại Học Tôn Đức Thắng	Ton Duc Thang University	Public
8	Đại Học Quốc Gia Tp. Hồ Chí Minh	Vietnam National University, Ho Chi Minh City	Public
9	Trường Đại Học Bách Khoa - Đại Học Quốc Gia Tp. Hồ Chí Minh	VNUHCM - University of Technology	Public
10	Trường Đại Học Công Nghệ Thông Tin - Đại Học Quốc Gia Tp. Hồ Chí Minh	VNUHCM - University of Information Technology	Public
11	Trường Đại Học Khoa Học Tự Nhiên - Đại Học Quốc Gia Tp. Hồ Chí Minh	VNUHCM - University of Science	Public
12	Trường Đại Học Khoa Học Xã Hội Và Nhân Văn - Đại Học Quốc Gia Tp. Hồ Chí Minh	VNUHCM - University of Social Sciences and Humanities	Public
13	Trường Đại Học Kinh Tế - Luật - Đại Học Quốc Gia Tp. Hồ Chí Minh	VNUHCM - University of Economics and Law	Public
14	Trường Đại Học Quốc Tế - Đại Học Quốc Gia Tp. Hồ Chí Minh	VNUHCM - International University	Public
15	Trường Đại Học Fulbright Việt Nam	Fulbright University Vietnam	Non-Public
16	Trường Đại Học Sài Gòn	Sai Gon University	Public
17	Trường Đại Học Sư Phạm Tp. Hồ Chí Minh	Ho Chi Minh City University of Education	Public
18	Trường Đại Học Tài Nguyên Và Môi Trường Tp. Hồ Chí Minh	Ho Chi Minh City University for Natural Resources and Environment	Public
19	Trường Đại Học Sân Khấu, Điện Ảnh Tp. Hồ Chí Minh	HCMC University of Theatre and Cinema	Public
20	Trường Đại Học Trần Đại Nghĩa	Tran Dai Nghia University	Public
21	Trường Đại Học Văn Hiến	Van Hien University	Non-Public
22	Trường Đại Học Văn Hoá Tp. Hồ Chí Minh	Ho Chi Minh City University of Culture	Public
23	Trường Đại Học Văn Lang	Van Lang University	Non-Public
24	Học Viện Cán Bộ Thành Phố Hồ Chí Minh	Ho Chi Minh Cadre Academy	Public
25	Trường Đại Học Nông Lâm Tp. Hồ Chí Minh	University of Agriculture and Forestry Ho Chi Minh City	Public
26	Trường Đại Học Gia Định	Gia Dinh University	Non-Public
27	Trường Đại Học Luật Tp. Hồ Chí Minh	University of Law Ho Chi Minh City	Public
28	Trường Đại Học Private Quốc Tế Sài Gòn	The SaiGon International Univeristy	Non-Public

No.	Name of HE Institutions (VI)	Name of HE Institutions (EN)	Types
29	Trường Đại Học Công Nghiệp Tp. Hồ Chí Minh	Industrial University of Ho Chi Minh City	Public
30	Trường Đại Học Kinh Tế Tp. Hồ Chí Minh	University of Economics Ho Chi Minh City	Public
31	Trường Đại Học An Ninh Nhân Dân	People's Security University	Public
32	Trường Đại Học Cảnh Sát Nhân Dân	People's Police University	Public
33	Trường Cao Đẳng Sư Phạm Trung Ương Tp. Hồ Chí Minh	National College of Education, Ho Chi Minh City	Public
34	Trường Đại Học Hùng Vương - Tp. Hồ Chí Minh	Hung Vuong University Ho Chi Minh City	Non-Public
35	Trường Đại Học Quản Lý Và Công Nghệ Tp. Hồ Chí Minh	University of Management and Technology Ho Chi Minh City	Non-Public
36	Trường Đại Học Y Dược Tp. Hồ Chí Minh	University of Medicine and Pharmacy at Ho Chi Minh City	Public
37	Trường Đại Học Kiến Trúc Tp. Hồ Chí Minh	University of Architecture Ho Chi Minh City	Public
38	Trường Đại Học Ngoại Ngữ - Tin Học Tp. Hcm	Ho Chi Minh City University of Foreign Languages and Information Technology	Non-Public
39	Trường Đại Học Quốc Tế Hồng Bàng	Hong Bang University International	Non-Public
40	Trường Đại Học Công Nghệ Sài Gòn	Saigon Technology University	Non-Public
41	Trường Đại Học Công Nghệ Tp. Hồ Chí Minh	Ho Chi Minh University of Technology	Non-Public
42	Trường Đại Học Công Nghiệp Thực Phẩm Tp. Hồ Chí Minh	Ho Chi Minh City University of Food Industry	Public
43	Trường Đại Học Kinh Tế - Tài Chính Tp. Hồ Chí Minh	Universtiy of Economics and Finance	Non-Public
44	Trường Đại Học Hoa Sen	Hoa Sen University	Non-Public
45	Trường Đại Học Tài Chính – Marketing	University of Finance – Marketing	Public
46	Trường Đại Học Ngân Hàng Tp. Hồ Chí Minh	The Banking University of Ho Chi Minh City	Public
47	Trường Đại Học Mở Tp. Hồ Chí Minh	Ho Chi Minh City Open University	Public
48	Trường Đại Học Mỹ Thuật Tp. Hồ Chí Minh	Ho Chi Minh city University of Fine Arts	Public
49	Học Viện Hàng Không Việt Nam	Vietnam Aviation Academy	Public
50	Trường Đại Học Giao Thông Vận Tải Tp. Hồ Chí Minh	Ho Chi Minh City University of Transport	Public
51	Trường Đại Học Quốc Tế Rmit Việt Nam	The Royal Melbourne Institute of Technology University in Vietnam	Non-Public
52	Viện Pasteur Tp. Hcm	Pasteur Institute in Ho Chi Minh City	Public

- List of main TVET Institutions (VTS and Colleges) in Ho Chi Minh City

No.	Name of TVET Institutions (VI)	Name of TVET Institutions (EN)	Types	
1	Trường Cao đẳng Điện lực Thành phố Hồ Chí Minh	Ho Chi Minh City Electric Power College	College	Non-public
2	Trường Cao đẳng Kinh tế - Kỹ thuật VINATEX Thành phố Hồ Chí Minh	VINATEX Economic - Technical College of Ho Chi Minh City	College	Non-public
3	Trường Cao đẳng nghề Công nghệ thông tin ISPACE	iSPACE Information Technology College	College	Non-public
4	Trường Cao đẳng nghề Du lịch Sài Gòn	Saigon Tourism Vocational College	College	Non-public
5	Trường Cao đẳng Quốc tế Tp.Hồ Chí Minh	International College Ho Chi Minh City	College	Non-public
6	Trường Cao đẳng Sài Gòn	Saigon College	College	Non-public
7	Trường Cao đẳng Viễn Đông	Vien Dong College	College	Non-public
8	Trường Trung cấp Công nghệ Bách Khoa	Polytechnic Technology College	VTS	Non-public
9	Trường Trung cấp nghề Tư thực Quản lý khách sạn Việt Úc	VIETNAM AUSTRALIA VOCATIONAL COLLEGE	VTS	Non-public
10	Trường Trung cấp Tổng hợp Đông Nam Á	Southeast Asia General Intermediate	VTS	Non-public
11	Trường Cao đẳng Bách khoa Nam Sài Gòn	Nam Saigon Polytechnic College	College	Public
12	Trường Cao đẳng Công nghệ Thủ Đức	Thu Duc College of Technology	College	Public
13	Trường Cao đẳng Công thương Tp. Hồ Chí Minh	Ho Chi Minh City Industry and Trade College	College	Public
14	Trường Cao đẳng Giao thông vận tải Đường thủy II	Waterway Transport College No. 02	College	Public
15	Trường Cao đẳng Giao thông vận tải Trung ương III	Central College Transport No. 03	College	Public
16	Trường Cao đẳng Giao thông vận tải Trung ương VI	Central College Transport No. 06	College	Public
17	Trường Cao đẳng Hàng hải II	Maritime College No. 02	College	Public
18	Trường Cao đẳng Kinh tế - Kỹ thuật Thành phố Hồ Chí Minh	Ho Chi Minh City Technical and Economic College	College	Public
19	Trường Cao đẳng Kinh tế - Kỹ thuật Thủ Đức	Thu Duc Economic - Technical College	College	Public
20	Trường Cao đẳng Kinh tế đối ngoại	College of Foreign Economic Relation	College	Public
21	Trường Cao đẳng Kinh tế Thành phố Hồ Chí Minh	Ho Chi Minh City College of Economics	College	Public
22	Trường Cao đẳng Kỹ nghệ II	II Polytechnic College	College	Public
23	Trường Cao đẳng Kỹ thuật Cao Thắng	Cao Thang Technical College	College	Public
24	Trường Cao đẳng Kỹ thuật Nguyễn Trường Tộ	Nguyen Truong To Technical College	College	Public

No.	Name of TVET Institutions (VI)	Name of TVET Institutions (EN)	Types	
25	Trường Cao đẳng Lý Tự Trọng Tp HCM	Ly Tu Trong College	College	Public
26	Trường Cao đẳng nghề số 7 - BQP	Ministry of National Defence – The Vocational College No. 7	College	Public
27	Trường Cao đẳng nghề Thành phố Hồ Chí Minh	Ho Chi Minh City Vocational College	College	Public
28	Trường Cao đẳng Phát thanh - Truyền hình II	VOV College	College	Public
29	Trường Cao đẳng Thủ Thiêm - Thành phố Hồ Chí Minh	Thu Thiem College	College	Public
30	Trường Cao đẳng Xây dựng Thành phố Hồ Chí Minh	Ho Chi Minh city College of Construction	College	Public
31	Trường Trung cấp Kinh tế Kỹ thuật Nguyễn Hữu Cảnh	Nguyen Huu Canh Technical and Economics Intermediate School	VTS	Public
32	Trường Trung cấp Lê Thị Riêng	Le Thi Rieng Vocational High School	VTS	Public
33	Trường Trung cấp Múa Thành phố Hồ Chí Minh	Vocational Ballet School of Ho Chi Minh City	VTS	Public
34	Trường Trung cấp nghề Củ Chi	Cu Chi Vocational School	VTS	Public
35	Trường Trung cấp nghề Kỹ thuật Công nghệ Hùng Vương	Hung Vuong Technology Vocational School	VTS	Public
36	Trường Trung cấp nghề Kỹ thuật nghiệp vụ Tôn Đức Thắng	Ton Duc Thang Professional Technical Vocational School	VTS	Public
37	Trường Trung cấp nghề Nhân Đạo Thành phố Hồ Chí Minh	Human Job Training School	VTS	Public
38	Trường Trung cấp nghề Quang Trung	Quang Trung Technical College	VTS	Public

Province: Da Nang

- List of main HE Institutions (Universities) in Da Nang

No.	Name of HE Institutions (VI)	Name of HE Institutions (EN)	Types
1	Trường Đại Học Thể Dục Thể Thao Đà Nẵng	Da Nang University of Physical Education and Sports	Public
2	Trường Đại Học Duy Tân	Duy Tan University	Non-Public
3	Đại Học Đà Nẵng	The University of Da Nang	Public
4	Trường Đại Học Bách Khoa, Đại Học Đà Nẵng	University of Science and Technology - The University of Da Nang	Public
5	Trường Đại Học Kinh Tế, Đại Học Đà Nẵng	University of Economics - The University of Da Nang	Public
6	Trường Đại Học Ngoại Ngữ, Đại Học Đà Nẵng	University of Foreign Language Studies - The University of Da Nang	Public
7	Trường Đại Học Sư Phạm Kỹ Thuật, Đại Học Đà Nẵng	University of Technology and Education - The University of Da Nang	Public
8	Trường Đại Học Sư Phạm, Đại Học Đà Nẵng	University of Science and Education - The University of Da Nang	Public

No.	Name of HE Institutions (VI)	Name of HE Institutions (EN)	Types
9	Trường Đại Học Công Nghệ Thông Tin Và Truyền Thông Việt Hàn, Đại Học Đà Nẵng	Vietnam - Korea University of Information and Communication Technology - The University of Da Nang	Public
10	Trường Đại Học Kỹ Thuật Y - Dược Đà Nẵng	Danang University of Medical Technology and Pharmacy	Public
11	Trường Đại Học Kiến Trúc Đà Nẵng	Da Nang Architecture University	Non-Public
12	Trường Đại Học Mỹ Tại Việt Nam	The American University of Vietnam	Non-Public
13	Trường Đại Học Đông Á	Dong A University	Non-Public

- List of main TVET Institutions (VTS and Colleges) in Da Nang

No.	Name of TVET Institutions (VI)	Name of TVET Institutions (EN)	Types	
1	Trường Cao đẳng Công nghệ thông tin hữu nghị Việt-Hàn	Vietnam-Korea Friendship Information Technology College	College	Public
2	Trường Cao đẳng Công nghệ Y - Dược Việt Nam	Vietnam College of Medical Technology - Pharmacy	College	Non-Public
3	Trường Cao đẳng Du lịch Đà Nẵng	Danang Vocational Tourism College	College	Public
4	Trường Cao đẳng Giao thông vận tải Trung ương V	Central Transport College V	College	Public
5	Trường Cao đẳng Kinh tế - Kế hoạch Đà Nẵng	Danang College of Economics and Planning	College	Public
6	Trường Cao đẳng Lương thực - Thực phẩm	College of Food Industry	College	Public
7	Trường Cao đẳng nghề Đà Nẵng	Danang Vocational Training College	College	Public
8	Trường Cao đẳng nghề Nguyễn Văn Trỗi	Nguyen Van Troi College	College	Non-Public
9	Trường Cao đẳng nghề số 5-BQP	Ministry of National Defence – The Vocational College No. 5	College	Public
10	Trường Cao đẳng nghề Việt – Úc	Vietnamese Australian Vocational College	College	Non-Public
11	Trường Cao đẳng Thương mại	College of Commerce	College	Public
12	Trường Cao đẳng Văn hóa Nghệ thuật Đà Nẵng	Danang College of Culture and Arts	College	Public

Province: Dong Nai

- List of main HE Institutions (Universities) in Dong Nai

No.	Name of HE Institutions (VI)	Name of HE Institutions (EN)	Types
1	Trường Đại Học Nguyễn Huệ	Nguyen Hue University	Public
2	Trường Đại Học Đồng Nai	Dong Nai University	Public
3	Trường Đại Học Lạc Hồng	Lac Hong University	Non-Public
4	Trường Đại Học Công Nghệ Miền Đông	Mien Dong University of Technology	Non-Public
5	Trường Đại Học Công Nghệ Đồng Nai	Dong Nai University of Technology	Non-Public

- List of main TVET Institutions (VTS and Colleges) in Dong Nai

No.	Name of TVET Institutions (VI)	Name of TVET Institutions (EN)	Types	
1	Trường Cao đẳng Cơ giới và Thủy lợi	College of Machinery and Irrigation	College	Public
2	Trường Cao đẳng Công nghệ Quốc tế Lilama 2	Lilama 2 International Technology College	College	Public
3	Trường Cao đẳng Kỹ thuật Đồng Nai	Dong Nai Technical College	College	Public
4	Trường Cao đẳng Mỹ thuật trang trí Đồng Nai	Dong Nai College of Decorative Arts	College	Public
5	Trường Cao đẳng nghề Công nghệ cao Đồng Nai	Dongnai College of High Technology	College	Public
6	Trường Cao đẳng nghề số 8 – BQP	Ministry of National Defence – The Vocational College No. 8	College	Public
7	Trường Cao đẳng Y tế Đồng Nai	Dong Nai Medical College	College	Public
8	Trường Trung cấp Kinh tế - Kỹ thuật số 2	Intermediate Digital Economy 2	VTS	Public

Province: Can Tho

- List of main HE Institutions (Universities) in Can Tho

No.	Name of HE Institutions (VI)	Name of HE Institutions (EN)	Types
1	Trường Đại Học Kỹ Thuật - Công Nghệ Cần Thơ	Can Tho University of Technology	Public
2	Trường Đại Học Nam Cần Thơ	Nam Can Tho University	Non-Public
3	Trường Đại Học Cần Thơ	Can Tho University	Public
4	Trường Đại Học Y Dược Cần Thơ	Can Tho University of Medicine – Pharmacy	Public
5	Trường Đại Học Tây Đô	Tay Do University	Non-Public

- List of main TVET Institutions (VTS and Colleges) in Can Tho

No.	Name of TVET Institutions (VI)	Name of TVET Institutions (EN)	Types	
1	Trường Cao đẳng Cần Thơ	Can Tho College	College	Public
2	Trường Cao đẳng Cơ điện và Nông nghiệp Nam Bộ	Southern College for Engineering and Agriculture	College	Public
3	Trường Cao đẳng Du lịch Cần Thơ	Can Tho College of Tourism	College	Public
4	Trường Cao đẳng Kinh tế - Kỹ thuật Cần Thơ	Can Tho Technical Economic College	College	Public
5	Trường Cao đẳng nghề Cần Thơ	Can Tho Vocational Colleges	College	Public
6	Trường Cao đẳng Văn hóa nghệ thuật	Can Tho Culture and Arts College	College	Public
7	Trường Cao đẳng Y tế Cần Thơ	Can Tho Medical College	College	Public
8	Trường Trung cấp Giao thông vận tải Miền Nam	Southern Intermediate School of Transportation	VTS	Public
9	Trường Trung cấp Kinh tế - Kỹ thuật Công đoàn Cần Thơ	Can Tho Trade Union School of Economics - Technology	VTS	Public
10	Trường Trung cấp nghề Thới Lai	Thoi Lai Vocational School	VTS	Public

No.	Name of TVET Institutions (VI)	Name of TVET Institutions (EN)	Types	
11	Trường Trung cấp Thể dục thể thao	Intermediate of Physical Education and Sports	VTS	Public

Province: Hai Phong

- List of main HE Institutions (Universities) in Hai Phong

No.	Name of HE Institutions (VI)	Name of HE Institutions (EN)	Types
1	Trường Đại Học Hải Phòng	Hai Phong University	Public
2	Trường Đại Học Y Dược Hải Phòng	Hai Phong Medical University	Public
3	Trường Đại Học Quản Lý Và Công Nghệ Hải Phòng	University of Management and Technology Hai Phong	Non-Public
4	Trường Đại Học Hàng Hải Việt Nam	Vietnam Maritime University	Public
5	Viện Nghiên Cứu Hải Sản	Research Institute for Marine Fisheries	Public

- List of main TVETs Institutions (VTS and Colleges) in Hai Phong

No.	Name of TVET Institutions (VI)	Name of TVET Institutions (EN)	Types	
1	Trường Cao đẳng Bách Nghệ Hải Phòng	Haiphong Polytechnical College	College	Non-Public
2	Trường Cao đẳng Cộng đồng Hải Phòng	Hai Phong Community College	College	Public
3	Trường Cao đẳng Công nghệ Bách khoa Hà Nội	Hanoi Polytechnic College	College	Non-Public
4	Trường Cao đẳng Công nghệ Viettronics	Viettronics Technology College	College	Non-Public
5	Trường Cao đẳng Công nghệ, Kinh tế và Thủy sản	Vocational Technology, Economy and Fishery College	College	Public
6	Trường Cao đẳng Công nghiệp Hải Phòng	Hai Phong Industrial Vocational College	College	Public
7	Trường Cao đẳng Du lịch Hải Phòng	Hai Phong College of Tourism	College	Public
8	Trường Cao đẳng Duyên Hải	Duyen Hai Vocational College	College	Non-public
9	Trường Cao đẳng Giao thông vận tải Trung ương II	Central Transport College No. 02	College	Public
10	Trường Cao đẳng Hàng hải I	Maritime College No.1	College	Public
11	Trường Cao đẳng Kinh tế và Công nghệ thực phẩm	College of Economics and Food Technology	College	Public
12	Trường Cao đẳng Lao động - Xã hội Hải Phòng	Hai Phong Social Labor College	College	Public
13	Trường Cao đẳng nghề Kinh tế - Kỹ thuật Bắc bộ	Northern Vocational College of Economics and Technique	College	Public
14	Trường Cao đẳng nghề số 3 - BQP	Ministry of National Defence – The Vocational College No. 3	College	Public
15	Trường Cao đẳng Y tế Hải Phòng	Hai Phong Medical College	College	Public
16	Trường Trung cấp Kỹ thuật - Nghiệp vụ Hải phòng	Hai Phong Technical - Professional Training College	VTS	Public
17	Trường Trung cấp nghề Công nghiệp - Du lịch Thăng Long	Thang Long Industrial Tourism Intermediate School	VTS	Non-public

No.	Name of TVET Institutions (VI)	Name of TVET Institutions (EN)	Types	
18	Trường Trung cấp nghề Giao thông vận tải Hải Phòng	Hai Phong Transport Vocational School	VTS	Public
19	Trường Trung cấp nghề Xây Dựng Hải Phòng	Hai Phong Construction Vocational School	VTS	Public
20	Trường Trung cấp Nông nghiệp Thủy sản Hải Phòng	Aquatic Agriculture Intermediate School	VTS	Public
21	Trường Trung cấp Văn hóa nghệ thuật và Du lịch	Hai Phong Culture, Art and Tourism Intermediate School	VTS	Public