THE DEMAND FOR SOFT SKILLS AND IMPACTS OF TRAINING AND DEVELOPMENT ON HUMAN RESOURCE OUTCOMES AND FIRM PERFORMANCE FOR THE MALAYSIAN MANUFACTURING INDUSTRY

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By

LOK BEE LAN

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ABSTRACT

THE DEMAND FOR SOFT SKILLS AND IMPACTS OF TRAINING AND DEVELOPMENT ON HUMAN RESOURCE OUTCOMES AND FIRM PERFORMANCE FOR THE MALAYSIAN MANUFACTURING INDUSTRY

Lok Bee Lan

The Malaysian manufacturing industry, which is the country's second-largest contributor to GDP, has experienced dramatic changes in the skills required where the demand for soft skills is becoming much more important than ever before. However, there is limited knowledge of the current and future demand for specific areas of soft skills. Although training and development (T&D) is increasingly seen as vital in addressing and bridging the soft skills demand and gap, there is a lack of empirical evidence on the impact of soft skills T&D on human resource and firm performance. In response, this research aims to: (i) identify the soft skills demanded by employers; and (ii) develop a research model based on human capital theory and resource-based view to empirically investigate the impact of soft skills T&D on human resource outcomes (HRO) and firm performance (FP). Using a random sampling method, a questionnaire survey was conducted in Selangor, Johor, Penang, and Perak in Malaysia, these are the four states where most of the manufacturing firms are located. The results showed that the current top three soft skills in demand are "teamwork", "emotional intelligence" (EQ), and "moral and professional ethics". The top skills for future demand are "EQ", "teamwork" and "thinking skills". The

English language is in high demand now and in the future. The most significant skill gap is found in EQ, followed by thinking skills and entrepreneurship. The findings of hypothesis testing using the PLS-SEM technique supported the hypothesised relationships between (i) T&D and HRO and (ii) HRO and FP, but not the relationship between T&D and FP. In addition, HRO is found to fully mediate the relationship between T&D and FP. These findings provide insights into the soft skills required by the manufacturing industry, allowing stakeholders, industrial practitioners, and policymakers to make better planning on human resource management and training development. It also has practical implications for enriching resource-based view and human capital theory.

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APPROVAL SHEET

This dissertation/thesis entitled "**THE DEMAND FOR SOFT SKILLS AND IMPACTS OF TRAINING AND DEVELOPMENT ON HUMAN RESOURCE OUTCOMES AND FIRM PERFORMANCE FOR THE MALAYSIAN MANUFACTURING INDUSTRY"** was prepared by LOK BEE LAN and submitted as partial fulfilment of the requirements for the degree of Doctor of Philosophy at Universiti Tunku Abdul Rahman.

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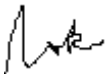

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LIST OF ABBREVIATIONS

AIM	Australian Institute of Management
ALMPs	Active Labour Market Policies
ASEAN	The Association of Southeast Asian Nations
ASTD	American Society for Training and Development
AVE	Average Variance Extracted
BNM	Bank Negara Malaysia
CB-SEM	Covariance-Based SEM
CIPD	Chartered Institute of Personnel and Development, UK
CR	Composite Reliability
DOSM	Department of Statistics, Malaysia
E&E	Electrical and Electronics
EEO	European Employment Observatory
EIS	Employment Insurance Scheme
EIU	Economist Intelligence Unit
EPF	Employment Provident Fund
ETP	Economic Transformation Programme
f^2	Effect Size
FMM	Federation of Malaysian Manufacturers
FP	Firm Performance
GDP	Gross Domestic Product
GENERATE	Graduate Enhancement scheme for Employability
GNI	Gross National Income
HCM	Hierarchical Components Models

HEIs	Higher Education Institutions
HOM	Higher-Order Modelling
HRDF	Human Resource Development Fund
HRM	Human Resource Management
HRO	Human Resource Outcomes
HTMT	Heterotrait-Monotrait Ratio
ILMIA	Institute of Labour Market Information and Analysis
INBASE	Industry-based Certificate
IR4.0	Fourth Industrial Revolution
ILO	International Labour Organisation
ISE	Institute of Student Employers
IT	Information Technology
KKMM	Ministry of Multimedia and Communications
KRI	Khazanah Research Institute
LOC	Lower-Order Components
MEF	Malaysian Employers Federation
MESTECC	Ministry of Energy, Science, Technology, Environment and Climate Change
MIDA	Malaysian Investment Development Authority
MIDF	Malaysian Industrial Development Finance Berhad
MITI	Ministry of International Trade and Industry
MTUC	Malaysia Trades Union Congress
MOE	Ministry of Education
MOF	Ministry of Finance
MOHE	Ministry of Higher Education

MOHR	Ministry of Human Resources
MPC	Malaysia Productivity Corporation
MQA	Malaysian Qualifications Agency
MQF	Malaysian Qualification Framework
My3S	Malaysian Soft Skills Scale
NDP	National Development Policy
NEP	New Economic Policy
NKEA	National Key Economic Areas
NVP	National Vision Policy
OECD	Organisation for Economic Cooperation and Development
PLS-SEM	Partial Least Squares Structural Equation Modelling
Q^2	Predictive Relevance
QS	Quacquarelli Symonds
R^2	Coefficient of Determination
RBV	Resource-Based View
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investment
ROS	Return on Sales
SCA	Sustained Competitive Advantage
SEM	Structural Equation Modelling
SESS	Self-Employment Social Security Scheme
SHRM	Strategic Human Resource Management
SMEs	Small and Medium-Sized Enterprises
SPSS	Statistical Package for the Social Sciences

T&D	Training and Development
SOCSO	Social Security Organisation
TVET	Technical and Vocational Education Training
VAF	Variance Accounted For
VIF	Variance Inflation Factor
VRIN	Valuable, Rare, Imperfectly imitable, and Non-substitutable resources
WBL	Work-based Learning
WEF	World Economic Forum

CHAPTER 1

INTRODUCTION

1.1 Introduction

The world has ventured into the new millennium of the Fourth Industrial Revolution (IR4.0) where new technologies are changing almost every aspect of our lives. The introduction of IR4.0 also brings significant changes to the manufacturing industry.

Globally, many countries have taken concerted efforts to support the adoption of IR 4.0, especially in the manufacturing industry to develop high-tech manufacturing in their respective country. Indeed, IR4.0 is revolutionising the manufacturing and production processes and has brought significant changes to the manufacturing industry (Malaysia Productivity Corporation (MPC), 2018). The traditional manufacturing industry is in the throes of adopting new technologies such as cyber-physical systems (CPS), robotics, internet of things (IoTs), big data, artificial intelligence, additive manufacturing, cloud manufacturing and augmented reality etc. to develop an intelligent environment to navigate a more extensive, and challenging transformation in the manufacturing processes.

The transformation is not only influencing manufacturing firms' competitiveness and opening up new opportunities and risks, it also highlights resource issues for firms to identify the future potential for business segments and to facilitate new manufacturing technologies. The changes in IT infrastructure also affect the demand for human capital. It is envisaged that there will be an increased complexity of jobs in the changing landscape of the industry. Jobs will become more complicated as the traditional model is embracing new technologies to transform itself into a smart environment.

1.1.1 The Changing Skills Demand in Manufacturing Industry

Employees' roles will change as a result of changes in work contents, processes, and environment. In the transition to IR4.0, it is anticipated that there could be workforce inadequacy due to rapid transformation of work requirements and environment (Federation of Indian Chambers of Commerce and Industry (FICCI) & Roland Berger (RB), 2016). According to the World Economic Forum's (WEF) report of 2016 and 2020 on the future of jobs, the IR4.0 is creating a demand for new jobs while displacing some existing ones (WEF, 2016 & 2020). Human capital, which is regarded important for organisational performance and has a strong association with the determinants of economic growth, is anticipated to take on a new form. The shift in demand for skills is in tandem with the shift in the occupational structure of employment. In addition to technical skills, there is a growing need for "essential human skills", often known

as “soft skills” such as, communication, emotional intelligence, teamwork, leadership, and thinking skills. Mercer (2019) highlighted that skilled employees are crucial for supporting innovation and technology adoption for economic progress.

In response to skills demand within an increasingly complex and competitive business world, many employers are striving to recruit, train and retain talents to align with their human capital needs. However, due to the rapid changes in work nature and organisational structure, employees, educators as well as planners are not able to predict the right skills needed for employment and to be ready for work. A number of empirical studies showed that graduates lack basic working ‘soft skills’ demanded by employers (Balcar, Šimek, & Filipová, 2018; Bhanugopan, Wang, Lockhart, & Farrel, 2017; Institute of Student Employers (ISE), 2018; Mercer, 2019; Patacsil & Tablatin, 2017; Wesley, Jackson, & Lee, 2017). The existing skills mismatch between skills possessed by youths and employers’ demand threatens to become even wider as the IR4.0 disrupts the operation of business and occupation faster than employees can adapt. This will result in millions of youths throughout the world being unemployed or underemployed, while companies have open positions that they cannot fill (Deloitte, 2015). It is also anticipated that the skills gap will widen further as the employers’ demand for soft skills across careers change over the next five years (2025) are getting more prominent (WEF, 2020).

In reviewing the above, the adoption of IR4.0 is found to be significantly affecting the global manufacturing industry in terms of skills demand, skills shortages, unemployment, and training. It is not easy to accurately predict how this change will affect various industries and countries. However, to maintain competitiveness in global manufacturing all countries must actively participate in IR4.0 (FICCI & RB, 2016).

1.1.2 The Readiness of Malaysian Workforce for IR4.0

Malaysia has embarked on IR4.0 as the global manufacturing industries are transforming into IR4.0 (Asian Productivity Organisation, 2019). According to the 2018 annual report of the Malaysian Ministry of International Trade and Industry (MITI), progressively improved manufacturing processes will help create wealth through increased productivity, growth, and innovation (MITI, 2019). The manufacturing industry is the backbone of the country's economy where 98.5% of the manufacturers are small and medium enterprises (SMEs), accounted for 66.2% of total employment in 2018 (Federation of Malaysian Manufacturers (FMM), 2020). Given the need for the manufacturing industry to be globally competitive and an improved value chain, it is necessary to adopt technology that can make the manufacturing process efficient, fast and flexible to expand the market potential (FMM, 2020; Tay, Lee, Chan, Alipal, & Abdul Hamid, 2019; Malaysian Investment Development Authority (MIDA), 2020). In addition, the government also aims to turn Malaysia into a high-income country, and re-

position the country as a new Asian Tiger, with its manufacturing sector playing a key role.

The World Economic Forum and Kearney (2018)'s report on "Readiness for the Future Production Assessment" emphasised that Malaysia is in the "Leader" quadrant because it has a "strong current production base" and "positioned well for the future". This highlights Malaysia's existing strong manufacturing position and its readiness for IR4.0. According to MITI (2019) IR 4.0 will bring economic benefits, and challenges in its implementation which are based on the three key factors of "people, process and technology". In this context, Ling, Abdul Hamid, and Chuan (2020) argued that Malaysian manufacturers lack: (i) understanding of the concepts and practices of IR4.0; (ii) talent, skills, and knowledge; (iii) technology infrastructures and facilities, (iii) qualified trainers and trainees with advanced technology competencies; and (iv) resources, which make an impact and are cost effective in relation to their business' technologies in IR4.0. There is plenty of room for both government and manufacturers to improve. Teh and Kee's (2019) study also demonstrated that Malaysian SMEs are unprepared for the IR4.0. With regard to this, FMM (2020) commented that even though the Malaysian government has initiated plans for the adoption of IR4.0 to ensure the country remains relevant in the growing, technology-driven and competitive global manufacturing sector, the country's unemployment problem could pose a stumbling block to nations' IR4.0 goals. There are 200,000 unemployed graduates in 2018, while industries continue lamenting the

challenges, they face in filling positions that require graduates. Human resource practitioners from the manufacturing sector also commented that graduates are not properly trained; job applicants lack skills and experiences (FMM, 2020). In addition, studies also indicated that even though the Malaysian government has recognised the need and taken measures to improve the weaknesses of the country's human capital to meet employers' demand, the graduates' employability and low proficiency in the English language have been an on-going and highly debated topic in Malaysia (Darmi & Albion, 2013; Organisation for Economic Cooperation and Development (OECD), 2018; Rusli, Yunus, & Hashim, 2018; Shuhaimi & Awaludin, 2018; Yahaya, Yahaya, Ooi, Bon, & Ismail. 2011). Employers are concerned with the work readiness of entry-level graduates, particularly their communication skills and English proficiency (Malaysia Economic Report, 2019; OECD, 2018; Rusli et al., 2018; Sarudin, Noor, Zubairi, Ahmad, & Nordin, 2013). The recent report of OECD (2019a) even highlighted that the English proficiency among graduates has deteriorated over time.

The human resource development of the country is another concern. According to the study of OECD (2019b), the country is facing shortages of expertise. The major challenge is to get employees with the right competencies for production. Moreover, the employees of micro-enterprises have limited access to training opportunities, and guidance to help individuals and employers invest in developing skills that meet the labour market demand is also limited. The survey results of OECD (2019a & 2019b) are supported by research of Ling et al. (2020).

This shows that Malaysian employees lack sufficient ability to meet the demand for IR4.0, because it is difficult to define the essential skills and competencies for IR4.0. Hence, this is the challenge of training the future workforce. Ling et al. (2020) further suggested for the Malaysian government to embrace IR4.0 at an average level first, to create awareness of the benefits of adopting IR4.0 – which will lead to acceptance of the changes among SMEs of the manufacturing industry.

1.2 An Overview of the Malaysian Economy

Malaysia, a country situated in Southeast Asia, consists of Peninsular Malaysia and the states of Sabah and Sarawak on the Island of Borneo. It is multi-ethnic, and multi-cultural with a population of 32.7 million (as of 2020), (Department of Statistics, Malaysia (DOSM), 2021). The Federation of Malaya obtained its independence from the British in 1957. In 1963, Malaysia was formed.

In its early days, the country relied heavily on natural resources and thus agriculture and mining were of primary importance. However, to cater to the changing socio-economic scenario, Malaysia had attempted to industrialise its economy through import substitution and export-led growth strategies. This brought about the country's swift development and transformation from agriculture to industry. A free-market policy with limited intervention and export-oriented industrialisation was promoted from the 1960s to the 1990s.

The country introduced the first 5-year Malaysia Plan in 1966. The First Malaysia Plan (1966—70) attempted to:

i. Increase income of the low-income group
ii. Create employment opportunities
iii. Reduce its dependence on the primary export products

Since the late 1970s, Malaysia's economic development strategy has been based on three long-term policies: (i) 1970 – 1990: New Economic Policy (NEP); (ii) 1991-2000: National Development Policy (NDP; and (iii) 2001-2010: National Vision Policy (NVP). In 1991, Vision 2020 was also formulated to complement NEP and NDP to project a three-decade vision for Malaysia. This is a long-term vision (1991-2020) which provides the guidelines to become a fully developed and industrialised country by 2020. The broad policy direction encompasses various dimensions such as financial, political, psychological, spiritual, and cultural.

Today, Malaysia is one of the world's largest exporters of semiconductors and electronic products and equipment (MITI, 2019). In late 2017, Malaysia was known as the hub of the electrical and electronics (E&E) industry - an important gateway to service the growing South East Asia region through its goods import and re-export activities. Malaysia's E&E re-export activity has increased

significantly with major players worldwide entering the country (Bank Negara Malaysia (BNM), 2019**).** The total sales in this sub-sector grew by 28.5% in 2019 to reach RM372.67 billion (2018: RM290 billion), representing 44.7% of all manufactured exports. The total worth of approved projects had increased by 77% at RM25.66 billion in 2019 (2018: RM14.48 billion). In 2019, the total exports recorded a slight drop of 2.2% from RM381.50 billion in 2018 to at RM373.1 billion (MIDA, 2020; MITI, 2020)**.** As highlighted in the MIDA's "Malaysia Investment Performance Report 2019", the E&E industry has attracted a substantial amount of foreign investments and created a large number of employment opportunities for Malaysians in the past few decades (MIDA, 2020).

Malaysia has experienced the following five economic crises and has shown considerable structural changes for the period from 1970 to 2019:

i. the 1971-1973 downturn was due to a massive rise in oil prices coming after the world oil crisis, followed by a slow-down leading to a recession in industrialised countries.
ii. the 1980-1981 plunge during abruptly declining commodity prices in the second oil slump from 1978-1980. This combined with national and foreign debt created negative cash flows and led to pressure on the country's financial policies.
iii. the 1985 recession (Electronic Crisis) was caused by both macro and micro factors. The macro factor presented itself in the form of

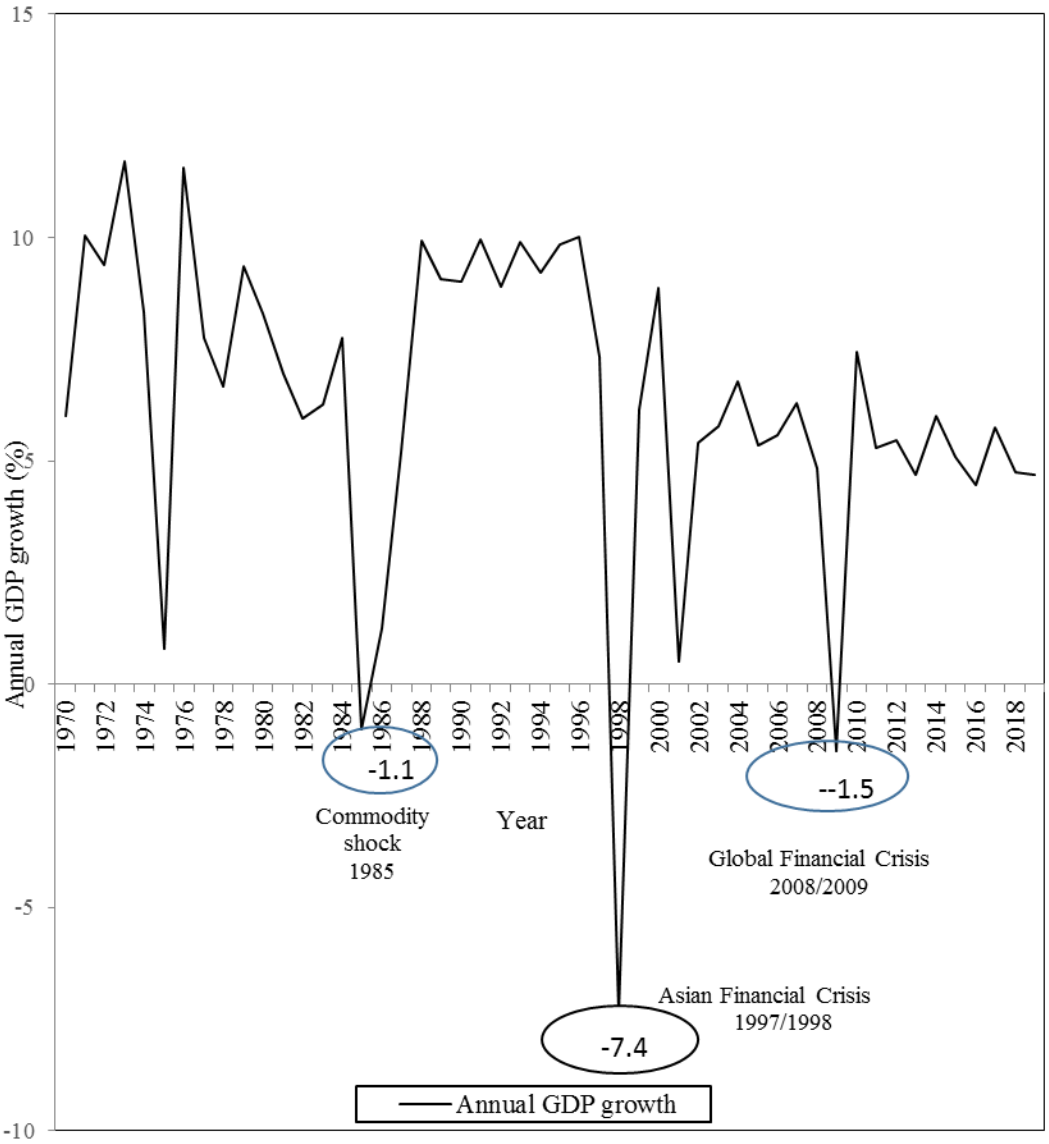
a persistent downtrend in international growth rate and trade, which subsequently led to weak demand for electronic and commodity products. Micro factors including falling prices of electronic products which had a significant impact on the country's GDP as well as its budgetary accounts; and

iv. the 1997 Asian financial crisis has resulted from the unpegging of the Thai Baht against the U.S. Dollar. This then caused an immediate capital flight from Malaysia. Financial markets and banking institutions were devastated in the ensuing chaotic and unstable environment. Capital expenditure plans were put on hold due to surging bank rates. Local companies faced bankruptcy from the inability to service loans.

v. the Global Financial Crisis (2008/2009) was the most severe economic collapse since the worldwide economic depression of the 1930s. Malaysia was badly hit due to its extensive trade with the U.S. and Japan – countries whose economy slumped dramatically in late 2008. The crisis had a negative impact on the gross national product and led to an economic recession (Goh & Lim, 2010). To offset the slowdown, the government launched huge financial incentive programmes. These projects, such as High-Speed Broadband and special private sector investment vehicles, immediately increased output exponentially; and included

Employment Provident Fund (EPF) contribution reductions and higher vehicle loans.

Despite all these crises, the country has managed to achieve significant growth for a sustained period and maintained an average GDP growth rate of over 5.0% over the past five decades (World Bank, 2020a) (see Figure 1.1).



Source: World Bank (2020a)

Figure 1.1: Malaysia's Annual GDP Growth Rate (1970-2019)

Table 1.1: Malaysia's Gross Domestic Product by Types of Economic Activity (in %)

Sector	1970	1980	1990	2000	2010	2011-2019
Agriculture	33.60	21.00	19.30	8.80	7.20	7.80
Mining & Quarrying	7.20	12.10	9.80	6.70	7.00	8.43
Manufacturing	12.80	17.20	26.50	32.60	26.20	22.96
Construction	3.80	2.70	3.40	3.40	2.90	4.12
Services	42.60	43.10	42.10	32.60	40.40	54.56

Source: statista.com (2020a)

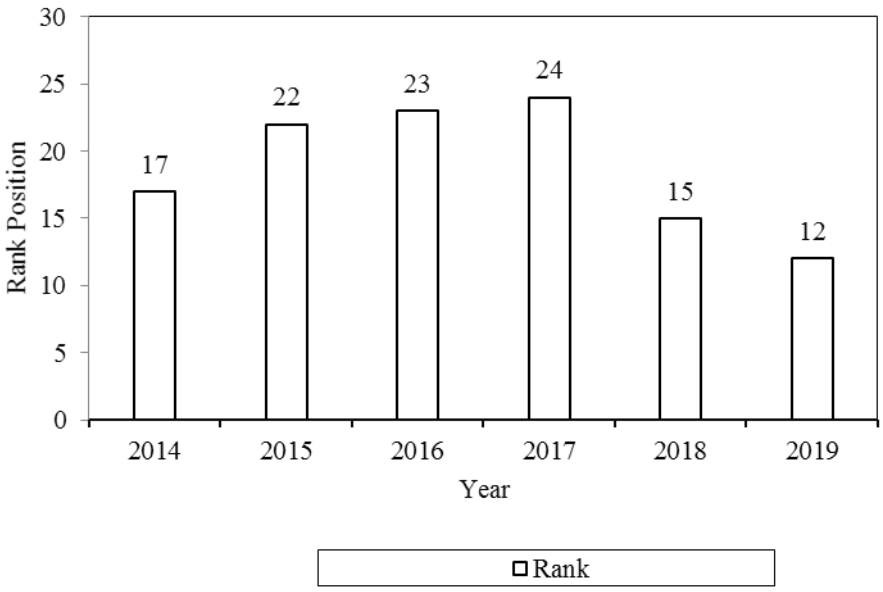
Since 1970, the country has successfully transformed from being mainly agriculture-based in the 1970s, to industry-based in the mid-1980s and then to service-based in the 1990s. From 2011 through 2019, the services sector contributed an average of 54.56% to the GDP, while the manufacturing industry contributed an average of 22.96% (Table: 1.1).

From 1970 to 2019, the overall incidence of poverty dropped from 49.3% to 0.4%, and extreme poverty was basically eliminated. The mean household monthly income increased more than twenty times from RM264 in 1970 to RM7,901 in 2019. Similarly, the median income increased from RM166 to RM5,873 during the same period (DOSM, 2020a). The country has transformed from a low-income economy in the 1970s to an upper-middle-income economy in 1992 and is striving to achieve its status as a high-income country.

The gross national income (GNI) per capita of the country increased more than twenty-fold from US$402 (1970) to US$11,200 (2019) (DOSM, 2020a). However, according to the World Bank (2020a), a high-income nation is a country with a per capita gross national income (GNI) per capita of US$12,535. Based on the projected growth rate of the country, Malaysia is expected to achieve high-income nation status only in 2030, ten years later than the originally scheduled timeline of 2020.

According to the Global Competitive Report 2018, Malaysia was also ranked as the 25th most competitive economy out of 140 economies. The country's assets include its macroeconomic stability, its financial system and business dynamics (WEF, 2018). The World Bank's report on "Doing Business" reported that among 190 participating economies, Malaysia was ranked as the 15th best place to do business in the world (World Bank, 2019).

Malaysia was ranked as one of the top 20 investor-friendly destinations in 2014, 2018 and 2019 in the Economist Intelligence Unit (EIU)'s Business Environment Ranking. The rank improved to 12th position in 2019 from 15th in 2018 (Economist Intelligence Unit (EIU), 2019) (Figure 1.2). Hence, to achieve high-income status, Malaysia will have to take advantage of its competitive status to continue boosting its economy and attracting more investors.



Source: Economist Intelligence Unit (EIU), (2019).

Figure 1.2: Malaysia's Ranking Position in the Business Environment Ranking among 190 Countries

1.3 The Manufacturing Industry in Malaysia

Malaysia's remarkable growth and transformation over the past half-century has been driven by natural resources sector (petroleum, palm oil and rubber) and manufacturing sector (E&E).

As a road map to steer the country towards a high income, innovation-oriented, and knowledge-based economy by 2020, the 2020 Economic Transformation Programme (ETP) has identified 12 National Key Economic Areas (NKEAs) to represent 12 economic sectors to create high value-added jobs. Efforts have been made to the application of information and communication

technologies in various industries and to accelerate technological development in the fields of digital content, software development, Internet of Things, data centres and big data analytics. Steps have also been taken to bring the E&E sector of the manufacturing industry to the upper reaches of the value chain by producing more diversified and complex products, as well as increasing productivity through automation and innovation. The focus on these areas, together with the government's support, will help the country's development and generate new jobs (Institute of Labour Market Information and Analysis (ILMIA), 2019).

From 2015 to 2019, 492,000 new jobs were created in the country (Table 1.2). Among all the industries, the number of employees in the E&E sector has increased significantly, from 560,000 in 2015 to 592,000 in 2018 (statista.com, 2020b).

Table 1.2: No. of Newly Created Job Positions in Malaysia from 2015 to 2019

Year	Number of Jobs (in '000)
2015	169
2016	130
2017	157
2018	101
2019	104
Total	492

Source: statista.com (2020b)

Malaysia is one of the leading exporters of home appliances, electronic components, and natural gas. Moreover, its manufacturing industry has also diversified, including other subsectors, such as, petroleum, chemicals, plastics, wood, furniture, paper, printing, etc. (BNM, 2019).

According to the history of economic growth of the country, employment in the manufacturing industry is expanding and creating many job opportunities in the country. From 2015 to 2019, the number of people employed in the industry accounted for 16.90% of the country's total workforce and the number of employees increased significantly from 2,379,000 (2015) to 2,502,000 (2019) (World Bank, 2020b). The number of youths working in this industry is also increasing (Table 1.3).

Table 1.3: Employment Shared by Industry & Youth Employment

Industry	Employment Share (%)						Youth Employment (%)		
	2015	2016	2017	2018	2019	2020	2015	2016	2017
Agriculture, forestry, and fishing	12.50	11.40	11.30	11.09	12.40	12.40	3.50	(8.20)	1.30
Manufacturing	**16.50**	**16.90**	**17.40**	**17.31**	**16.50**	**16.80**	**(2.10)**	**2.90**	**5.00**
Service	61.00	62.20	62.00	61.60	61.60	60.90	1.80	2.80	1.60

Source: Malaysian Industrial Development Finance Bhd (MIDF) (2017), World Bank, (2020b) and MITI, (2019)

In addition, Malaysia has continued to attract new investments despite a global slowdown. In the manufacturing industry, a total of 988 projects for

RM82.73 billion were approved in 2019 (2018: 721 approved projects worth RM87.40 billion) (MITI, 2019, MIDA, 2020). Foreign investors continued to lead investments in the country's manufacturing industry in 2019, accounting for 65.15% or RM53.90 billion of approved investments in the industry; the remaining 34.86% worth at RM28.84 billion was from domestic sources.

Table 1.4 shows projects by major countries approved from 2017 to 2019. There is a significant increase in the approval of projects by the People's Republic of China from 2017 (20, valued at RM 3,861.70 million) to 2019 (58, valued at RM 16,768.70 million). Implementation of these approved investments has created a lot of employment opportunities for Malaysians (2017: 56,431; 2018: 59,294; 2019:78,000) (MITI, 2019; MIDA, 2020).

Table 1.4: Approved Projects of Major Countries from 2017 to 2019

Foreign investor	2019		2018		2017	
	No.	RM (mil)	No.	RM (mil)	No.	RM (mil)
People's Republic of China	58	16,768.70	40	19,763.30	20	3,861.70
Indonesia	-	-	8	9,035.60	1	0.50
Netherland	8	1,854.60	10	8,336.90	13	2,033.9
Japan	38	1,466.60	63	4,133.30	41	1,310.70
USA	20	2,324.3	18	3,155.00	18	1,107.20
British Virgin Islands	9	734.80	5	2,768.50	2	41.60
Korea	-	-	10	2,495.40	7	636.70
Singapore	85	7,616.50	-	-		-
Hong Kong	19	1023.40	-	-		-
Chinese, Taipei	18	715.50	-	-		-

Source: MITI, (2019) and MIDA, (2020)

1.4 An Overview of the Malaysian Labour Market

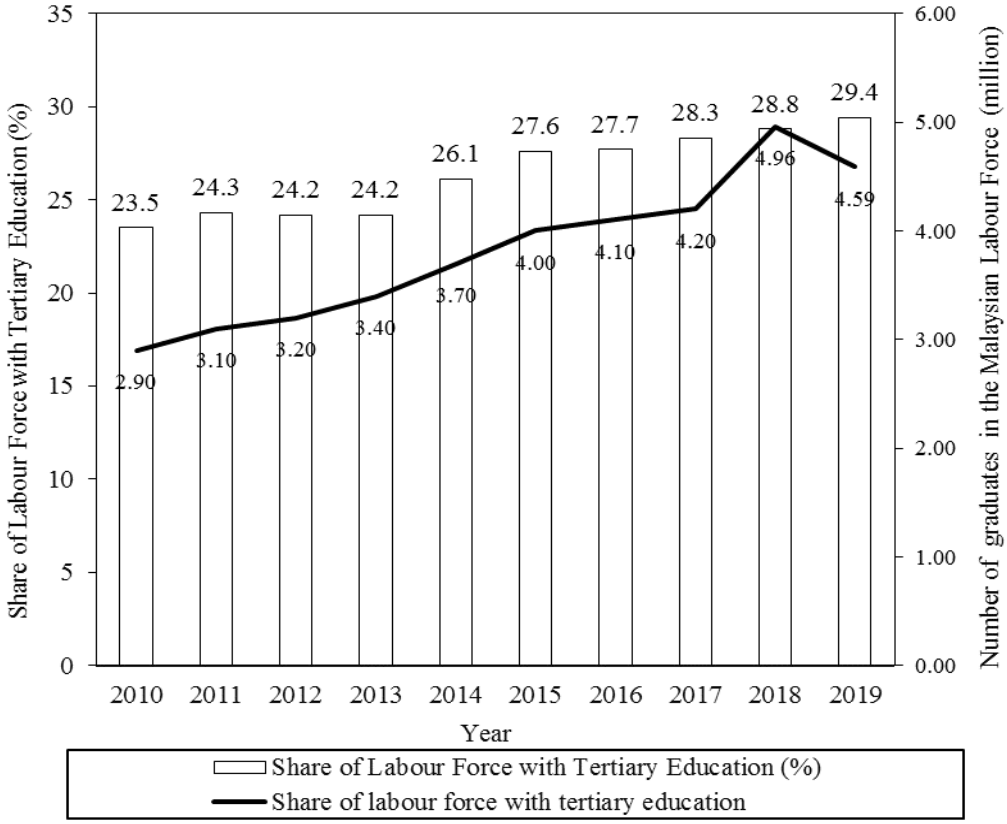
Since 1970, Malaysia's labour participation rate has increased as the country shifted its industrialisation policy from import-oriented to export-oriented. However, after the Asian crisis, Malaysia's economic growth slowed down, which resulted in a slight drop in its labour participation rate from 65.6% in 1997 to 63.7% in 2010 (National Economic Advisory Council, 2010; World Bank,

2020b). After 2010, *t*he labour participation rate has gradually increased. According to the BNM Annual Report 2018, the labour market conditions remained favourable in 2018. In 2019, the labour force participation rate further rose to 68.8% (2018: 68.3%) (BNM, 2019).

1.4.1 Educational Attainment of the Workforce

In order to meet employers' demand for skills and knowledge, the country has reformed its educational system. Between 1990 and 2010, the number of students enrolled in bachelor and postgraduate programmes increased six times and ten times respectively. In 2019, a total of 5.29 million graduate students graduated from public and private higher education institutions. (DOSM, 2020b).

From 2010 to 2019, the graduate labour force increased from 23.5% to 29.4% (Figure 1.3). To meet the fast changes in the new global economy, graduates are required to acquire transferable skills, a sound ethical foundation, resilience, and an enterprising spirit. This is also one of the critical challenges in the intensified industrialisation transformation programme of the Malaysian economy.



Source: Bank Negara Malaysia, (2021b)

Figure 1.3: Malaysia Labour Force with Tertiary Education (2010-2019)

1.4.2 Soft Skills Learning and Human Capital Development Initiatives in Malaysia

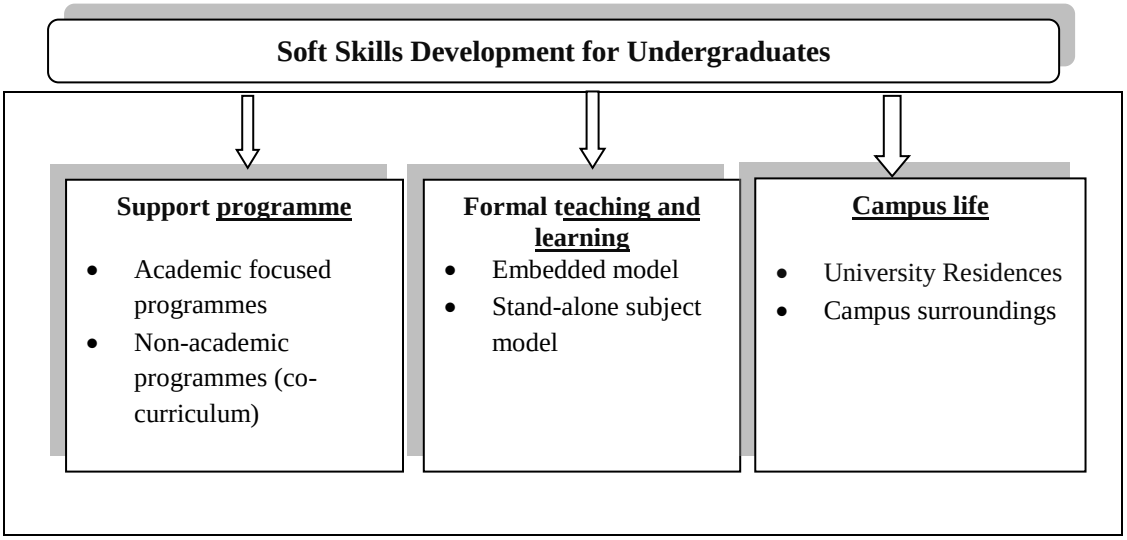
The employability of Malaysian graduates has been a concern among policymakers and the public in the country for the past few decades. In 2006, there was a record of 66,900 unemployed diploma and degree-level graduates which was equivalent to about 4% of the graduate workforce (DOSM, 2020b). Skills shortage was noted as the most apparent reason for graduates' un-employability. Most of these unemployed graduates lacked the experience and skills, especially soft skills that employers needed in the competitive job market

(Ministry of Higher Education (MOHE), 2006). To resolve the unemployment problem of graduates, the MOHE introduced in 2006 that universities across the country revised their curricula and incorporated soft skills learning into their curricula. The aim was to align the quality and standards of the university with the requirements of employers.

Notwithstanding the above, in order to facilitate the design of a nationwide accreditation and qualifications framework and to help students to develop soft skills, the government approved the merger of the National Accreditation Board and Quality Assurance Department of public universities, polytechnics and community colleges on 21 December, 2005 to form a single entity known as the "Malaysian Qualifications Agency (MQA)" (MOHE, 2006). In 2007, the first edition of the" Malaysian Qualification Framework (MQF)" was adopted under the "Malaysian Qualifications Agency (MQA) Act", 2007.

In the framework, the seven identified areas of soft skills that all students must develop regardless of the programmes they choose are: "communication skills"; "critical thinking, creative thinking and problem solving skills"; "teamwork"; "lifelong learning and information management skills"; "entrepreneurial skills"; "moral and professional ethics" and "leadership skills". MQF emphasises eight domains of learning outcomes. They are: "knowledge", "practical skills", "social skills and responsibilities", "values, attitudes, and professionalism", "communication, leadership and team skills", "problem solving

and scientific skills", "information management and lifelong learning skills", and "managerial and entrepreneurial skills". The learning outcomes and the various delivery and assessment methods are based on the following recommended model (Figure 1.4).



Source: MOHE, (2006)

Figure 1.4: Model for Implementation of Soft Skills Development in Universities in Malaysia

In addition, undergraduates are required to attend the Generic Students' Attributes Self-Assessment test known as Malaysian Soft Skills Scale (My3S) by completing the competence questionnaire online, at time of entry to the university and at time of exit (before graduation), to measure the level of mastery of students' soft skills at tertiary education level. The instrument was introduced in July 2010 and implemented in all the public universities.

In response to the changes in the industry structures due to the pressure of maintaining dynamic business practices and competitiveness of innovation, the MQF was then revised to address higher education and Technical and Vocational Education Training (TVET)'s evolving needs, access, responsiveness, and emerging skills. Ten years later, the second edition of MQF was published in 2017. The eight domains of generic learning outcomes in the MQF edition 1, were clustered, re-profiled or retained, as they are relevant and comparable universally. The new clusters of learning outcomes are: (i) knowledge and understanding; (ii) cognitive skills; (iii) functional work skills with focus on practical skills, interpersonal skills, communication skills, digital skills, numeracy skills, leadership, autonomy and responsibility; (iv) personal and entrepreneurial skills, and (v) ethics and professionalism. By reviewing the two editions of MQF, all areas of soft skills in the first edition are retained in the second edition. However, the skill, "emotional intelligence" is not included in the learning or assessment stages of the two editions of MQF although it is one of the employers' most demanded skills in the IR4.0 (WEF 2016).

Apart from the study of soft skills in the university, government, industry, educational institutions, and training providers also collaborate on the soft skills training and development (T&D). In addition, the government has been aggressive in establishing programmes, such as Human Capital Development Strategic Reform Initiatives, to increase the pool of talented employees to meet

the demand of skills and human capital of the 12 NKEAs in the country's efforts to be a high-income nation powered by a knowledge-based economy by 2020.

To further address the problem of graduate employability and skills mismatch, and with a target of producing 35% of skilled workers by the year 2020, the Malaysian Education Blueprint (2015-2025) outlined an important strategy to transform the national education system. This includes empowering higher education institutions with greater autonomy and responsibility to provide graduates with adequate training and be work-readiness. The Blueprint emphasises entrepreneurship education, soft skills training, and English proficiency. It also aims to improve the quality of the national TVET sector, which was initiated in 1964 to provide training for youths. Currently, more than 500 public TVET institutions are overseen by eight ministries: "Ministry of Youth and Sports", "Ministry of Rural and Regional Development", "Ministry of Higher Education", "Ministry of Education", "Ministry of Human Resources", "Ministry of Agriculture and Agro-Based Industry", "Ministry of Defence", and "Ministry of Works". They provide multiple programmes at all levels of education in areas of soft skills, hard skills, and life-long learning. The Eleventh Malaysia Plan designated TVET as the primary means of supplying skills as the economy shifts to higher value-added industries.

To involve youths in effective vocational training, higher education institutions also collaborate with industry to nurture a vibrant workforce and build human capital with the right skills for the nation.

The above overviews show that the government has acted strategically to transform the economy via innovation and skill enhancement of the Malaysian workforce, and by encouraging firms to transform their supply chains to support higher domestic value-added industries and higher income in the services, manufacturing, and primary and agro-food industries (BNM, 2016).

With the introduction and implementation of these skills learning programmes and initiatives, studies indicated graduates continue to suffer a skill mismatch between the job market and the education system - notably in technical and soft skills (Khan & Masrek, 2017; Kenayathulla, Ahmad, & Idris, 2019; Phan, Yapa, & Nguyen, 2020; OECD, 2018; World Bank 2013 & 2014). The report prepared by the Penang Institute (2017) also highlighted a misalignment between the supply and demand of Malaysian graduates in both manufacturing and services industries.

In 1993, the Malaysian Ministry of Human Resources (MOHR) further established "Human Resource Development Fund (HRDF)" to help employers to provide training plans for employees and to reduce skills shortages. HRDF's registered employers currently cover those from the manufacturing industry, the

mining and quarrying sector, and many service subsectors. Firms with ten or more employees in the industries of manufacturing, services, mining, and quarrying are made to register with HRDF and pay a required levy of 1% of the employee's monthly income for training and development. Current requirements cover nearly one-fifth of the Malaysian workforce. In 2017, the coverage expanded to firms with at least ten Malaysian employees. This means that nearly all Malaysian employees in the covered sectors are under HRDF's remit. Since its inception in 1993, the number of contributors has increased. According to the HRDF annual report 2019, there were 29,701 employers registered compared to 2018 which recorded 26,281. The figure in 2019 consists of 12,250 employers from manufacturing, 237 from mining and quarrying and 17,214 from the service sector (Table 1.5) (HRDF, 2020). The increase in the total number of registered employers in 2019 has caused the number of employees covered by the Fund to increase from 2,290,647 in 2018 to 2,433,105, an increase of 6.21%. Coverage has been transferred to a significant number of training programmes (HRDF, 2020). According to HRDF annual report 2018, most of the contributors from the manufacturing industry were from Selangor (3,138), Johor (2,450), Penang (1,363) and Perak (910) (HRDF, 2019a). HRDF annual report 2019 shows that the manufacturing industry had the most approved training places (513,340) compared to the other two industries (services, mining and quarrying), although the number of registered employers in the industry was 12,250, less than the service sector (17,214) (Table 1.5 & 1.6) (HRDF, 2020).

Table 1.5: No. of Employers and Employees Registered with HRDF from 1993 to December 2019

Industry	No. of Employers Registered	No. of Employees Registered
Manufacturing	12,250	1,114,539
Services	17,214	1,296,495
Mining & quarrying	237	22,071
Total	29,701	2,433,105

Source: HRDF, (2020)

Table 1.6: Approved Training Places and Total No. of Registered Employers by Industry for 2019

Industry	Training* Places	(%)	No. of Registered Employers	Average Training Places per employer
Manufacturing	513,340	50	12,250	42
Services	506,369	49	17,214	29
Mining & Quarrying	9,084	1	237	38
Total	1,028,793	100.00	29,701	109

Source: HRDF (2020)

*Note: Future Workers' Training (FWT), Training Assistance Scheme (SBL), Special Training Assistance Scheme (SBL-Khas) & Joint Training (SLB) schemes only

Table 1.7: Preference Training by Employers for Executive and Non-Executive Employees (Based on Skill Areas) for the Year 2019

Financial Assistance	Amount Spent on Training	% Out of the Total Fund Approved on Training
Safety and Health	RM112,113,370	14.84
Management or strategic Management	RM75,139,049	9.95
Team Building or motivation	RM69,539,642	9.20
Approved Training Places	**Number of Approved Training Places**	**% Out of the Total Training Places Approved**
Safety and Health	204,989	19.93
Quality and Productivity	104,150	12.00
Team Building and Motivation	97,906	9.52

Source: HRDF, (2020)

As indicated in Table 1.7, further analysis on the approved training places, by skill areas, showed that Safety and Health was the most preferred skill preferred by employers, followed by Management or Strategic Management, Quality and Productivity, Team Building and Motivation. This could be due to the need to meet changing industry requirements. According to the same HRDF 2019 annual report, in addition to team building or motivation, there are four types of soft skills related training namely: Language, supervisory, public relations and customer service, and creative design. However, the financial assistance approved ranged from 1% to 2.3% (HRDF, 2020).

In addition, HRDF (2019b) report highlighted that only 12,472 (1.4%) of the 873,355 training places approved in 2018 are connected to communication, 7,440 (0.5%) to English language and 1,282 (0.1%) to Mandarin language. Employers only spent RM 7,670,800 (1.4%) of the RM 558,754,296 HRDF approved financial assistance in 2018 for training related to communication, RM3,033,000 (0.5%) to English language and RM 711,600 (0.13%) to Mandarin language. As stated in the same report, employers' assumption that employees would prepare these abilities before entering the work environment might explain the low spending on soft skills and languages training. (HRDF, 2019b). This indicates that students need to understand the soft skills areas that employers need and take steps to develop these skills during tertiary study. Moreover, language skills such as English and Mandarin seem are getting more important. The annual reports of HRDF (2018 & 2019a) also indicated the lack of investment in soft skills training. This existing practice of employers seems to be in accord with Becker's (1993) suggestion in the human capital theory that firms should only bear the cost of specific training because specific skills, unlike general skills, only benefits within a single firm and industry and is directly and exclusively applicable to the firm.

In 2018, in order to further increase the rate of employability of graduates, HRDF allocated RM55 million from HRDF's consolidated fund and RM25 million from the government to conduct "Graduates Enhancement Scheme for Employability (GENERATE)" programme to help graduates develop the skills

demanded by employers and to help employees acquire work readiness characteristics and be gainfully employed in the country. In 2019, HRDF further allocated a total of RM20 million to this programme. In addition, as the country is moving towards adopting IR4.0, HRDF also introduced the "Industry-Based Certification (INBASE)" programme to promote six (6) specific training initiatives to propel the Malaysian workforce to be global competitiveness. These initiatives are: (i) Fourth Industry Revolution; (ii) National Big Data & Analytics Talent Development Programme; (iii) Internet Protocol Version 6 (IPv6); (iv) Electrical & Electronics Strategic Initiatives; (v) Enhanced Capability Programmes for Logistics Service Providers; and (vi) Supporting the National Development Corridor.

Malaysian manufacturers also work with organisations such as higher education institutions and training providers for the initiatives undertaken by the government, such as HRDF and TVET to increase their resources (funds, vocational programmes, qualified trainers etc.) and strengthen their efforts in training and skill development for employees' job readiness. With regard to the training outcome and effectiveness, as reported in the HRDF 2017 annual report the feedback from trainees' post training included achievement in a promotion (29%), salary increase (88%). In the same 2017 annual report, it was also reported that, in general, employers only commented on apprenticeship–linked programmes that they were satisfied with the skills obtained, as they were in line with their needs (HRDF, 2018). However, there is a lack of study on the impact of

these training and development programmes on their employees' and firms' performance, especially soft skills programmes.

Notwithstanding the above, the country is also implementing "Active Labour Market Policies (ALMPs)" and a comprehensive social security infrastructure specifically targeting youths and displaced workers to increase employment opportunities, and to ensure a good match between workers and jobs.

"Active Labour Market Policies (ALMPs)", are the keys to maintaining and promoting employment (International Labour Organisation (ILO), 2020). According to BNM (2021a), ALMPs are government's interventions in the labour market. It helps job seekers (unemployed), self-employed, and employed to find opportunities for re-skilling and up-skilling, apprenticeship, vocational and skills training, and ultimately work. The four main features of ALMPs are: (i) Public employment services, such as job centres and labour exchanges to help the unemployed by disseminating job vacancy information and assisting in preparing for interview; (ii) Recommending training and apprenticeship schemes to help the unemployed enhance their employability by improving general education or specific skills; (iii) Employment subsidies, such as wage subsidies, aim to create or support employment opportunities for the unemployed to accumulate work experience and provide opportunities to improve their skills; (iv) Support micro-entrepreneurs and the self-employed individuals.

Concerning social security in Malaysia, the foundation of the social insurance system was first established through the establishment of the Employment Provident Fund (EPF) in 1951 and Social Security Organisation (SOCSO) in 1971. Employees in the public sector are covered under the Government's pension scheme. Employees and their employers in the private sector are required by the EPF Act of 1991 to contribute to the EPF retirement scheme.

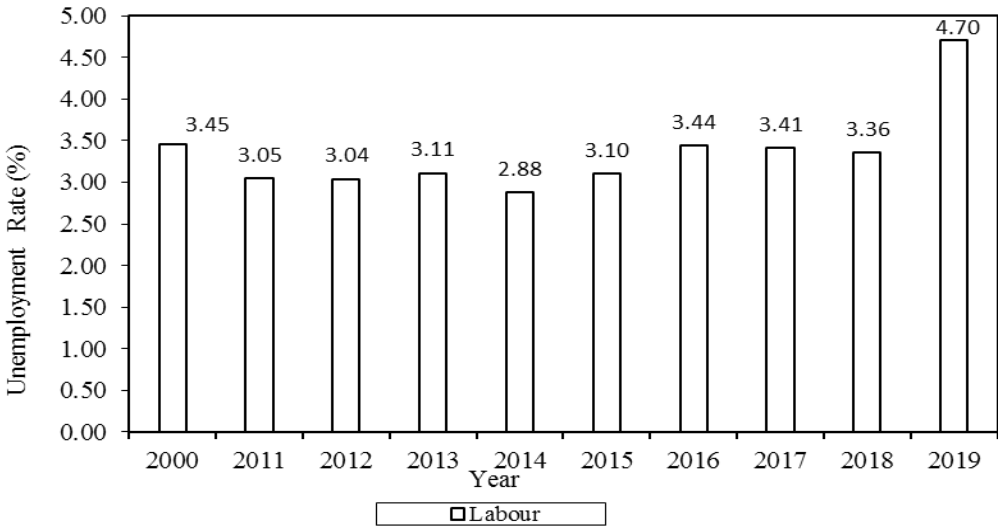
In early 2012, the ILO reached an agreement with the Malaysian government and provided technical assistance to the project, "Supporting and Facilitating the Design of an Unemployment Insurance System in Malaysia". To reach a national agreement on the possibility of introducing this employment insurance system in Malaysia, a "Tripartite Project Committee" comprised of representatives from the Government (MOHR & SOCSO), Malaysian Employers Federation (MEF), and Malaysia Trades Union Congress (MTUC), was established to oversee the project (ILO, 2015).

The project consists of two phases. Phase 1 of the project included: seeking tripartite engagement, consensus, and capacity building to stakeholders and public. In Phase II, three studies on legal framework, proposal of institutional / operational set-up and actuarial assessment were conducted. The studies recommended Malaysia for an Employment Insurance System (EIS) and with MOHR and SOCSO responsible for preparing the EIS together with a legal

framework and its implementation. The EIS consists of three pillars, namely (i) unemployment insurance benefits; (ii) ALMPs; and (iii) a Savings Plan (ILO, 2015). In June 2017, the SOCSO's "Occupational Insurance Schemes" and the "Self-Employment Social Security Scheme (SESS)" were launched. Furthermore, in January 2018, the EIS was also introduced to fill some gaps in Malaysia's social insurance landscape, reduce society vulnerability in various economic risks, and social security policies, and to stabilise macro economy (BNM, 2021b; MOHR, 2020). Insured workers of EIS who have lost their jobs can now seek financial support for training. As briefed in the report of OECD (2019b), the adult learning facilitated through the EIS introduced in Malaysia help to narrow the skills gap in the country.

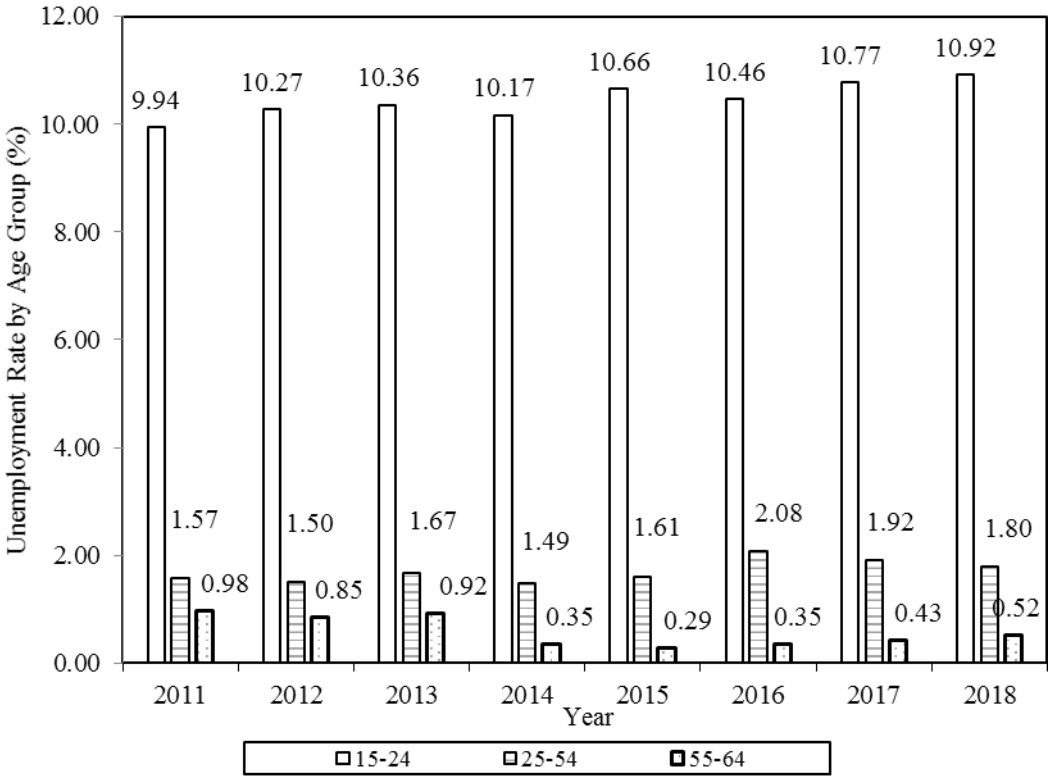
1.4.3 Unemployment

The average unemployment rate of the country has been at 3.4% over the last few decades. However, there was a rise of 1.3% to 4.7% in 2019 (BNM, 2019 & DOSM, 2020b) (Figure 1.5). The government has tried to increase employment opportunities for the people, but is particularly concerned about the rising rate of youth unemployment in the country, especially from 2015 to 2018. The rate of unemployment is even more prominent among the 15-24 years age group (Figure 1.6). In 2018, One in five fresh graduates took six months to get a job after graduation (DOSM, 2019b).



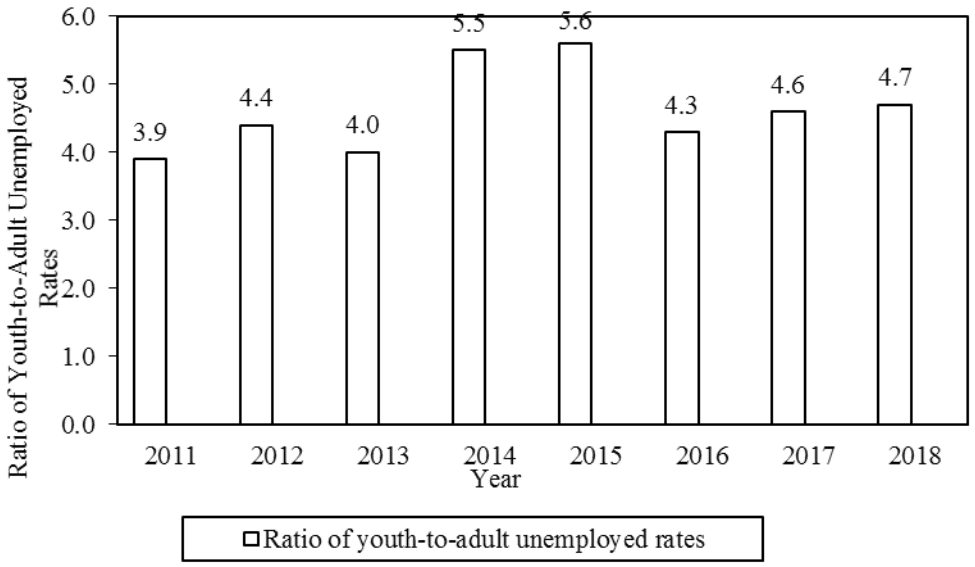
Source: DOSM 2020b

Figure 1.5: Malaysia Unemployment Rate (2000-2019)



Source: DOSM 2019a

Figure 1.6: Unemployment Rate by Age Group in Malaysia (2011-2018)



Source: DOSM, 2019b
Note: Ratio of youth-to-adult unemployed rates means for every unemployed adult, there were close to 5 unemployed youths

Figure 1.7: Ratio of Youth-to-Adult Unemployment Rates in Malaysia (2011-2018)

In ASEAN countries (Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam), the youth unemployment rate in 2018 and 2019 ranged between 0.3 and 28.5% see Table 1.8). Brunei Darussalam had the highest youth unemployment rate of 28.5% in 2018 and 21.7% in 2019. Indonesia occupied second place with a youth unemployment rate of 16.3% and 13.4%. This was followed by Malaysia at 10.8% and 11.8% respectively. However, the youth unemployment rate of Malaysia is still below the world youth unemployment rate of 12.5% for 2018 and 2019.

Table 1.8: Youth Unemployment Rate in ASEAN Countries (2018-2019)

Country / region	2018 (%)	2019 (%)
World	12.5	12.5
Brunei Darussalam	28.5	21.7
Cambodia	0.3	0.4
Indonesia	16.3	13.4
Laos	1.8	1.7
Malaysia	**10.8**	**11.8**
Myanmar	1.8	1.7
Philippines	8	6.7
Singapore	4.3	3.1
Thailand	7	4.2
Vietnam	7.3	66

Source: World Bank (2021) and statista.com (2021)

Note: Youth: age group of 15-24

1.4.4 Reasons Cited for Youth Unemployment

As noted from Figure 1.7, the youth unemployment ratio in Malaysia had shown an increasing trend from 2011 to 2015. In 2016, there was a slight decrease in the ratio, but it started to rise again in 2017. The persistent high youth unemployment is of great concern to the Malaysian government. Various causes of youth unemployment have been highlighted in the survey conducted by Ministry of Human Resources (MOHR) (2019), Ministry of Finance (MOF), (2018), JobStreet (2015, 2018 & 2019), Malaysian Employers Federation (MEF)

(2016), Rusli et al. (2018), Shuhaimi and Awaludin (2018), and OECD (2019a) (see Table 1.9).

Table 1.9: Reasons for High Youth Unemployment Rate in Malaysia

Survey report / year	Reasons for high youth unemployment rate highlighted in the survey report
Ministry of Human Resources (MOHR) (2019)	• One of the four unemployed graduates was found to have skills mismatch
Ministry of Finance (MOF) (2018)	• Unemployed graduates were lack of working experience and lack of skills and knowledge required employers • Most of the jobs available in the labour market were for unskilled and low skilled categories
JobStreet (2015), (2018), & (2019)	• Graduates were asking for unrealistic wages • Unemployed youths lacked good character, attitude, or personality • They had poor communication skills and poor English proficiency
Khazanah Research Institute (KRI) (2018)	• Unemployed youths were too choosy about the job • Unemployed graduates lacked entrepreneurship skills and job search skills • There was a skills mismatch as educational institutions emphasised academic and professional qualifications while employers demand for soft skills and work experience • Compared to work experience and hard skills, 50% of the surveyed employers ranked soft skills as the most important skill.
Malaysian Employers Federation (MEF) (2016); Rusli et al. (2018) and Shuhaimi & Awaludin (2018)	• Graduates had low English proficiency which was below employers' expectation • The decline in English proficiency is affecting country's competitive advantage
OECD (2019a)	• Mismatch in education, training, and skills in the labour market.

According to the study of MOHR (2019), causes of youth unemployment was mainly due to skills mismatch. In addition, the study conducted by MOF (2018) suggested that the causes of youth unemployment include lack of working experience, lack of skills and knowledge required by employers and lack of employment opportunities for graduates as most of the jobs available in the employment were for unskilled and low skilled categories. JobStreet Malaysia's (2015, 2017, & 2019) surveys revealed that the top three reasons for the rising unemployment rate among graduates in Malaysia was rising namely: asking unrealistic salary or benefit, lacked good character, attitude or personality; poor communication skills and English proficiency. Khazanah Research Institute's (KRI), (2018) study revealed that graduates were unemployed as they were too choosy about the job. They lacked working experience, entrepreneurial and job search skills. There was a skills mismatch as most employers had high demand for soft skills which candidates are lacking. According to MEF (2016), Rusli et al. (2018) and Shuhaimi & Awaludin (2018), graduates could not find a job mainly due to their English proficiency being below employers' expectations. The OECD (2019a)'s study indicated that the mismatch in education, training and skills is the main reason for youth unemployment (see Table 1.9). The above survey results highlighted that youth's learning and training are not being aligned with the market demand, resulting in a skills mismatch. The mismatch in soft skills was emphasised in most of the survey reports shown in Table 1.9.

A graduate is chosen to fill a post because the employer expects the applicant has better experience and job skills. However, the above survey results showed that some graduates are lacking work experience or soft skills (communication, entrepreneurial, EQ such as poor character, attitude, and personality) and poor command of English. Supramaniam and Hassan (2021) included the above causes of youth unemployment to conduct a study on the graduate unemployed in the Kluang, Johore. The study found that "lack of soft skills" had the highest mean score of 4.06 followed by mismatch of skills and education (3.94) and lack of communication and English skills (3.84).

The above studies clearly indicated that lack of soft skills, skills mismatch and lack of English language skills appeared to be the main causes of youth unemployment in Malaysia. Hence, this study has chosen soft skills as the focus of the study.

1.5 Initiatives and Support for Adopting IR4.0

On 31 October, 2018 the Malaysian government set up Industry4RWD, to expedite the pivot of local manufacturers, especially SMEs, to global standards in IR4.0. This national blueprint is driven by the Ministry of International Trade and Industry (MITI) in partnership with other key ministries namely, the "Ministry of Finance (MOF)", "Ministry of Multimedia and Communications (KKMM)", "Ministry of Human Resources (MOHR)", "Ministry of Education (MOE)", and

"Ministry of Energy, Science, Technology, Environment and Climate Change" (MESTECC) , agencies, businesses and interested parties.

According to MITI 2018 Annual Report (MITI, 2019) Malaysia Productivity Corporation (MPC), an agency of MITI, a three-pronged framework was designed aiming to propel the comprehensive transformation plan through:

(i) Four specific goals to be achieved by 2025

a) Improve by 30% the individual productivity level of RM106,647 in the manufacturing industry.

b) Increase the economy contribution of manufacturing from RM254 billion to RM392 billion.

c) Enhance innovation ability, and competitiveness to attain a Global Innovation Index Rank of 30th, from the current 35th position; and

d) Raise high-skilled workforce from 18% to 35% in the manufacturing sector

(ii) Strategic Enablers, F.I.R.S.T. (Funding; Infrastructure; Regulations; Skills and Talent; Technology)

Driven by F.I.R.S.T. strategy, the government plays a driving role in the entire digital transformation of manufacturing and related services, especially small and medium-sized businesses.

(iii) The Malaysia Productivity Corporation (MPC) will organise seminars and training to educate industry players on the importance of adopting IR4.0 and transformation into a smart organisation and to boost national productivity.

New skills are needed to meet the changes brought about by automation and artificial intelligence. HRDF has a key role in partnering with the industry to create training and learning plans for future workforce.

In the global assessment of 100 countries, Malaysia was ranked 21st-30th in the key drivers for production in IR4.0. Yet, it is critical for the country to solve its current shortages of talent, skills, and knowledge to retain the economic advantage as it shifts towards IR4.0 (MITI, 2019; WEF & Kearney, 2018).

In view of the above, the industry leaders and policymakers need to be agile and adaptable to make sure they have the adequate pool of workforce with right mix of human capital. In addition to new production technology skills, soft and creative skills should also be developed within the labour force. To address the immediate short-term need and skills gaps, with the support of government and academia, firm needs to train and retrain existing employees. Technical and vocational training programmes are required to develop future production workforce.

1.6 Problem Statement

Over the past 40 years, the Malaysian economy has undergone significant development, shifting from a largely agricultural base to a far more industrialised position, with greater emphasis on manufacturing and technology (see Table 1.1). Recognising that the global manufacturing industries are transforming into IR4.0 which will benefit the economy, Malaysia acknowledges the need to adopt IR4.0 and has embarked on IR4.0 journey. As a developing country gearing up to take advantage of IR4.0 to develop its economic status, Malaysia needs to address its human resource challenges (BNM, 2019). The issues of poor soft skills competencies and English proficiency, which have led to high youth unemployment rate, have been consistently highlighted in the literature, surveys and economic reports for IR4.0 implementation (JobStreet.com, 2015, 2018, 2019; Khazanah Research Institute (KRI), 2018; MOF, 2018; MOHR, 2019; OECD, 2018; OECD, 2019; Rusli et al., 2018; Shuhaimi & Awaludin, 2018). Manufacturers commented on graduates not being properly trained and lacking skills and experiences (FMM 2020). Entry-level graduates lack soft skills and English proficiency despite the country's efforts to enhance their competencies in these areas. (Darmi & Albion, 2013; Malaysia Economic Report, 2019; OECD, 2013; OECD, 2018; OECD, 2019a; Rusli et al., 2018; Sarudin et al., 2013; Shuhaimi & Awaludin, 2018; Yahaya, et al., 2011). This implies that what the graduates have studied may not be what employers demanded. WEF & Kearney's (2018) and OECD's (2019) reports suggest the country conducts skill needs analysis to reduce the skills imbalances. In the same context, Puad's (2018) study

and OECD's (2016) report commented on the lack of clarity on the current and future demand for skills by employers, and the competencies of graduates are also hampering the progress of relevant training. This poses the questions: "what are the soft skills currently in demand by employers and what are the skills to be demanded in the future? Where is the skills gap?"

In addition, most of the studies on soft skills in demand and supply were conducted before the new age while soft skills in demand by employers would have changed over time due to the evolution of knowledge, technology and globalisation in IR4.0.

Hence, there is a critical need to investigate the recent and future demands of graduates' employers. Also needed is an assessment of the existing entry-level graduate workforce's soft skills competencies to identify the skills gap, or what is lacking. This is to help them to acquire the appropriate soft skills needed to perform current and future work and to reduce youth unemployment rate.

The other pressing challenge of human resource in Malaysia is its human resource development. Since most of the labour workforce will be replaced by automation in the new age, this change in labour demand patterns will result in job losses and gains. From an economic point of view, support from government and academia, re-training, and upgrading of employees' skills by manufacturing companies, solving skills gaps caused by job changes and competition in the

global market are related to human resources development. It involves employees' learning curves, training opportunities, and directions to employers on skills development investments. Transparent and effective training is needed to enhance employers' readiness to implement IR4.0 (Deloitte, 2015; Ling et al., 2020; OECD, 2019; WEF & Kearney, 2018). In relation to this, the OECD report (2019b) highlighted that the country's current training plans or training incentives are inconsistent with the needs of the labour market demands. HRDF 2019 annual report also demonstrated that despite the fact that the manufacturing industry had the most approved training places (513,340 – 50%) compared to the other two sectors (services, mining and quarrying), there was a significant lack of soft skills training, with only 9.52% of the approved financial assistance allocated to teambuilding or motivation. The other four categories of soft skills related training, namely: Language, supervisory, public relations and customer service, and creative design have the financial assistance approved ranged from 1% to 2.3%. This indicates that employers in the manufacturing industry not only do not put priority on soft skills training for their employees but there is also a lack of a variety of soft skills programmes such as those on thinking skills, emotional intelligence, ethics etc. conducted for employees. (HRDF, 2020).

In addition, even though various trainings are conducted for employees, the critical research gap remains, as the impacts of these T&Ds attended by employees have not been fully investigated. Training evaluation in the aspect of training impacts is hence included in this study. These impacts are the observable

outcomes of employees' skills and knowledge acquired through T&D programme. Empirical evidences are needed to establish the worth of investments in T&D, and to improve firm's T&D.

The impact of training on human resource outcomes, has been an area of interest in HRM practice, as many past studies had been conducted to establish their relationships (Abdul Rahman, Ng, Sambasivan, & Wong, 2013; Dermol & Čater, 2013; Guan & Frenkel, 2019; Hitt, Bierman, Shimizu, & Kochhar, 2001; Katou, 2011; Tharenou, Saks, & Moore, 2007; Úbeda-García, Cortés, Marco-Lajara, & Zöoza –Sáez, 2014). However, there is a lack of study that paid explicit attention to the impact of soft skills T&D. Hence, there is a need to look more broadly at firm's soft skills T&D and to evaluate its impact on performance (human resource and firm).

In summary, the Malaysian manufacturing industry is in its nascent stage of adopting IR4.0. Literature has indicated that soft skills are in high demand in this new age (Deloitte, 2015; WEF, 2016 & 2020). The industry is facing challenges in finding employees with the right skills, and in its skills training for existing workforce to cope with technological changes and the manufacturing process. Moreover, despite the country has implemented several programmes / initiatives to enhance soft skills of students and graduates, the latter's low competency in soft skills and their poor proficiency in the English language are cited as some of the reasons for the rising unemployment rate (JobStreet.com

2015, 2018 & 2019; KRI, 2018). The lack of continuous studies in the manufacturing industry's skill in demand has resulted in ambiguity that is hampering the progress of relevant training.

Notwithstanding the above, literature indicates that employers believe in training to re-skill employees as an effective measure to develop skills in demand and to prevent disruption to the workforce in IR4.0 (WEF, 2016; WEF & Kearney, 2018). With regard to this, the Malaysian government has initiated various initiatives to provide training opportunities for graduates to enhance their skills and employability. Employers, too, have sought financial assistance from HRDF to conduct soft skills programmes for employees. However, there is a lack of evaluation on the effectiveness of these trainings. As employers increase their investments in training, there is a need to examine the worth of these investments and efforts. Hence, this study will construct an empirical model to examine whether soft skills T&D of firm enhances entry-level graduate's skills level, and helps firm become an effective competitor in the global marketplace with a diversified economy.

1.7 Research Questions

Seven research questions address the problems of this research are shown in Table 1.10. This research will be conducted in two phases: First, to identify the areas of soft skills demanded by employers in the manufacturing industry,

followed by soft skills competencies of entry-level graduate employees and skills gap (mean difference between the demand by employers and the soft skills competencies of entry-level graduates) in the Malaysian manufacturing industry. Second, to examine the impact of soft skills T&D of firms on performance (human resource and firm).

Table 1.10: Phases of Study and Research Questions

Phase I study	RQ1:	"What are the areas of soft skills demanded by the Malaysian manufacturing industry currently and in the future?"
	RQ2:	"What are the soft skills competencies of entry-level graduate employees in the Malaysian manufacturing industry?"
	RQ3:	"What are the areas of soft skills gap in the Malaysian manufacturing industry?"
Phase II study	RQ4:	"Is there a positive relationship between the firms' soft skills T&D and human resource outcomes?"
	RQ5:	"Is there a positive relationship between the firms' soft skills T&D and firm performance?"
	RQ6:	"Is there a positive relationship between the human resource outcomes and firm performance?"
	RQ7:	"Do human resource outcomes mediate the relationship between soft skills T&D and firm performance?"

1.8 Research Objectives

This study has two general objectives and seven specific objectives (Table 1.11):

Table 1.11: General and Specific Objectives of the Study

General Objectives	First, to investigate the soft skills in demand by employers, competencies of the entry-level graduate workforce and the skills gap that exist in the Malaysian manufacturing industry. Second, to fill the gap existing in literature by examining the impact of soft skills T&D conducted by the employers on human resource and firm performance.	
Specific Objectives	i.	To identify a set of soft skills currently demanded by employers and likely to be in demand in future (next five years).
	ii.	To identify the soft skills competencies of entry-level graduate employees.
	iii.	To determine the areas of skills gap within the firms in the manufacturing industry
	iv.	To examine the relationship between soft skills T&D of firms and their human resource outcomes
	v.	To examine the relationship between soft skills T&D of firms and their firm performance
	vi.	To examine the relationship between human resource outcomes and firm performance
	vii.	To ascertain the mediating role of human resource outcomes on the relationship between soft skills T&D and firm performance

Literature indicates that employers are concerned with the employability of the entry-level graduate workforce (Malaysia Economic Report, 2019; OECD, 2018; Rusli et al., 2018; Sarudin, Noor, Zubairi, Ahmad, & Nordin, 2013). According to Steyn (2020), the entry-level graduates are graduates upon entering the workplace while Ismail (2013) referred them as graduates soon to join the workforce. Suarta, Suwintana, Fajar, & Dessy (2018), however, described the entry-level workforce as graduate workforce with less than three years of working experience. Because of the above reviews, this study will focus on graduates who have less than 2 years of working experience.

1.9 Significance of the Study

Literature suggests that in the knowledge-intensive industries, graduates are required to understand skills and knowledge demanded by employers. It is essential for all stakeholders – students, industry, and academia to work together to prepare the work-ready workforce for the industries (Collet, Hine, & Du Plessis, 2015; OECD, 2018). In addition, it is necessary to evaluate the observable outcome of the soft skills acquired by employees on human resources and firm performance. In response, this study which consists of two phases of the study is proposed. The study would contribute to the following aspects:

i. It is of practical relevance as the world is moving into the new age of IR 4.0, while there are changes in technology and skills demand. It seeks to obtain

feedback from employers in the manufacturing industry on areas of soft skills which graduates need to enhance their employability for gainful employment in the new age.

ii. The empirical research conducted based on feedback from employers on the soft skills competence of entry-level graduates will be used as a reference for educators, employers, and policymakers in MOE, MOHR, HRDF and training providers to develop policies and strategies for study/training curricula and methodology to ensure the related skills are imparted (OECD, 2019b).

iii. This study adopts human capital theory and resource-based view to conceptualise the theoretical framework for training and development of soft skills and its impact on human resource outcomes and firm's performance. The validation of the relationships of the variables included in the model will enrich the theories in two ways.

Firstly, the findings will contribute to the human capital theory by examining the outcome of the soft skills learning in HEIs the importance and value of the investment in soft skills training and development.

Secondly, whether soft skills can be considered as a firm's resource under the Resource-based View framework. According to Dakhli and De Clercq (2004), and Kor and Mahoney (2004, cited in Kraaijenbrink, 2011, p.227) RBV does not

categorise individual's knowledge and skills which are applicable to a broad range of firms and industries as a resource of firm's "sustain competitive advantage". Kraaijenbrink (2011) argued that it seems that firms value human capital that is not limited to a particular industry or firm. However, there is lack of empirical study to clarify their contribution to firm's SCA and how they should be valued as a resource.

1.10 Organisation of the Thesis

This thesis is organised into five chapters. The brief explanations of each chapter are as follows:

Chapter 1: The introduction chapter, which provides an overview on the changing demand for skills as a result of the development of IR4.0 in the manufacturing sector, with specific discussion in the Malaysian perspective. Research questions were identified and objectives to be achieved in this study were established.

Chapter 2: Literature review chapter reviewing of the relevant studies, on soft skills in demand, skills gap, and the theoretical and conceptual background concerning training and development and its impact on human resource outcomes and firm's performance. Detailed discussion on definition, developments, and measurements of key constructs of interest are presented.

Chapter 3: Research methodology chapter, explains the details of the research techniques adopted to conduct the study. The research design, sampling techniques, data collection approach, questionnaire design, operationalisation and measurement of research constructs as well as the statistical procedures used for data analyses are presented in this chapter. Both "Statistical Package for Social Sciences (SPSS)" and "Partial Least Squares Structural Equation Modelling (PLS-SEM)" software are employed for data analyses, and formulation of a conceptual framework linking soft skills T&D, human resource outcomes and firm performance will be presented together with the four proposed research hypotheses.

Chapter 4: Results of analysis and discussions chapter, reports major findings of questionnaire survey. Results of preliminary data examination, profiles of surveyed samples, descriptive analysis of measurement constructs, validity of measurement models, structural model and mediation tests are presented in this chapter.

Chapter 5: Conclusions, implications, limitations, and recommendations of this study. This concluding chapter provides detailed discussions on the findings of research hypotheses testing in relation to their respective research objectives. Additionally, the theoretical, practical and policy implications of the study, together with several study limitations and future research recommendations are also presented.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature related to theories, previous studies, and research assumptions on: (i) demand for soft skills; (ii) training and development (T&D) by firms; (iii) the impact of T&D on human resource outcomes (HRO), and firm's performance (FP).

2.2 Theoretical Orientation for the Study

2.2.1 Human Capital Theory

Sweetland (1996) believes that human capital analysis was developed from research in specialised disciplines of economics, such as "labour economics", "public sector economics", "welfare economics", "growth theory", and "development economics" to "education-related economics". The review of human capital theory expressed centuries ago was only formally established in the 1960s. The most prominent human capital study economists were Adam Smith, John Stuart Mill, and Alfred Marshall. Becker (1993) and Schultz (1963) are the

two most pronounced scholars of human capital theory. According to Becker (1993), the original aims of his study were to examine on the growth of incomes of persons and returns of education. His interests in the study had further extended to investment in human capital with its ramifications of a variety of economic phenomena. This led to the empirical analysis of several other effects of education, such as those focusing on age-earning and age-wealth. Hence Becker's (1993) works on concept of human capital are covering a broad range of aspects which include investment in human capital (effects on earnings, rates of return), education (investment and rates of returns) and also to understand its relevancy to the economy-wide changes in inequality, economic growth, unemployment and foreign trade. Since this study focuses on soft skills demand, skill gaps, training and development and its impact on human resource and firm performance, human capital theory provides the theoretical foundation to examine the relationship among the variables included in the study. At the same time, the study extends the application of human capital theory to soft skills demand and implications of training and development.

The concept of human capital theory was formally introduced by Schultz (1961). The theory suggests that the investment in human capital would bring significant benefits to individuals and the society at large (Sweetland, 1996). The general consensus is that the aim of human capital formation (i.e. the skills, knowledge, and experience possessed by employees) is to increase both employees' and firms' performance. The basic premise of human capital theory is

that firms do not own human capital, the individual employees do, and they are the most critical factor for producing human capital (Becker, 1993). While firms may have access to human capital, managers may not always deploy that human capital in a manner that would achieve the intended strategic impact (Wright, Dunford, & Snell, 2001). According to Becker (1993), human capital can be defined to include various aspects of human assets, which include skills and abilities, personality, appearance, reputation, and appropriate qualifications. As suggested by Becker (1993, p. 19) schooling raises earning and productivity potentials mainly by providing knowledge, skills, and problem-solving competency. As such, by investing in education and training, not only their knowledge and skills could be enhanced, they will also be able to enjoy a better income. Education and training are also helpful in coping with changing technologies and advancing productivity in the manufacturing and service sectors (Becker, 1993, p. 25). This indicates that Becker's ideas play an important role in employees' development and learning literature as human capital theory fuels the idea that employees' knowledge and skills can be developed through investment in education or training that is learning. Applied in the context of human resource development, according to Ju (2019), human capital theory is the most widely used theory in human resource development studies which have mostly focused on the effectiveness and productivity in human capital theory by investing in human capital in organisations. In reviewing relevant literature on human capital theory, it has been found that the theory distinguishes between several types and modes of schooling. There is formal education at the elementary, secondary, and

post-secondary levels (Cohn & Geske, 1990), informal education at home and at work (Schultz, 1981), on-the-job training and apprenticeships (Mincer, 1974) and specialised vocational education at the secondary and post-secondary levels (Corazzini, 1967).

Training of new industrial skills usually starts at work, as the firm tends to be the one which is aware of its value. However, due to high demand for new industrial skills, firms have passed on the responsibility of providing their T&D to schools (Becker, 1993). Becker (1993) supported Mincer's (1958) study that the training and skills of human capital affected personal income where differences in training provided different results in earnings for different occupations. Benson (1978) pointed out on-the-job training as more effective in increasing workers' productivity compared to off-the-job training. In contrast, Mahaderan and Yap's (2019) study found that off-the-job training has a greater impact on employee performance. Balcar (2016) found formal training to be more effective in increasing productivity.

Becker (1993) who classifies training into general and specific training, believes that even though investments in training improve productivity, he suggests that firms should not pay for general training, such as generic skills, as these skills are transferable and it would benefit other firms. This implies that Becker's theory largely ignores the role of non-cognitive abilities which consist of behaviours, mindsets, attitudes, social skills, motivation, and abilities to work

with others. In recent years, there has been a higher demand for non-cognitive skills and abilities (Chartered Institute of Personnel and Development (CIPD), 2017). In contrast to Becker's recommendation, Bhal (2015), Mishra and Symth (2015) and Kessler and Lülfesmann (2006) argued that a firm should invest in general training; as of today, compared to hard skills, more employers have a preference for general skills such as soft skills. It complements hard skills for a firm's performance. The above comments concur with Bishop's (1991) suggestion that due to competitive pressure from competitors, firms should opt for general training, as most workers are reluctant to pay a lot for such training. O'Connell and Byrne (2012) supported specific training to be of use for existing employers only but argued general training to be of use not only for future employers, but also existing employers. The difference between these two types of training lies in their transferability.

Past studies which have adopted concept of human capital theory includes studies conducted by Alva (2019) and Rodríguez and Orellane (2020). Alva (2019) identify the qualities of a good worker for microenterprises of the trade sector. The results of Alva's (2019) study demonstrates that workers who possess mainly non-cognitive skills such as extraversion, agreeableness, openness, conscientiousness, punctuality, honesty, and assertiveness are considered as good workers for the trade.

On the other hand, Rodríguez and Orellane (2020) investigated the effects of firms' general and specific human capital on the export performance. The results showed that the effects of the general human capital (knowledge and skills accumulated by individuals through formal education and the general experience used in a broad spectrum of tasks) on export performance is greater than the specific human capital (knowledge and skills only related to a specific job context).

In summary, literature on human capital theory suggests that human capital, such as skills and knowledge are the most valuable assets of organisations (Alva's 2019; Becker, 1993; Rodríguez & Orellane, 2020; Sweetland, 1996). Hence, investment in people will benefit society and economic (Baird & Parayitam, 2019). Individuals can acquire this human capital through education and training to enhance their earnings and productivity (Becker 1993). In the context of training, Becker (1975) categorised training into general and specific training; the former is transferable to other firms, while the latter only impacts current firm. Becker (1975) presumes that general training is unlikely to be funded by employers due to this reason. However, past studies have shown that more employers are willing to invest in soft skills to respond to changes in skills demand (Bhal, 2015; Kessler & Lülfesmann, 2006). Yet, Horstmeyer (2020) argued that the development of employees' soft skills still is not aligned with the demand and soft skills shortage in the workforce. Although researchers have investigated the influence of improved individual skills on productivity, quality of

service, job satisfaction etc., there is a lack of empirical evidence that soft skills T&D enhancing employees' performance in such competencies will lead to improvement in various contexts on the organisational level. Moreover, according to Swanson (1999 cited in Wuttaphan, 2017, p.246) human capital theory is considered as one of the economic theories of human resource development (economic theories consists of human capital theory, scarce resource theory and sustainability theory) as the performance improvements take place in organisations which are of economic entities and their performance improvements is the core of economic theories. In view of the above reasons, the results of this proposed study, which focuses on firm's soft skills T&D and its impact on human resource outcomes and firm performance aim to provide a relevant and significant contribution to the human capital theory.

2.2.2 Resource-Based View (RBV)

Apart from the human capital theory which focuses on both skills and training, this study also adopts the resource-based view (RBV) which is deeply concerned with firm's resources in the aspect of human resource issues such as knowledge, skills and capabilities.

The base of RBV is on two strands. It is built on Pentrose (1959) and later Barney's (1991) insights. Both conceptualise firms as heterogeneous resource bundles. According to Pentrose (1959) firm is a collection of resources. If a firm

believes there is more to learn about the resources than what they have, then the firm would likely to look for more knowledge to improve the firm's efficiency and profitability. Firm also would look into those unused productive services and consider them as incentive to search for future knowledge for improvement of the firm. Wernerfelt (1984, p. 192) defined resources as "anything that can be considered a strength or weakness of a particular firm". According to Barney (1991) a resource must be "valuable, rare and imperfectly imitable and non-substitutable" (VRIN) and firms manage these resources to gain a sustainable competitive advantage. A "VRIN" criterion is explained below:

Valuable (V):	Resources are valuable when helping firms to achieve their strategic goals by leveraging market opportunities and mitigating market risks
Rare (R):	Resources must be scarce or distinctive and unique in design and strategy in comparison with other competitors, in order to provide competitive advantage.
Imperfect Imitability (I):	Impossible to duplicate or imitate a resource due to imperfect imitability can be caused by a variety of factors such as resource acquisition challenges, resource complexity, and uncertain link between capability and

competitive advantage. Only if firm invests in these resources can gain competitive advantage.

Non-substitutability (N): This means that one resource cannot be replaced by another. Competitors cannot achieve the same results by substituting different resources.

Barney (1991) termed valuable resources are strategic assets of firms. They are only valuable if the firm can devise or apply strategies to improve its performance. As such, RBV also facilitates firm to apprehend the importance of competencies and appreciate its value to firm performance.

Barney (1991) categorised a firm's resources into (1) physical capital resources (physical, technology, plants, and equipment); (2), human capital resources (skills, abilities, education, insights, and competencies of firm's management and workers); and (3) organisational capital resources (firm's planning, coordination, organising, and controlling mechanism). As highlighted in the above review, the value of resources also depends on the extent of how the organisation handle them. Hence firms need this resource to create specific capabilities to assist employees in matching desired job responsibilities, ensuring and maintaining competitive advantage. However, this does not imply that all the resources are strategically important (Barney, 1991).

Regarding “sustained competitive advantage”, Barney (1991) explained that firm’s resources of competitive advantage may not last forever as firm may face unexpected changes which are called “Schumpeterian Shocks”. They may result in structural revolutions in industry which firm may need to redefine its resources and SCA. However, if the firm’s business does not disappear due to repeated efforts by competitors, it can still enjoy a “sustained competitive advantage”. This has an implication that the value of resources also depends on the extent of how the organisation handle them.

In order to assess the strength of using RBV to support this study, past literature was critically examined and evaluated RBV to identify the gap.

Madhani (2010) concludes that RBV asserts that by owning and managing strategic assets, firms can improve their performance and enjoy a competitive advantage over others. Three major questions are asked to identify the impacts: i) Is the resource or capability valuable? ii) Is it heterogeneously distributed across competing firms? iii) Is it imperfectly mobile? Valuable resources are differentiated resources which help firm to reduce cost and enhance firm’s performance such as profits, efficiency, and effectiveness (Barney, 1991). The second question concerning the resource distribution examines if the valuable resource is freely available. If all firms have free access to the resources, they can have the same resources and status as their competitors. When the resources are not freely available (heterogeneously distributed), this resource heterogeneity

becomes a resource of varying capabilities that enable firm to enjoy resource-based advantage. The third question evaluates the level of competitive advantage gained from a valuable resource. Only inimitable resources which are heterogeneous will provide sustained competitive advantage which is defined by Barney as a "non-duplicatable advantage" (Barney 1991). Perfectly mobile resource may be owned by other firms, hence, the competitive advantage provided may not be 'sustained".

Kamasak (2017) used tangible, intangible assets, and capabilities to describe firm's resources. Examples of tangible assets include cash, financial investments, land, raw materials, physical property and raised capital. Intangible assets refer to company reputation, organisational culture, customer service reputation, legally protected copyrights, designs and patents, human resource management policies, organisational structure, product/service reputation, and trademark. Capability comprises human capital (skills, networking abilities, and knowledge). Compared with tangible resources, intangible assets and capabilities contribute more to company performance. However, these intangible assets will depreciate. However, according to Grant (1991) resources and capabilities provide the basic direction for a firm's strategy and they are primary source of profit for the firm. Hence it falls back on how firm organise and manage these resources and capabilities to create value.

Dakhli and De Clercq (2004), and Kor and Mahoney (2004, cited in Kraaijenbrink, 2011, p.227) categorised human capital as "industry-specificity", "firm-specificity", and "individual-specificity". "Industry-specific" human capital is knowledge and experience specific to an industry which are developed through intimate communication between firms in the industry and through the tacit know-how present in existing technology. This human capital is only valuable within a particular industry and much less so in other industries. The value is determined exogenously which Barney (1991) considered this shared nature of industry-specific human capital as improbable as a source of "sustained competitive advantage (SCA)". "Firm-specific" human capital is knowledge and skills that are only valuable to a specific firm. They are unique to the firm and may give the firm an advantage over other firms. The value of this category of human capital is determined mainly endogenously. "Individual-specific" human capital concerns individual's knowledge and skills that are applicable to a broad range of firms and industries. It includes general and broad education and experience and is highly mobile across firms and across industries. RBV however, does not consider it to be a source of "sustained competitive advantage". Kraaijenbrink (2011) argued that it seems that individual-specific human capital seems to be the human capital firms value the most especially those skills that are not limited to a particular industry or firm. However, there is a lack of empirical study to clarify how the three types of human capital should be valued and how they contribute to a firm's SCA. This suggests that the link between soft skills

which is an area of individual –specific human capital and firm's competitiveness is another gap in the literature that needs to be explored.

According to Kraaijenbrink, Spender and Groen (2010) the focus of SCA in RBV is not on the failure of resources or markets, but on the characteristics of the individuals and teams that make up the organisation. However, RBV undervalues the importance of entrepreneurs' and managers' subjective judgements and mental models. According to Coccia and Watts (2020), entrepreneurial skills involve organising, motivating a group of people to achieve a common objective through innovation, risk optimisation, exploitation of opportunities and management of dynamic organisational environment. As noted, many of these skills fall under the component of soft skills. The recent study of Ziyae and Sadeghi (2020) shows that both corporate and strategic entrepreneurship are positively related to firm performance. The dimensions of strategic entrepreneurial used for their study include entrepreneurial mindset, culture, leadership, and strategic management of resources. The dimensions of corporate entrepreneurship include innovativeness, risk-taking, proactiveness, competitive aggressiveness and autonomy. These dimensions of study are combination of include both hard and soft skills.

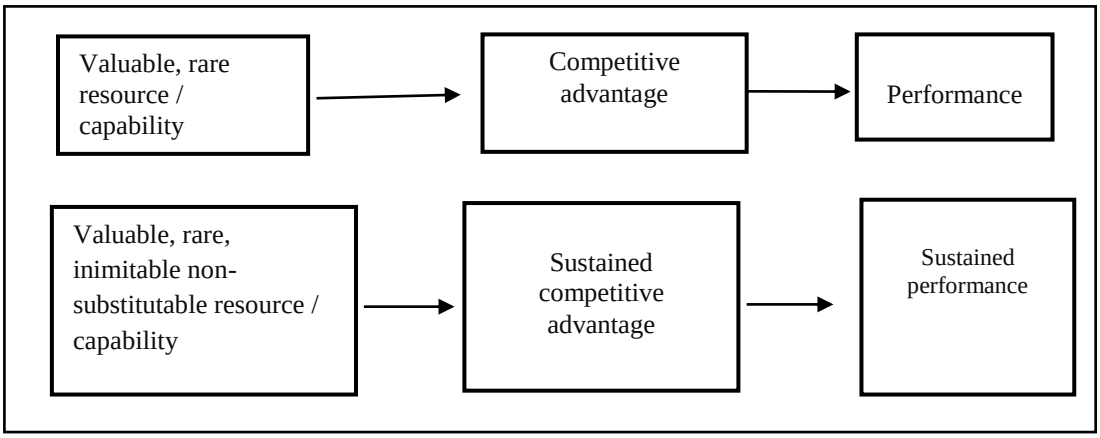
Eisenhardt and Martin (2000) supported Barney (1991)'s comments that that competitive advantage cannot be sustained in dynamic and rapidly changing market unless firm is alert of the changes and has a prompt response to the

changes. Barney, Wright and Ketchen (2001) reiterated that if market context changes radically, what was valuable capabilities may no longer be valuable. The above reviews have implications that firm should be agile in recognising the new market demands, to take various efforts in firms to continually evaluate firm's capabilities and resources. In the same context, Russo (2017) responded by emphasising the importance of developing skills which have real impact on productivity. In the context of considering soft skills as a firm's resource, Das and Kodwani (2018) argued that merely considering soft skills as internal resources / capabilities will not ensure competitiveness of firm. These skills should be enhanced to create an impact on performance. In light of this, most studies also suggest that firms focus on T&D to help employees develop imitable skills to stay competitive (Altinay & Altinay, 2006; Ferguson & Reio, 2010; Kaur & Kaur, 2020; Lepak & Snell, 1999; Waiganjo, Mukulu, & Kahiri, 2012; Wernerfelt, 1984; Wright, McMahan, & McWilliams, 1994).

So far, the existing literature has not identified studies that explicitly explore the relationship between firm performance and employees' individual-specific skills such as soft skills which Dakhli and De Clercq (2004), and Kor and Mahoney (2004, cited in Kraaijenbrink, 2011, p. 227) identified them as applicable to a broad range of firms and industries and according to Kraaijenbrink (2011) these skills are valued the most by firms.

Since the general understanding of soft skills contribution to firm's performance remains rather superficial, this study would fill the gap in the literature related to RBV, shed light on the topic and fill the foregoing gaps in the literature.

The proposed conceptual model of this study is based on Barney's view on relationships between internal resources, firm's competitive advantage and performance. According to Newbert (2007), Barney's (1991) conceptual model is interpreted parsimoniously in Figure 2.1. As expressed by Barney (1991), when a firm implements a value creation strategy that its existing or potential competitors have not implemented, it is said to have a "competitive advantage". With regard to "sustained competitive advantage", Barney (1991) explained that firm may expose to unexpected changes in economic structure, hence its resources of competitive advantage may not last forever. However, if the firm's business does not disappear due to repeated efforts of competitors, it can still enjoy a "sustained competitive advantage".



Source: Newbert, (2007)

Figure 2.1: Conceptual Model of Barney's (1991) study

In summary, RBV suggests that a firm's sustained competitive advantage is achieved when its strategic and valuable resources are heterogeneously distributed and imperfectly mobile and sustain such advantage notwithstanding periods of Schumpeterian Shock.

Resources and capabilities that are VRIN are important factors for a firm to sustain its competitive advantage and improve firm's performance. Specific resources and capabilities will be very costly for competitors to replicate them (Barney, 1991; Wernerfelt, 1984). In view of this, RBV has a significant and independent impact on the fields of strategy and Strategic Human Resource Management (SHRM). More importantly, it has provided a theoretical bridge between strategy and SHRM. Managing internal resources to gain competitive advantage involves the effective use of human resource tools and techniques to manage people addressing issues related to their knowledge, learning, capabilities,

and competencies. In view of the changes in the economic structure in the age of IR4.0, there is a high demand for soft skills. However, according to Kraaijenbrink (2011), the individual-specific skills are shared by industries and firms, are not considered as resources of the firm according to RBV, future studies should consider the contributions of individual-specific skills to a firm's SCA. Similarly, DAS and Kodwani (2018) also suggest considering soft skills as internal resources / capabilities that could create an impact on performance and contribute to firm's CA. However, there is a lack of empirical evidence in this area.

2.3 Human Capital, Skills, and Development

2.3.1 Human Capital

Human capital is a sine qua non (essential, absolutely necessary) of organisational activity. Even in the most machine-dominated organisation, some human intelligence and creative effort is needed to devise goals, locate capital, establish systems, and monitor performance (Boxall, 2011). According to Schultz (1961), knowledge, skills, and abilities are human capital acquired by individual via education and training. The capital is a result of firm's investment that is used to enhance the productivity and welfare of an employee. He considers both formal education and training as important tools to improve the capacities of human capital. According to Becker (1964 & 1975) knowledge, skills, and experience are human capital of individual. It is neither physical capital nor financial capital.

Generic knowledge and skill accumulated through working experiences and education are “general human capital”. It is of “transferable” characteristics across jobs, firms, and industries. “Specific human capital” includes learning techniques distinctive to a particular firm, as it takes into consideration the needs of firms and the resources available, such as training facilities in the firm. Becker (1993) described human capital as the most long-lasting capital. Unlike physical and financial capital which changes ownership, individuals’ skills, health, and values stay with them. Snell and Dean (1992), and Youndt, Subramaniam, and Snell (2004) suggested individuals to invest in education and training to enhance their skills, experience, abilities, and knowledge as they are of economic value to the company. Other researchers, such as Rastogi (2000), Yusoff, Jantan, and Ibrahim (2004), Cai (2013), and Bae and Patterson (2013), described human capital as a form of intellectual capital that helps organise development activities, to improve firm productivity and competitiveness. It can be enhanced by investing in HRM practices. According to CIPD (2017) most human capital studies are focused on knowledge, skills, and abilities of individual. Lado and Wilson (1994, cited in Kaur & Kaur, 2020, p.1) commented that “resource-based view (RBV) is directly linked with firm’s human capital, such as employee’s skills, abilities and capabilities”. Pasban and Nojedeh (2016) suggest employees in higher level management should enhance soft skills, to sustain firm’s competitiveness - this indicates the importance of soft skills. It is even more critical to acquire these skills in the new age of IR4.0. In this context, Flores, Xu, and Lu (2020) used the term “Human Capital 4.0” to describe human capital competencies of the future

workforce. They are expected to exhibit interconnectivity and self-adaptability at the workplace through flexible and social interactions. The cognitive workforce should demonstrate self-autonomy and management of complexity through increased learning and experience. This emotionally intelligent workforce is also expected to undergo change adaptations through proper motivation and perspective development. In addition, multicultural collaboration dexterity is needed in future intercultural organisational networks.

This study is focused on soft skills of employees, part of human capital at individual level, which can contribute to organisational level capabilities.

2.3.2. Classification of Skills

Literature indicates that skills is an attribute of human capital (Becker, 1964 & 1975; Belderbos, 2020; Flores et al., 2020; Hassan, Rymbai, & Bhat, 2019; Cai, 2013; Schultz, 1961; Snell & Dean, 1992; Youndt et al., 2004; Yusoff et al., 2004). Skills are employees' abilities such as technical and behavioural competencies, which include self-concept, traits, and motives for performing tasks (Bruecker, Bergh, Belien, & Demeulemeester, 2003; Vathanophas & Thai-Ngam, 2007).

There is no consensus on the classification of skills. Some of the past studies classified them into hard and soft skills, while others classified skills as cognitive, non-cognitive, and technical skills (World Bank, 2014). In general, hard skills are referred to technical and basic knowledge; soft skills are both intra-personal and inter-personal skills (Andrews & Higson, 2008; Laker & Powell, 2011; Oladokun & Gbadegesin, 2017; Sarker, Hashim, Haque, Sharif, & Judhi, 2019). Skills preference varies by industry. For instance, in IT industry, soft skills are as important as technical skills (Patacsil & Tablatin, 2017). Production-based industry put more emphasis on technical skills to improve production efficiency, but not all production-based industries are machine-driven, as human beings play an important role in the motivation and work production of achieving organisational goals (Sarker et al., 2019). Hossain, Alam, Alamgir, and Saat's (2020) study provided empirical evidence of both soft skills and technical skills being positively related to employability and employers preferring employees equipped with both technical and soft skills. In contrast, literature also indicates that compared to hard skills, some employers prefer soft skills and many find existence of soft skills gap at the workplace (Abbasi, Ali & Bibi, 2018; Behle, 2017; Bhal, 2015; Grugulis & Vincent, 2009; Hack-Polay, 2020; Ibrahim, Boerhannoeddin, & Bakare, 2017; Malik & Venkatraman, 2017; McMurray, Dutton, McQuaid, & Richard, 2016; Sarker et al., 2019; Stasz, 2001).

2.3.3 Soft Skills

The term “soft skill” was introduced in 1972. It was only commonly used in the early 1990s. Moss & Tilly (1996, p. 253), defined “soft skills” as “skills, abilities and traits pertaining to personality, attitude and behaviour”. They are “non-technical skills” - generic, transferable, and work related. Examples of soft skills are: “critical thinking”, “decision-making”, “self-reflection”, and “leadership skills”, “attitudes”, “interpersonal skills”, “ability to manage resources”, “problem-solving”, “teamwork” , and “communication skills” (Hack-Polay, 2020; Jackson & Chapman, 2012; Stasz, 2001). They exist in different forms to complement hard skills and enhance personality, social relationships, and performance (Rao, 2014; Zaman, Sarker, & Akhter, 2018). Yet, they are not easy to observe, quantify, and measure (Grugulis & Vincent, 2009; Ibrahim et al., 2017).

2.3.3.1 Soft Skills in Demand

To stay competitive in today’s business world, soft skills are needed in addition to hard skills (Ibrahim et al., 2017). According to Mitchelle et al. (2010, cited in AbuJbara & Worley, 2018, p.251), the demand for soft skills varies across countries and industries. For instance, in IT industry, “teamwork”, and “communication skills” are essential soft skills (Akman & Turhan, 2018; Patacsil & Tablatin, 2017). Abbasi et al.’s (2018) study showed that employers in the

banking industry have high preference for soft skills in categories of "listening", "problem-solving", "communication", "interpersonal", "analytical", "self-management", and "critical thinking".

Even though different countries have different demands for soft skills, employers across the globe have placed "problem-solving", "teamwork", and "communication skills" as the top three most demanded skills (ISE, 2018). Past studies also indicated the critical soft skills demanded by employers from various industries are: "problem-solving", "personal qualities", "work ethics", "attitude", "creativity", "trustworthiness", "reliability", "motivation", "communication", "willingness to learn", "teamwork", "analytical", "interpersonal"; and "leadership" (Akman & Turhan, 2018; Bak, Jordan, & Midgley, 2019; Chaaya, Abou Hamad, & Beyrouthy, 2019; McMurray et al., 2016; Patacsil & Tablatin, 2017; Subramaniam & Youndt, 2005; Suleman, 2016). "Entrepreneurship skills" was found to be the least demanded by employers (Ngang, Chan, & Vetriveilmany, 2015).

Several studies on soft skills demand have been conducted in Malaysia. For instance, the study conducted by Hairi, Ahmad, and Razzaly (2011) on 150 employers comprising local and multinational companies participating in university career fair, showed that "communication", "creativity", "critical thinking", "teamwork", "decision-making and problem-solving skills" are highly valued by employers. Rasul, Rauf, & Mansor (2013) conducted a study on 107

employers from five types of manufacturing sub-sectors. The findings indicated the highest mean score by employers in the manufacturing industry is given to "thinking skills", "integrity", "customer service", "leadership", "creative/innovative thinking and problem-solving skills". Nordin, Md Nasir, Noordin, and Buntat's (2013) study on 97 employers from the electronics sector in Klang Valley reported "communication", "creative thinking", "problem-solving", "leadership skills", "teamwork", "work attitudes", "personal traits" and "self-management skills" are skills of high demand by employers. Chan, Ahmad, Zaman and Ko (2018) studied 182 randomly selected manufacturers from Batu Pahat. The survey results showed that "communication", "problem-solving", "adaptability", "interpersonal skills", and "teamwork" are the top five skills most needed by employers. This study also shows that there is no significant difference in the type of manufacturing sector towards the perception of importance of these employability skills.

As noted from the above reviews on soft skills demands conducted in Malaysia, the results of most of these studies were unable to generalise for the entire manufacturing industry in the country as most of these studies were conducted on either selected sub-sector or region.

As reviewed in previous chapter, the WEF report (2016) highlighted that the top ten skills to meet the demands of future jobs in 2020 in the IR4.0, are: "complex problem-solving," "critical thinking", "creativity", "people

management", "coordinating with others", "emotional intelligence", "judgement and "decision-making", "service orientation", "negotiation", and "cognitive flexibility". It is worthwhile to note from WEF (2016) report that "emotional intelligence" which did not appear in the top ten skills demand in 2015, was viewed as an important skill in the future. The recent WEF's (2020) report on "Future of Jobs" further emphasises the high demand for "emotional intelligence", "critical thinking and problem-solving skills". Literature also demonstrates that "emotional intelligence" is one of the most critical areas of soft skills, as employees not only work, they need to interact with others. Emotional intelligence of employees can be an essential behavioural asset and a crucial element to contribute to firm's competitiveness (Bhal, 2015; Hutchins & Rodriguez, 2018; Urhan, 2018).

Notwithstanding the areas of soft skills as mentioned in the past studies, most employers are also looking for candidates with good communication skills, especially English, an important element of communication in Malaysia. English language proficiency and the ability to acquire global knowledge are key skills required for personal growth, job performance and business progress and competitiveness (Akman & Turhan 2018; Bae & Patterson, 2013; Krish, Meerah, Osman, & Ikhsan, 2012; Ngah, Mohd Radzuan, Fauzi, & Abidin, 2011; OECD, 2016; Singh & Chuah, 2012; World Bank, 2013).

The importance of English language proficiency is supported by the recent remarks of Zainuddin, Pillai, Dumanig, and Phillip (2019) that English is a key factor in enhancing the employability of graduates. Employers also pointed out that graduates with multilingual skills are more confident. According to Bertolini & Goglio (2017) employers usually do not rely their recruiting decision solely on academic credentials as indicators of candidates' future performance, but they also consider candidate's soft skills. Some employers prefer applicants with average skills in all areas over those who are excellent in one domain but have poor skill levels in all others and graduates with low academic performance might enhance their employability if they have a strong command of English language. In the same context, the inadequate English proficiency of graduates is a concern in Malaysia, and it has been studied extensively by researchers (Nor, Razali, Talib, Sakarji, Saferdin, & Nor, 2019; OECD, 2019b).

Notwithstanding the above, Bertolini & Goglio's (2017) study also provided empirical evidence of both large and small companies having common traits which influence their decision in recruiting new employees, that is they value candidates with good "interpersonal", "reliability", "motivation to lead", and "adaptability to changes" skills.

2.4 Soft Skills Deficiencies: Skills Shortages, and Skills Gaps

2.4.1 Skills shortages

Employers often encounter skills shortages which lead to recruitment problems or "hard-to-fill vacancies", as workers lack proper training, qualification and experience (European Employment Observatory (EEO), 2001; Haskel & Martin, 1993; Hogarth & Wilson, 2003; Lobo & Wilkinson, 2008). The two types of skill shortages - "cyclical shortages" and "structural shortages". "Cyclical shortages", are short-term shortages which occur due to uncertainties and costs adjustment such as increase in production. Employers usually resolve this situation using "market response" strategy. They increase wages and / or send signals to the labour market to hire more workers and bring the market to equilibrium. On the other hand, "structural shortages" occur due to changes in the nature of the economy such as rapid growth of demographics, technology and emerging industries, the skills of employees do not match the skills required. "Structural shortages" are more difficult to resolve through market response, because the available labour force may not have the necessary skills, and it may take a considerable amount of time to develop these skills. The shortage of skilled labour not only affects productivity; it has been shown to be detrimental to the business performance of individual organisation, and the economy as a whole (Fang, 2009).

Causes for skills shortages could be due to external or internal factors. External factors, such as availability of a pool of labour, housing costs and local unemployment, are beyond the control of the firms. Internal factors encompass wage, industrial relations, firm's structure, and firm's flexibility in production arrangement. When the firm's demand is low, the firm is more flexible in its employment practices. On the other hand, areas with low unemployment rate, high educational attainment and house prices will have less skills shortages (Haskel & Martin, 1993).

2.4.2 Skills Gaps

Holzer (1997, p. 6) defined the term "skills gap" as "the gap between the skills required by employers and the skills of workers in the workforce". It also describes the extent to which employers believe that the skills possessed by existing employees are insufficient to meet their needs (Hogarth & Wilson, 2003; Rathelot & Van Rens, 2017). It is also referred to the situation in which differences exist between the skills needs of an organisation and the capabilities of its existing employees, and where some skills may be perceived more important than others (Australian Institute of Management (AIM), 2009). Ayodele, Oladokun and Kajimo-Shakantu (2020) described skills gap as the difference between employers' expected skill level and the observed skill level demonstrated by the employees. To develop skills, one must be aware of the skills gaps

(Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000; Tsirkas, Chytiri, & Bouranta, 2020; Urquía-Grande & Estébanez, 2020).

2.4.2.1 Soft Skills Gap in Graduates

The skills gap between graduates' skills and employers' expectations is a global and universal problem. As shown in the study conducted by ISE (2018) with employers in Western Europe, Eastern Europe, North America, Asia Pacific, Latin America, Africa and the Middle East, the three most important skills that employers consider are: "problem-solving", "teamwork", and "communication" skills. There is a large gap in "problem-solving" skills, while "teamwork" is the skill meets expectations of employers. Their study also shows that large companies are more satisfied with the skills possessed by the employed graduates. This may suggest that these companies are more attractive to high-performing students or they have a better selection process at identifying the skills they require in graduate hires. In contrast, other studies showed that skills gaps of graduates existed in "communication" and "teamwork" (Ngang et al., 2015; Singh, Thambusamy, & Ramly, 2014), and also that of "listening", "problem-solving", "leadership", "interpersonal", "analytical", "self-management", "emotional intelligence", and "critical thinking" (Abbasi et al., 2018; Balcar et al., 2018; Dean & East, 2019; Suleman & Laranjeiro, 2018). The recent study of Ayodele et al. (2020) indicated skills gaps exist in areas of "responsibility", "administrative

capabilities", "listening", "communication", "business negotiation" and "work ethics" among graduate employees.

Skills gaps not only affect personal earnings and productivity, it also leads to high unemployment rate which will result in major financial implications for a country's economic growth (Albandea & Giret, 2018; Ayoubi, Alzarif, & Khalifa, 2017; BNM, 2016; Ibrahim et al., 2017; Jackson & Chapman, 2012; McMurray et al., 2016; Rathelot & Van Rens, 2017; Suleman, 2016; WEF, 2014).

2.4.2.2 Causes of Soft Skills Gap

Causes of skills gap in graduate workforce include (i) Lack of emphasis on soft skills development in higher education institutions (ISE 2018; Truong, Laura & Shaw, 2018). The unequal development of soft skills and hard skills in education as compared to soft skills, hard skills are considered more productive in the educational value; (ii) Poor collaboration among stakeholders - areas of soft skills required in the labour market are not clearly understood (Balcar, 2016;. Suleman (2016); Belderbos (2020). This has resulted in the soft skills curriculum designed by higher education institutions not being in pace with employers' demand (Horstmeyer, 2020; ISE, 2018; Truong et al., 2018); (iii) Lack of adequate training and appropriate transfer of skills (Udofia, Ekpo, Nsa, & Akpan, 2012). The study of Udofia et al. (2012) also provided empirical evidence for the relationship between facilitator's quality and experience, teaching methods,

workshop equipment, learning materials, and employment skills acquired by students; and (iv) lack of investment by employers and inappropriate strategies for training employees' soft skills (Urban Alliance, 2019).

Hence, to bridge the skills gaps in the industry, employers should first re-evaluate the direction of their companies, existing resources and resources needed for the change. They should send the signals about the skills gap to the students through educational institutions and design training plans for employees to address the skills challenge in the short term (Balcar, 2016; James, Warhurst, Tholen, & Commander, 2013; Odhon'g & Omolo, 2015; Tomlinson, 2017; Truong et al., 2018). However, in the long term, internship programmes and development plans can help close graduate skills gaps (Balcar, 2016; Jackson & Chapman, 2012; Suleman, 2016). ISE (2018) further suggested that skills gap being a worldwide issue, employers across the globe should share their challenges and best practices in bridging the gap.

2.4.3 Methods to Measure Skills Gap

Past studies have used various methods to analyse the extent of skills gap. For instance, Abbasi et al. (2018) compared the difference between the expected levels and employers' perceptions of the specific attributes of Pakistan's banking business graduates, to determine skills gaps. Patacsil and Tablatin (2017) compared the mean difference between IT students' and companies' perceptions

of the importance of technical and soft skills to establish a gap. In contrast, Tsirkas et al. (2020) compared employees' self-assessed soft skills with employers' expectation to identify skills gaps. It was found that compared to employers' scores, the employees overestimated their soft skill levels. In addition to interviews with graduates and interns, Phan et al. (2020) also included data from multiple job posting sources such as advertisements, project, website, and other secondary data sources, for their gap analysis of accounting graduates from three South East Asia countries (Malaysia, Indonesia, and Vietnam). Using electronic survey, Chaaya et al. (2019) studied the skills gap by comparing employers' perception scores of the importance of skills (soft skills, technical skills, and digital skills) with satisfaction employees' performance.

The above literature on methods to measure skills gap is summarised in Table 2.1. Some major findings are discussed in the following paragraphs.

Table 2.1: Methods Adopted by Past Studies to Measure Skills Gap

Author(s) & Year	Methods of Analysis	Respondents
Patacsil & Tablatin (2017)	Compare the perceptions of importance of skills	Employers and students
Abbasi et al. (2018)	Compare the perceptions of expected level and level of competencies of fresh graduate employees	Employers
Chaaya et al. (2019)	Compare perceptions of the importance of skills (soft skills, technical skills, and digital skills) and satisfaction of employees' performance	Employers
Tsirkas et al. (2020)	Compare employers' expectations with employees' self-assessments of soft skills.	Employers and Employees
Phan et al. (2020)	Analysis of data collected from multiple sources (advertisement, project, website, and other secondary data sources) to explore the relationship between the skills expected by employers and the attributes of graduates acquired during their studies at HEIs	Employers

As described by AIM (2009), skills gap is the gap between a firm's skill needs and its current employees' competencies. The summary above notes that comparing skills in demand and skills possessed / competencies of employees is the method used for skills gap analysis adopted by Abbasi et al. (2018). Moreover, despite a variety of methods being implemented to collect data on employability skills and skills gaps, employers' perceptions are important to the study of the skills needed, workforce's competencies and skills gap (Abbasi et al., 2018;

Patacsil & Tablatin, 2017; Phan et al., 2020; Tsirkas et al., 2020). Respondents are normally asked to rate the importance/ expectations of various soft skills areas and their satisfaction / perception of the competencies of their existing graduate workforce on a Likert scale. These past studies on gap analysis thus defines the difference between the expectations and perceptions of the respondents.

In addition, Antonucci and d'Ovidio's (2012) study showed that the necessity for firm to assess the competencies of employees to improve the use of available human capital. The skills gap analysis is a useful instrument to assess competencies. By conducting skills gap analysis, firm can find out skills in demand and the skills and knowledge lacking in the organisation. Firm can use the findings of the analysis for training plans to help employees enhance their skills / knowledge, which leads to firm performance. For employees, results of skills gap analysis can be used as references for training and personal development, or to support evaluations. Moreover, firm can use skills gap analysis to find out candidates' competencies in the recruitment process to match skills and tasks. The skills gap analysis can use paper-based assessments such as questionnaires surveys, to support interviews.

The above literature review demonstrates that firms are urged to assess competencies of employees and skills gap analysis is the most common and preferred tool used to study skills gaps. Therefore, this study decided to use skills

gap analysis to investigate skills gaps. Employers' expectations of skills in demand and perceptions of employees' competency level were compared.

Nevertheless, according to Chaaya et al. (2019), most of the past studies on skills gap using Likert scale to rate employers' perceptions and expectations and relied on descriptive statistics to report the importance of employees' skills and competencies. Similarly, this study used descriptive statistics to report the results of the skills gap analysis.

2.4.4 Past Studies on Skills Gap Conducted in Malaysia

Past studies on skills gaps conducted in Malaysia include Zaharim, Omar, Basri, Muhamad, and Isa's (2009) study. Zaharim et al. (2009) conducted structured interview and used questionnaires to collect data from employers in various industries (medical, entertainment, entertainment & leisure, education, commerce, food, communication, finance, information technology, security, built environment, and transportation). Skills gap analysis was performed to compare the skills in demand and employers' satisfaction with regard to competencies of engineering graduate employees. Similarly, Seetha (2014) also conducted a mixed mode study (interview and questionnaire) to find out the employability skills in demand by employers and skills gap in the entry-level graduate workforce. Descriptive analysis was used to describe responses and observations through percentage distribution, frequency and mean. For qualitative study, five

respondents were chosen from different industry sectors (banking, legal, training, multinational company, and manufacturer). For quantitative study, online survey was used to find out perceptions of employers on importance of soft skills and their satisfaction with the competencies of new graduate employees. Questionnaires were sent to more than 100 managers from different sectors (manufacturing, banking, legal, pharmaceutical, hotels and higher education institutions) located in Kuala Lumpur, Selangor, and Negeri Sembilan. There were 95 responses. In addition to using questionnaires for the study, five interviewees from each industry were also arranged for the interviews. Zainuddin et al. (2019) also used mixed method (interview and questionnaire) to find out the differences between the university students' perceptions and employers' expectations. Twelve respondents (HR staff and managers) from 12 organisations (small and medium-sized enterprises, multinational companies, non-governmental organisations, government agencies and statutory agencies, government-affiliated companies) to explore the industry's demand for soft skills and English language proficiency from entry-level employees. Thematic analysis was performed to analyse the interview data. Questionnaires were sent to 97 third year and 255 final-year students from different faculties in four public universities in Malaysia. The differences between the employers' and students' expectations were established. In another study, Daud, Abidin, and Sapuan (2010) used questionnaires to collect data from employers in various industries in Malaysia on the importance of identified hard and soft skills as well as graduates' performance. Respondents were from manufacturing (19), construction (8), services (64),

information technology (1), heavy industry (6) and other industries (2). Kenayathulla et al. (2019) examined the competencies of 841 graduating students in hospitality programmes (culinary and bakery) from 22 vocational colleges in Malaysia. Respondents were asked to rate the importance of the identified areas of soft skills and their competencies in these areas of soft skills. Descriptive analysis was conducted on the data collected.

In summary, as noted from the above skills gap studies conducted in Malaysia, most researchers compared perceived importance and the competence of employees or students based on perceptions of employers or students or employees.

2.4.4.1 Generalisation of the Findings of Local Studies

As noted from the above studies conducted in Malaysia, skills gap analysis was conducted on data collected from students, employees, and employers. However, in one study, most of the research samples were collected from respondents in heterogeneous industries, for instance data collected by Daud et al. (2010), Seetha's (2014) and Zainuddin et al. (2019). It is difficult to generalise these survey results with confidence because many surveys are based on relatively small samples of specific industry sector / sub-sector. The conclusions of most of these studies also did not provide national quantitative statistical evidence.

Moreover, some of these studies were conducted before IR4.0, such as studies of Daud et al. (2010), Seetha (2014) and Zaharim et al. (2009).

2.5 Training and Development (T&D)

To sustain firm's competitive advantage in an era of fast paced global and technological developments, firms should be vigilant to align their T&D to produce a productive and competitive workforce who can effectively contribute to firm's performance (Abdullah, 2009; Ameeq-ul & Hanif, 2013; Berge, 2008; Dean & East, 2019; Rahman & Nas, 2013).

"Training" seeks to meet organisational objectives and business needs by focusing on daily activities to bridge the skills and knowledge gap of employees (Ludwikowska, 2018; Vinesh, 2014). The time span of training may vary, yet, it should be an on-going activity (McDowall & Saunders, 2010). '

"Development" refers to the long-term strategic activity of employees to fulfil future roles and responsibilities and the changing organisational goals. A development programme can be either a formal or informal activity performed on the job or outside of the workplace (Elnaga & Imran, 2013; McDowall & Saunders, 2010; Stam & Molleman, 1999; Vinesh, 2014). Rahman and Nas (2013) described "employee development" as the collaborative and consistent effort of employee /employer engagement to improve employees' attitudes, knowledge, experience, skills, and abilities. The worth of investment in employee

development is shown in the productivity and effectiveness of the trained employees.

Alhalboosi's (2018) review on human resource development indicates that "training" focuses on current jobs, while "development" is on the future. Hence, T&D is defined as "a process that aims at the development and improvement of human resources through continuing education to support them with core qualifications to perform their functions effectively" (Alhalboosei, 2018, p. 6) Firms that conduct ongoing T&D aim to strengthen the capabilities of human resources for purpose of completing current and future tasks.

Approaches of T&D include reactive, proactive, and active learning. Reactive approach refers to traditional training such as classroom training for technical skills and brick-and-mortar course learning. These trainings are event-oriented activities. On the other hand, in the proactive approach, training activities are conducted in alignment with corporate business strategy for development of employees' competencies. In the active learning approach, a facilitator will guide the trainees to learn through exploration in problem-solving issues (Vinesh, 2014).

2.5.1 Soft Skills Training and Development (T&D)

Firm conducts soft skills training to sustain firm's competitiveness while hard skills are taught to complete the work (Ibrahim et al., 2017; Bhal, 2015).

Hence, the training design, evaluation and measurement of soft skills and hard skills training would be different (Laker & Powell, 2011). Hard skills training is more limited to training employees on the basis of knowledge. In contrast, the setting for soft skills training is undetermined, it is given to address specific needs (Laker & Powell, 2011; Botke, Jansen, Khapova, & Tims, 2018). Similarly, a standard approach does not support the development or measurement of soft skills, due to their complex definition and assessment (AbuJbara & Worley, 2018). This finding is supported by Mahadevan and Yap's (2019) study which demonstrated that that there is no "one training" method which is effective to all trainees and all types soft skills training. Hence, Human Resource department should constantly evaluate the best training approach.

It is not easy to transfer the soft skills acquired via training to the workplace. Yet, if these acquired skills are not applied in the workplace, it would be a waste of resources (Botke et al., 2018). Jackson, Rowe, and Fleming (2019) used the term "learning transfer" to describe the degree to which a learner applies the knowledge and skills acquired through on-the-job learning. There is a lack of empirical study on learning transfer because it is difficult to evaluate whether the learned knowledge and skills are applied in the actual workplace. In view of this constraint, most training results have underestimated the value of soft skills training (Onisk, 2011; Rao, 2014). It is noteworthy that most of the past studies on skill training at work, did not specify whether they were soft skills or hard

skills (Laker & Powell, 2011). Yet, it is important for firm to evaluate the benefit from soft skills acquired by employees (AbuJbara & Worley, 2018).

Despite the fact that soft skills are transferable skills that can be trained and learned (Goodwin, Goh, Verkoeyen, & Lithgow, 2019; Ibrahim et al., 2017; Jain & Anjuman, 2013), soft skills T&D is typically scattered, insufficient or not conducted in higher educational programmes around the world. According to Bertolini & Goglio (2017), employers were reluctant to bear the costs of soft skills training and they would prefer to use the training offered by the government for human capital development. Yao and Tuliao's (2019) study indicated that soft skills acquired by graduates at university will contribute to their employability. However, past studies indicated that despite a rising awareness of the significance and high demand for soft skills as well as concern for graduates' employability, there is a scarcity of training opportunities for students to enhance their soft skills (Balcar, 2016; Belderbos, 2020; Steyn, 2020; Suleman, 2016). In the same context of study, Ahmad, Ahmad, and Ameen (2020) demonstrated that professionals too, find limited opportunities for continuous professional development (CPD) of soft skills. The above studies concur with the comments from International Youth Foundation (2013) that companies worldwide do not consistently provide or give priority to employees to enhance their soft skills as these skills are difficult to quantify. Moreover, entry-level and contract employees will have less opportunity to attend soft skills training compared to management and supervisory staff. (CEGOS & American Society for Training & Development (ASTD), 2011).

There are controversial arguments on the value of soft skills and hard skills T&D. For instance, according to Mishra and Smyth (2015), soft skills training complements specific training and improves firm performance. This means that soft skills training is not only a complement to hard skills, it brings benefits to firm. On the other hand, Grugulis and Vincent's (2009) study found that these two skills do not necessarily complement each other. Despite these controversial results, Kessler and Lülfesmann (2006) recommended firms to invest in training of both skills because these two investments interact.

This has an implication on the need to develop performance tools to measure outcomes of soft skills training, to gain employers' confidence on the worth of their investments.

2.6 Training Phases: Training Needs, Training Objectives, and Training Evaluation

Effective T&D plans will increase the productivity and quality of work (Niazi, 2011). Likewise, to build soft skills effectively, the training must be properly designed and conducted to focus on the desired outcomes (ElShenawy, 2010). Most of the past studies have included the three phases of training process in T&D strategies, namely training needs, training objectives, and training evaluation in T&D strategies (Aguinis & Kraiger, 2009; Chi, Wu, & Lin, 2008; Hughey & Mussnug, 1997; Úbeda-García, 2005; Úbeda-García, Marco-Lajara, Sabater-Sempere, & García-Lillo, 2013; Úbeda-García et al., 2014).

Ludwikowska (2018) argued that effective training process should consist four phases namely training needs analysis, training delivery, training evaluation and training transfer. According to Kirkpatrick (1996 & 2014), characteristics of training include "training objectives, training design, and evaluation to ensure learning outcomes are achieved". "Training characteristics" study of Iqbal, Maharvi, Malik, and Khan's (2011) include "learning needs, training objectives, training contents, training methods, training environment and training management, and training evaluation". Aldrich (2002) identified training characteristics as training attributes which affect training results. Firms need to make long-term planning and adjustment in order to see the positive results of training (Barba-Aragón, Jiménez, & Sanz, 2013). Training policy is always used to study the firm's learning and it impact on performance. Although its impact on human resource outcomes and firm performance is not decisive, it will produce a different orientation which is shaped by the company's training policy (Úbeda-García et al., 2014).

2.6.1 Training Needs

Training needs is a key step in the training process. It has great influence on the efficiency of the training programmes and effectiveness of training policies to improve the individual and organisational performance (Alnidawy, 2015; Otuko, Gabriel, & Douglas, 2013). Training needs assessment, the first and most important phase in workforce development (Ogunade, 2011), defines the

problems that training is expected to solve, and identifies who needs the training (Ibrahim et al., 2017; Niazi, 2011). It provides the levels of skills deficit or surplus and equips workers with the knowledge, skills, and attributes that are best suited for the job in order to achieve the best performance. Training needs analysis reduces the gap in skills mismatch, and balance acquired skills with the required skills level. Recognises what, where, how and when of any training activity in order to accurately match the acquired and required levels of collective management skills that can stimulate employees to achieve organisational goals and effective performance. Insufficient training needs analysis will affect the formulation and implementation of effective training plans, and result in poor training (Khan & Masrek, 2017; Ludwikowska, 2018; Zheng, 2014). Hence, to utilise firm's training resources efficiently, firm needs to put effort in training needs assessment (Tao, Yeh, & Sun, 2006). The study of Otuko et al. (2013) indicates assessment of training needs influences employees' performance. This means that a proper analysis of training needs analysis will improve employee performance. In the same context, Ludwikowska's (2018) study results demonstrated a positive correlation between "training needs analysis" and "training transfer" of training phases and "employee efficiency". This shows that if "training needs analysis" is conducted appropriately, employees will be more efficient after participating in the training. Researchers such as Chang, Chiang, and Chen (2012) and Zheng (2014) suggested firms to conduct training needs analysis from the perspectives of organisation analysis (O), task analysis (T) and person analysis (P). Organisation analysis investigates aspects like integral

development strategy, business environment, technique, resources of organisations and atmosphere where organisations are evaluated, and factors such as long-term objectives, short-term goals, and business plans are analysed. Task analysis targets all work tasks of the organisation and obtains the knowledge, skills and attitude needed to complete the tasks. Person analysis includes employees' personal training needs to complete tasks and to reduce skills gap.

The measurement of training needs included firms' identification of current and future needs of skills, knowledge and attitudes and the training requests expressed by employees (Úbeda-García et al., 2014). Similarly, Otuko et al. (2013) included knowledge, skills, and abilities for employees' personal growth and those needed by organisation to perform tasks. Wickramasinghe (2006) used Likert scale to find out the purpose of training needs (such as from immediate boss, compulsory training requirement).

2.6.2 Training Objectives

Firm based on the results of training needs analysis (TNA) to make decision on objectives of T&D to improve job performance (Ibrahim et al., 2017; Kuchervo & Manokhina, 2017; Otuko et al., 2013). Kirkpatrick and Kirkpatrick (2008, cited in Diamantidis & Chantzoglou, 2012, p. 891) indicated that training goals / objectives should be formulated to help employees realise that the goals of the training programme are to help them improve their knowledge and skills to enhance job performance. Diamantidis and Chantzoglou (2012, p. 905) pointed

out that “training goals / objectives affect learning outcome and training usefulness through three training components, namely, training content, process and material. Hence, at the initiation of the programmes, the objectives and desired outcomes must be specified clearly. Effective training programmes that focus on skills and competencies should also have their goals/objectives involve the feelings and emotions of trainees to enhance their behaviours, as it will not only aim at improving employees’ performance – but it also reduces skills gap and, hence, improve organisational performance.

To measure training objectives, Úbeda-García (2005), Úbeda-García et al. (2013 & 2014)), used the Likert scale to measure items related to describing training objectives which include: “increasing firm’s productivity levels”, “developing a multipurpose character for the workforce”, “having a better knowledge of the firm’s culture and objectives”, “motivating collaborators and enhancing satisfaction at work”, “increasing employee participation in the firm’s management” and “transferring and sharing the new knowledge generated by the organisation”. Iqbal et al. (2011) used Likert scale to collect trainees’ perceptions of the training whether it had been designed according to its objectives, such as covering training needs. Wickramasinghe (2006) used questionnaire to confirm “existence of setting training objectives”, “criteria used to set objectives” (“to improve skills / abilities, knowledge / understanding , attitudes”, “to complete a project”) and “how they were utilised” (“to choose the type of training

programmes", "to provide an overview of what participants are going to learn" and "to explain expected learning outcome").

2.6.3 Training Evaluation

The outcome of the training programme should be measurable and tangible (Sahni, 2011). Training evaluation is a critical component of effective T&D (Aragón-Sánchez, Barba-Aragón & Sanz-Valle, 2003; Úbeda-García et al., 2014). Firms are more likely to evaluate training conducted in the firm than those attended outside the firm (Bächmann, Abraham, & Huber, 2019). Past studies showed that evaluation of training includes: investigate the relationship between acquired knowledge, workplace knowledge transfer, appropriateness, adequacy, and effectiveness of training programmes, training methods, trainer's quality, and expenses of training (Bächmann et al., 2019; Kucherov & Manokhina, 2017; Kunche, Puli, Guniganti, & Puli, 2011; Iqbal et al., 2011; Olexová, 2017; Otuko et al., 2013; Tharenou et al., 2007). According to Puad (2018) evaluation of a soft skill training should include programme objectives, trainees' learning attitude, and employer's participation in evaluation, planning, implementation, and outcomes.

Literature emphasised the need for a complete process in soft skills training to successfully transfer the acquired skill and knowledge to workplace. This involves the pre- and post-training having the range from advanced appraisal

system to planning for personal growth. However, such immediate evaluation is for soft skills training is impracticable as pre- and post-assessment processes are insufficient to verify that learned abilities are properly transferred to the job. (Santos & Stuart, 2003).

The most widely used training evaluation model which includes reactions, learning, behaviour and results, was developed by Kirkpatrick. Effective training happens when improvement in employee's behaviour can be assessed such as "reduced absenteeism", "regularity", "timeliness", "team spirit", "increased communication", and "high-quality work". The competence level should improve, as the training goal is to improve proficiency for work performance. The four levels of Kirkpatrick's evaluation model are commonly used to measure : (i) participants' reactions towards the training, i.e. how they feel about the training (ii) learning, i.e. measurement of the improvement in knowledge or level of competencies from before and after training; (iii) behaviour – this refers to how well the learner implement what he or she has learned, and subsequently changed in their behaviour; (iv) results, i.e. to evaluate the impact of trainee's increased performance on the business or environment. Good evaluation should be able to prove that the programme is cost-effective, brings value to the organisation, and enjoyed by the participants; also, that it enabled the participants to enhance their skills, knowledge and attitude and led to the organisation operating smoothly and effectively (Mann & Robertson, 1996). Yet, most of the past studies focused on the effectiveness of T&D were conducted at the personal level, with only few

studies investigation its usefulness at the organisational level (Tharenou et al., 2007).

When measuring training evaluation, Úbeda-García et al. (2005) used the Likert scale (0-10 scale) to measure the eight items which describe the 'training evaluation' variables: (i) include training in firm's strategy and goals; (ii) trainees' knowledge; (iii) methodological design, contents, documents used and facilitator's performance; (iv) the expense of training and its influence on the business; and (v) employees' performance as well as whether the training is appropriate to meet training needs. Iqbal et al. (2011) used Likert scale to evaluate the aspects of 'reaction' (trainees' satisfaction with training objectives, content, instruction, delivery and trainers) and 'learning' (what participants have learnt from the training and trainees' opportunities for exchange of information). Wickramasinghe (2006) used Likert scale to find out employers' satisfaction with the improvement in trainees, trainees' department and in the company.

2.7 Training, Human Resource Outcomes, and Firm Performance

Since training involves costs, time and energy, scholars have consistently attempted to assess its impact on HR and firm performance (Hajjar & Alkhanaizi, 2018). As the investment in training increases, it is even more important to understand the impact of training on organisation (Bhal, 2015; Hajjar & Alkhanaizi, 2018). The literature demonstrated that investment in human capital

affects employees' performance, organisation's productivity and its profitability. However, the outcomes of these training investments are normally not disclosed in the annual reports (Ameeq-ul & Hanif, 2013; Fey & Björkman, 2001; Huang, Abidin, & Jusoff, 2008; Hughey & Mussnug 1997; Josan, 2013). Hence study should be conducted to evaluate its effects on trainees' performance and behaviour.

2.7.1 Training and Human Resource Outcomes

Training involves personal involvement, commitment and experiential gains, and competence. According to Hassan, et al. (2019) effective spending on human resource enhances productivity, employability and income which leads to higher economic growth. Effective training occurs when the employee's competence levels of measurable skills are enhanced with tangible outcomes which contribute to firm's financial stability (Hughey & Mussnug, 1997; Kaur & Kaur, 2020; Mahadevan & Yap, 2019). Kaur and Kaur (2020) categorised competencies as either visible or hidden. Technical capabilities are visible competencies that are easy to develop for job performance. Non-technical attributes such as personal traits and motivation are hidden competencies. They are excellent inherent core competencies for work achievement. Yet they are difficult to build. Training is the key that enhances workforce's skills, abilities, and attitude, which influence firm's performance.

Salah (2016) utilised the survey research design method to study the influence of training on employee performance and productivity of transport companies. The survey on 254 employees provided empirical evidence on the importance of investing in T&D as it would enhance the performance of employees and productivity.

According to Bhal (2015), hard skills were productive only when used together with soft skills. However, there is a dearth of understanding about the relationship between soft skills training and performance improvement. Similarly, Balcar's (2016) study showed on-the-job training in both hard and soft skills having positive effects on worker's productivity but it was not focused on soft skills alone. Other studies, however, argued that the influence of general training on employee performance is more significant than firm-specific training (Bapna, Langer, Mehra, Gopal, & Gupta, 2013; CIPD, 2017). In summary, these past studies provided support for the link between general training and HR outcomes (Balcar, 2016; Bapna et al., 2013; Bhal, 2015; CIPD, 2017; Tummers, Kruyen, Vijverberg, & Voesenek's 2015).

Ferguson and Reio (2010) described 'human resource outcome' such as job performance, a vital organisational outcome produced by HR inputs and processes. Motowidlo et al. (1997, cited in Ferguson and Reio, 2010, p. 476) defined job performance as "the value an organisation can expect from discrete behaviours performed by employees over time; behaviour is what people do and

performance is the anticipated organisation value of what people do". As reviewed by Thang, Quang, and Buyens (2010), the measurement of "employee performance" or "HR outcomes" used by past researchers include "employees' competencies", "effects on skills", "commitment", "behaviours", "sales per worker", "income of employee", "labour efficiency", "employee relations", "effectiveness", "efficiency", "innovation", "discipline", "cooperation", "work performance", and "work satisfaction". Katou (2008) used a 5-point Likert scale – "1= very bad to 5= very good" to measure the competence of HRM outcomes on skills ("employees' cooperation with management", and "cooperation among employees"), attitudes ("motivation", "commitment", and "satisfaction"), and behaviours ("retention" and "presence"). In studying the relationship between organisation and contingencies ("business strategies", "HRM policies", "HRM outcomes", and "organisational performance"), Katou (2011) used a 5-point scale to measure HRM outcomes ("cooperation with management", "cooperation with employees", "competence for skills", "motivation", "commitment", "satisfaction for attitudes", "presence for behaviour" and "employee retention"). Abdul-Halim, Che-Ha, and Geare (2009) commented that there is no agreement on the measurement of "HR performance". The common areas of interest for researchers and employers in the measurement of HR performance related to employees include competencies of skills, behavioural changes, work attitude, employee morale, job performance, satisfaction level, employee turnover, and cost reduction. Aragón-Sánchez et al. (2003) used three factors to measure the training impact on employees. They are: (i) employees' involvement (teamwork, engagement,

capacity to solve problems and adapt to changes); (ii) HR indicators which involve employees' attitude and behaviour such as motivation enhancement, better relationship, absenteeism, and turnover; and (iii)quality (product, service, customer and system). Their study showed that training enhances employees' performance. Úbeda-García et al. (2014) used three items to describe HR outcomes (workers' satisfaction levels, and work environment) which are measured using the Likert scale 1 (not contributed) to 10 (largely contributed).

2.7.2 Human Resource Outcomes and Firm Performance

According to Wuttaphan (2017) training is worth the investment as it not only shows enhancement in employees' knowledge, skills and abilities, it leads to employees being able to create greater value for the firm by working effectively and efficiently such as increase productivity, enhance customer satisfaction and quality of products and service. Mahadevan and Yap's (2019) study showed that the success of a firm is determined by its investment in improving workforce performance, as they are part of the assets of firm and its main success elements. The above study of Mahadevan and Yap supports Rodriguez and Walter's (2017) findings that firm will enhance its profitability and stay competitive if employees were to be given appropriate T&D and performance assessment. Another study conducted by Tummers et al. (2015) demonstrated that training, which improves employees' teamwork and participation in decision-making, will contribute to firm's success. It is evident from the study of Ferguson and Reio (2010), that both

behavioural changes and job performance, are key indicators of effectiveness in the HR system, and has an impact on firm performance. Salah's (2016) study provided empirical evidence that T&D has significantly influenced employees' performance and firm's productivity. Hence, firms should design appropriate plan to help employees enhance their skills. The recent study of Kitchot, Siengthai, and Sukhotu (2021) also provided empirical evidence that human resource's skills and abilities are resources to sustain firm's competitive advantage. The findings are consistent and provide evidences to support human capital theory and RBV, that investment in training enhances employees' performance in competencies, behaviours, and attitudes, which will influence firm performance with effective evaluation approach. The study of Sahoo and Mishra (2019) established the importance for trainees, who have acquired soft skills through training, to have the desire to apply them at work. Motivation is essential for training transfer, as trainees with the appropriate skills often lack the motivation to apply their acquired skills at work. For effective training transfer, it is essential to foster trainees with right attitude, to offer the right soft skills programme and to conduct soft skills training need analysis. With regard to this context, Mozael (2015) highlighted that knowledge and skills acquired by employees through training may be different from what is needed at workplace. Moreover, in some cases, employees may not be able to apply the acquired skills immediately to the task after training period. In other words, there is a gap in time between training and actual application to the task.

2.7.3 Training and Firm Performance

According to Tharenou et al. (2007), most studies on training focus on the evaluation of individual effectiveness, while there are only a few that look at organisational effectiveness. However, new evidence suggests that investment in training would improve organisational performance. For instance, Berge (2008) indicated that training will close the performance gap in the organisation, enhance on-the-job performance and improve its productivity and profitability. Úbeda-García et al.'s (2013) study showed that in the hotel industry, training strategy of a firm influences customer satisfaction, perceived financial success and productivity of the firm. Study of Odhon'g and Omolo's (2015) also showed that investments in training, education, knowledge, management, and skills development have a direct influence on organisational performance (financial and non-financial). Using quantitative research approach to collect data from 105 employees in Malaysian private companies, Shafiq and Hamza's (2017) study indicated that employees benefited in aspects of better job position, career life and enhancement of firms' efficiency from T&D. The study of Berber and Lekovic (2018) demonstrated firm's innovativeness being enhanced from T&D. Kaur and Kaur's (2020) study showed that human resource practice such as T&D will not only have their impact on firm performance via enhancement of skills, abilities and attitude of the workforce, they may have a direct impact on performance of firm through operational efficiencies. Dave and Sinha's (2020) reviews indicated

that training leads to positive organisational performance but has a weak effect on financial results.

Similarly, the study of Abdul Rahman et al. (2013) on Malaysian manufacturers indicated that the skills and knowledge acquired by trained employees brought about improved organisational effectiveness. In studying the relationship between T&D and organisational performance of multinational companies, Niazi (2011) selected a total of 100 employees from different departments of the multinational companies to answer the questionnaire. The survey results show that T&D has a positive relationship with organisational performance.

Retaining employees and their talents is an organisational concern. The recent study of Renaud and Morin (2020) provided empirical evidence that training can help to retain employees and to minimise the chances of them voluntarily leaving the organisation. These findings indicate that training enhances the profile of the company which contributes to firm performance and profitability. Similarly, the results of Cristiani and Peiró's (2018) study also support that training links to reducing the rate staff turnover and better organisational and financial outcomes.

The findings of the preceding research indicate that human capital investment directly influences organisational performance. Human capital

investment is also considered as a value-creating tool and a human capital risk management approach to achieve long-term organisational success.

Some studies, on the other hand, have failed to demonstrate a beneficial influence of training on improving organisational effectiveness because knowledge acquired from training not completely and adequately transferred and used in the organisation (Abdul Rahman et al., 2013). It has been criticised for being faddish, or excessively costly, and for not being adequately transferred and applied to the work and the organisation (Barba- Aragón et al., 2013; Abdul Rahman et al., 2013; Dermol & Čater, 2013; Hitt et al., 2001). Training that does not result in the expected employee behaviour may lower company performance due to the expenditure it incurs (Dermol & Čater 2013). There is a lack of empirical support training has no direct link with firm's performance, as these previous studies (Abdul Rahman et al., 2013; Barba-Aragón et al., 2013; Dermol & Čater, 2013; Hitt et al., 2001) were evaluations and opinions of writers.

In the context of knowledge / skills transfer, Laker and Powell (2011) described "training transfer" as the extent trainees applied knowledge and skills learned and improved job-related performance. According to Laker and Powell, compared with hard skills (technical) soft skills training is less likely to transfer from training to work. The mastery of soft skills usually requires continuous interaction or post-training guidance, which is rarely obtained. Hard skill learners are more likely to have a higher level of proficiency than soft skills learner. This

lack of “soft skills transfer” has resulted in an extremely expensive and waste of time, energy, and money. The findings of the studies of Botke et al. (2018), Kodwani and Prashar (2019), and Laker and Powell (2011) resonate. They stressed that training is beneficial only when employees apply the knowledge and skills they have acquired in training to their work and gain in their work. It is difficult to transfer soft skills training. The higher the transfer rate on-the-job, the more successful the training. As a result, training transfer is an essential indication of training efficacy.

Mizrahi (2004, cited in Clarke, 2011 p. 627), suggested that educated and trained people require an appropriate environment and incentives to utilise their acquired skills. This is quite lacking in developing countries. According to Botke et al. (2018) soft skills training transfer is influenced by work factors such as: (i) job-related factors, - relevance of the job, task autonomy and workload; (ii) social support factors, - the attitudes and behaviours of supervisors’, subordinates’ and peers regarding training and skills acquired; and (iii) factors relating to the promotion of learning in the workplace such as learning climate.

The impact of training on business results also depends on many other factors, such as time and practices (Aragón-Sánchez et al., 2003). Hughey and Mussnug (1997) also suggested that adults do not usually pick up new skills competency overnight. Time is required between training and sessions for contemplation and practice. In this context, Ibrahim et al. (2017) introduced the

term “time-space learning” in their study. “Time-space learning” emphasises the importance of providing time and opportunity to the trained employees to apply, practise and internalise their acquired skills at the workplace and to provide evidences on the improved work performance. Their empirical study, however, did not include firm performance. In addition, Tzafrir (2005) cited the risks in investing in training, such as employees leaving the organisation which results in a lack of effect of training on firm performance. Hence, Stasz (2001) and Tharenou et al. (2007) suggested that to successfully benefit from the skill T&D, policymakers must first identify and evaluate skills and their contributions to the economic performance. Notwithstanding the above, Kwon (2019) emphasised that training at its beginning level might not provide immediate results on firm performance.

In the context of training fails to improve firm performance, Thang et al. (2010) claimed that even though training has failed to enhance firm performance, it may have an indirect effect by enhancing other organisational outcomes. Past studies have shown HR outcomes are partially mediating the relationship between HRM practice-performance (Katou, 2011; Thang et al., 2010; Tharenou et al., 2007; Triguero, Pena-Vinces, González-Rendon, & Sánchez-Apellianiz, 2012; Úbeda-García et al., 2014). Similarly, the recent study of Guan and Frenkel (2019) also provided empirical evidence that employees’ performance (behaviour and commitment) and organisational performance (in task and organisational citizenship behaviour) were moderated by the strength of the HRM practice while

employees' performance mediated the relationship between training and organisational performance.

According to Singh (2012) there is no agreement on firm performance measurement. Newbert's (2007) study showed that three types of performance measurements regularly used in the strategy literature were: (i) objective financial performance (ii) subjective financial performance (sales, profitability); and (iii) subjective non-financial performance (marketing, market share). Past studies used the financial performance (including ROI, ROA, ROE, ROS, sales, firm's present value, market share, export intensity, average export growth, customer satisfaction, profitability, competitiveness and operating revenue per employee and productivity) and non-financial performance (labour turnover, absenteeism, conflict, product quality and quantity, service quality, effectiveness, efficiency, innovation) as measurement for firm performance (Katou 2011; Thang et al., 2010). Karami, Analoui, and Cusworth (2004) commented that subjective measurements are more appropriate for exploratory research since objective and subjective indicators of the firm's performance frequently have a significant correlation. For these reasons, many researchers choose to measure firm performance subjectively, such as on "customer satisfaction" and "market value". Recently, academics have begun to use the description of the above indicators to determine the level of improvement in organisational performance. For instance, the Likert scale is used to measure "product quality", "production costs", "product delivery", "production flexibility", "profit", "absenteeism", "innovation", and

"customer loyalty" for firm performance (Katou, 2011; Lee, Lee, & Wu, 2010; Úbeda-García et al., 2014).

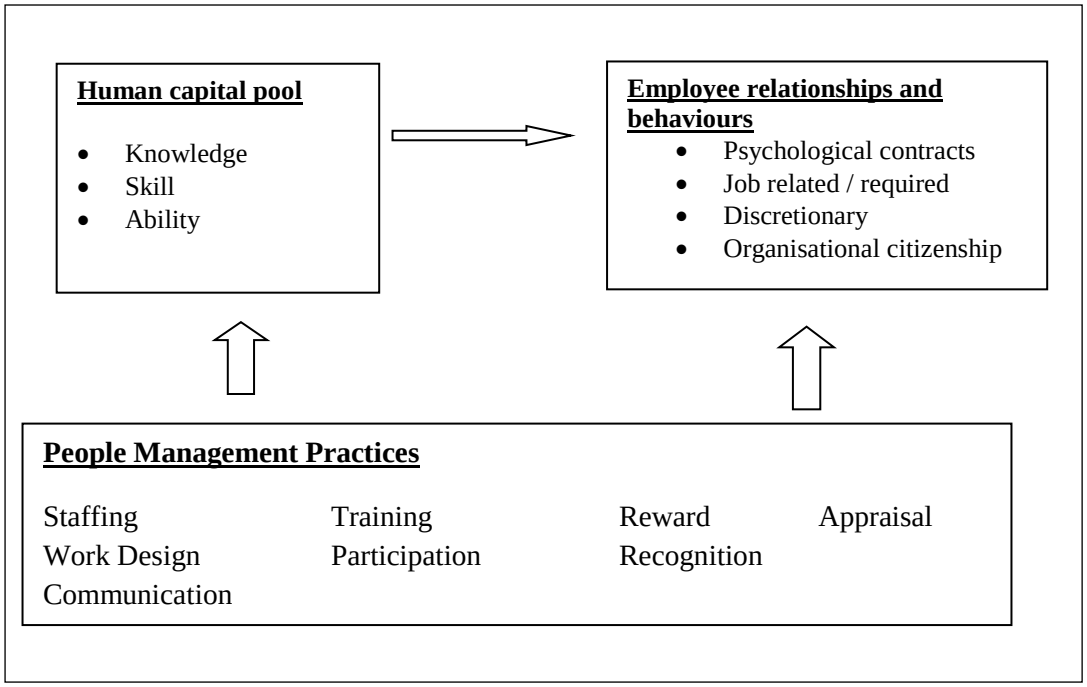
The literature emphasises that most of the past studies on HRM and firm performance link focused on the manufacturing sector (Abdul Rahman et al., 2013; Cristiani & Peiró, 2018; Guan & Frenkel, 2019; Islam, Hamid, & Karim 2007; Katou, 2011; Kitchot et al., 2021; Wickramasinghe, 2006) , while the service industry has traditionally been regarded as a heterogeneous sector. It includes financial companies, retail business, transportation, hotel business, education, and other fields. This heterogeneity is found to be an obstacle to researchers. In view of this, few studies had been made in this area. Moreover, as gathered from extant reviews of past studies on training performance relationship conducted by Thang et al. (2010) most of the studies used a large sample of firms from different industries, some studies only focus on one specific company survey. Few studies have been done on a specific industry.

In summary, despite extensive research on the relationships between training, employee performance, and firm performance, there is a lack of understanding of the importance of soft skills training and its contribution to a firm performance (Bhal, 2015). A literature review shows that due to changes in the nature of work, there is a skills mismatch/skills gap. This has created a need for new skills as well as education and training strategies to enhance skills development, and improve workers' competencies by eliminating or reducing

mismatch between level of skills learned and skills in demand (Khan & Masrek, 2017; Stasz, 2001; Vidotto, Ferenhof, Selig, & Bastos, 2017). In addition, Grant, Maxwell, and Ogden (2014) recommended that to fully utilise employees' skills, employers must take up the challenge to design continuous improvement activities to match skills to jobs. There is broad agreement on the problem of graduates' skills gap being due to its inadequate development, and not to the lack of skills transfer. Industry should help graduates develop those areas of soft skills they are lacking (Jackson & Chapman, 2012). Moreover, soft skills are core workplace skills which complement hard skills and enhance employee and firm performance (Ibrahim et al., 2017). Literature also shows there seems to be lack of study on the impact of soft skills training on employee performance and firm performance in homogeneous industries. Therefore, it is important to explore: (i) the phenomenon of training to better understand the relationship between the effectiveness of soft skills training and its impact on employee performance and (ii) the impact of soft skills training and its benefit on firm performance. In addition, although HRM is widely assumed to have a positive relation with the firm performance, empirical evidence is needed to support this relationship to fill the soft skills gap and deepen the knowledge in this area. This study will provide the abovementioned evidence for the Malaysian manufacturing industry.

2.8 Framework Adopted by Past Studies for Human Capital Development Practice and Performance

HRM practices are commonly applied to staff, training, performance appraisal and compensation (Youndt, Snell, Dean, & Lepak, 1996). The literature on HRM shows that in the past, researchers used different models to study the effect of training on organisational performance. Wright et al. (2001) used the following model (Figure 2.2) to study the influence of a firm's RBV on its strategic human resource management (SHRM). The authors referred to the human capital pool as the employees' skills pool (general / firm-specific). According to the human capital theory, human capital, such as skills are owned by individuals and not by the firms. Skills owned by employees will allow them to make decisions about the behaviours in which they will engage. A firm may have access to valuable human capital, but it must be adequately deployed before it can achieve the expected strategic impact. However, a firm can through its people management system (such as training, reward, appraisal, work design etc.) influence the human capital to get the desired employee behaviour. The implication of this model is that in order for a firm to achieve a competitive advantage, it must be in an advantageous position in the following areas: (i) pool of human capital; (ii) employee behaviour; and (iii) people management practices.

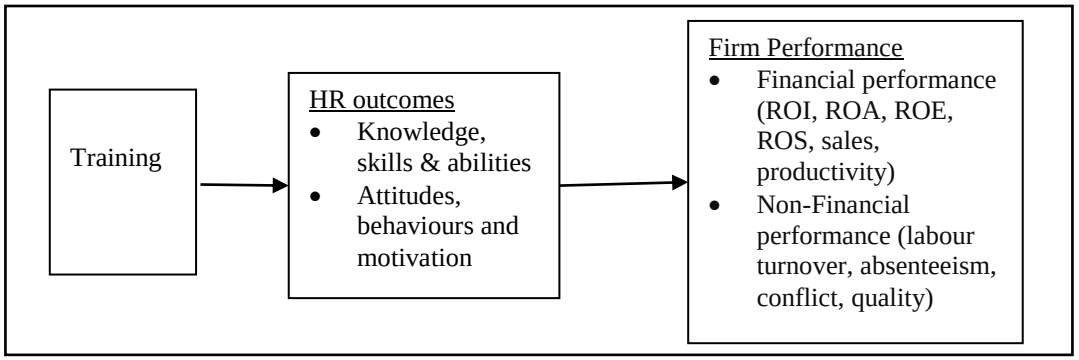


Source: Wright, Dunford, and Snell (2001)

Figure 2.2: A Model of the Basic Strategic HRM Components

To contribute to the theoretical literature, Thang et al. (2010) developed the following framework (Figure 2.3) for the study of training and firm performance. The framework is based on the basic premises of the training processes, human resource outcomes and firm performance. The authors explained that the framework shows that training affects the knowledge, skills, abilities, attitudes, behaviours, and motivation of employees. HR outcomes have a direct impact on firm performance. However, by directly linking training to firm performance, most studies ignore the potential mediating effect of HR outcomes on the relationship between training and firm performance. On this point, the authors raised the question of whether the training will clearly affect the HR outcomes, and therefore affect the performance of the firm. Bhal (2015) used

quantitative and qualitative methods to conduct a study on soft skills training and employee performance. However, the researcher did not attempt to analyse the impact of soft skills training on firm performance nor did the researcher investigate the mediating role of human resource outcomes on the relationship between soft skills training and firm performance.

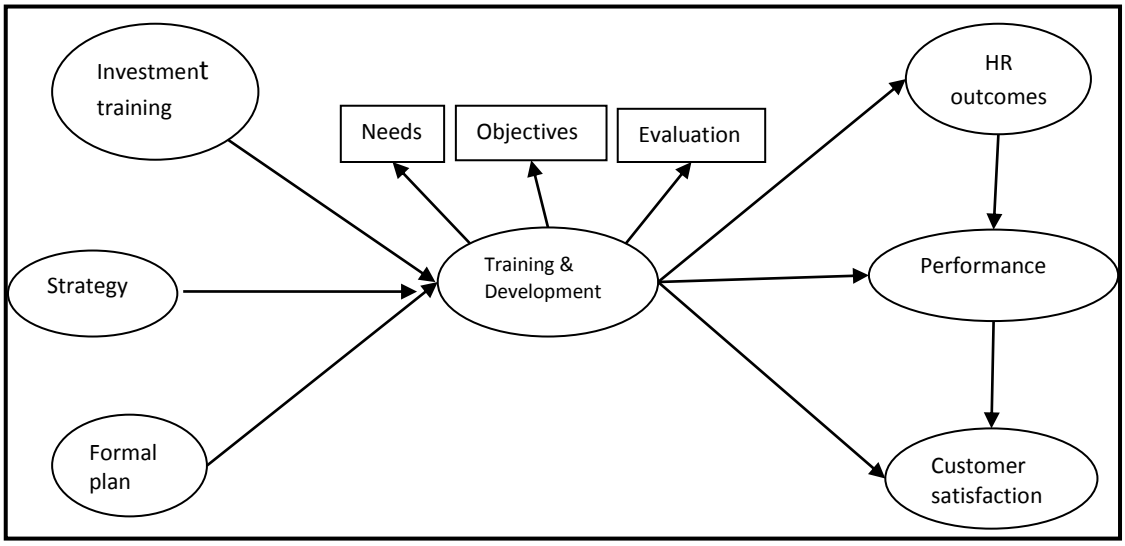


Source: Thang, Quang & Buyens (2010)

Figure 2.3: Framework for Analysing Training and Firm Performance Issues

Úbeda-García et al. (2014) developed a conceptual framework (Figure 2.4) to conduct a study on the training policy in hotels and how their strategic orientation influences a firm's investment in training, its formal plans, type of training and the effect of the training policy on employees' behaviour, customer satisfaction and firm performance. The authors used a second-order study of "training and development human capital" measured by indicators of the three important training processes (training needs, objectives, and evaluation) to further explore the impact of training variables on performance. The results of the study showed that human resources and its management play an important role in the profitability of the hotel industry, and the firm's need to align HR approaches

with business strategies has become even more important for service organisations. Moreover, the study also shows that the type of business strategy adopted by hotels will influence the formulation of training policies, and training policies are directly related to performance. Among them, the results of HR outcomes and customer satisfaction are intermediate variables that affect firm performance. It should be noted that in this study, the authors had introduced both size and category of the organisation as controlled variables to avoid distorting the relationship between training policy and performance.



Source: Úbeda-García et al. (2014)

Figure 2.4: Framework for Analysing Firm's Strategic Orientation Which Influences its Investment in Training, Formal Plans, Type of Training, and the Effect of the Training Policy on Employees' Behaviour and Firm Performance

2.9 Proposed Conceptual Framework for this Study

As indicated in Chapter 1, this study aims to achieve two main objectives. First, to investigate the soft skills in demand by employers and the skill gaps that exist in the Malaysian manufacturing industry. Second, to fill the gap existing in literature by examining the impact of soft skills T&D conducted by employers on human resource and firm performance.

The review of past literature on both human capital theory and resource-based view in sections 2.2.1 and 2.2.2 in this chapter also reveals the following gaps in the literature:

(i) Human capital theory:

(a) Lack of evaluation on the outcome of education and training in learning soft skills

(b) Lack of empirical evidence on the value or impact of investment in general skills

(ii) Resource-based view:

(a) Lack of empirical evidence to support soft skills as a valuable resource and it contributes to firm's competitiveness

Hence, the purposes of adopting these two theories in this study is important to conceptualise the research framework and to fill the literature gap.

The human capital theory and RBV provide the theoretical framework of the study. In addition, a thorough review of past empirical studies and various concepts which were applied in different areas of training and development, human resource outcomes and firm performance has contributed to the development of the research design of this study. The study will be conducted in two phases where:

Phase I: To evaluate the outcome of soft skills learning through education and training and to identify the skills gap by comparing the competencies of entry-level graduate workforce and skills demand of employers

Phase II: A conceptual framework linking the constructs of soft skills training and development, human resource outcomes and firm performance will be formulated. The proposed framework is mainly derived from the conceptual and empirical developments of the analysis training and firm performance model of Thang, et al. (2010) and firm's strategic orientation and effects of training policy on performance model Úbeda-García et al. (2014).

2.9.1 Theoretical Framework and Model Specification

According to human capital theory and resource-based view, knowledge, skills, and abilities of human capital are the most important intangible assets of firms. They provide firms with economic value, such as increased productivity and service quality. On the basis of these theories, firms have paid great attention to aspects related to training in the practice of HRM. The human capital theory posits that education and training can cope with changing technologies and increase productivity. It is also seen as an investment because the costs and benefits associated with education and training can be assessed by financial and

non-financial economic criteria (Becker 1993). In the same context, as postulated by the RBV that a firm's competitive advantage can be maintained by developing employees with unique, and inimitable skills that can provide value to the organisation through effective strategic human resource management (SHRM) (Das & Kodwani, 2018; Rahman et al., 2013). This shows that both theories regard T&D as an important tool that can lead to the acquisition and enhancement of knowledge, skills, and the capabilities to achieve expected organisational objectives and performance. However, there is a lack of study focused on employees' soft skills and examining the soft skills T&D's influence on performance. With regard to investment in general training such as soft skills, Becker (1993) recommends firms not invest in general training because general skills are transferable, which will benefit other firms. Similarly, RBV also does not consider resources which are applicable to a broad range of firms and industries as valuable resources of SCA Dakhli and De Clercq (2004), and Kor and Mahoney (2004, cited in Kraaijenbrink, 2011, p.227). Yet, as argued by Kraaijenbrink (2011) these resources which are applicable to a broad range of firms and industries are valued the most by firms.

Based on the literature that describes the relevant theories and conceptual frameworks of human capital development and its impact, the proposed model of Úbeda-García et al.'s (2014) study was adapted to specifically study the influence of soft skills T&D on the human resource outcomes and firm performance. The

conceptual framework proposed for this study, which exhibits the relationships between T&D and performance, is shown in Figure 2.5.

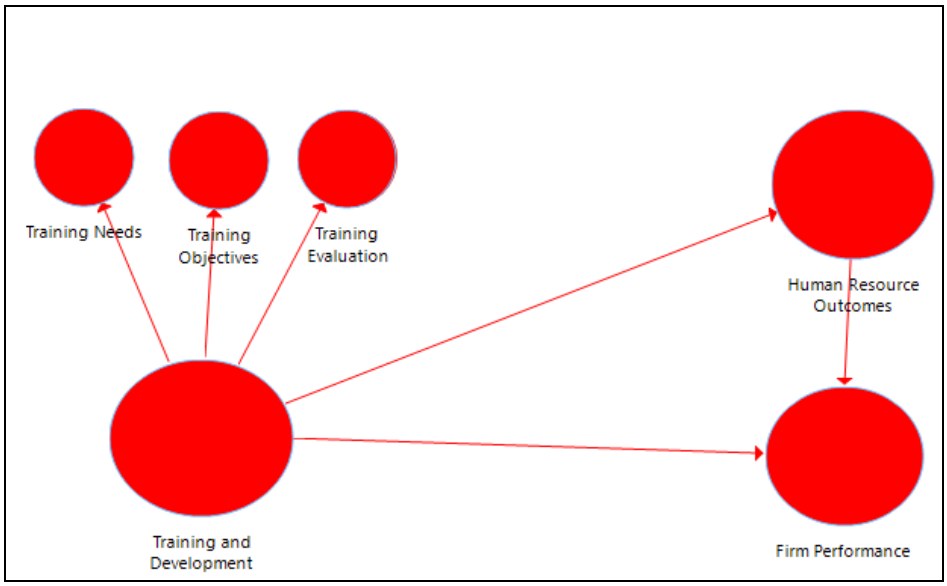


Figure 2.5: Proposed Conceptual Framework

There are three latent constructs, namely soft skills T&D, human resource outcomes, and firm performance in the proposed conceptual framework. They are represented as circles or ellipse in the path models. They are variables that are not directly measured. The items that are used to measure these constructs are called indicators or manifest variables.

T&D is an exogenous construct, which is represented by three dimensions (first-order constructs) namely training needs, objectives, and evaluations which focus on soft skills. Human resource outcomes and firm performance are endogenous constructs. Human resource outcomes are denoted by indicators which focus on enhancement of soft skills competencies of employees,

behaviours and attitudes while firm performance is denoted by subjective financial and non-financial indicators.

The framework identifies T&D, which is characterised by three training variables (training needs, objectives, and evaluation). Supported by the human capital theory and RBV, the proposed framework links T&D with human resource outcomes and firm performance. In addition, as the theories posit training can enhance employees' skills and productivity, thereby further improving performance of firm, Youndt et al. (1996) stated that HRM practices can affect firm performance, which depends on the contribution of employees to the firm. This comment indicates that human resource outcomes are expected to mediate the relationships between T&D and firm performance.

As described in section 2.8, the study of Úbeda-García et al.'s (2014) is one of the previous studies (Thang et al., 2010; Youndt et al., 1996; Wright et al., 2011) on human capital development and performance. Their study was conducted on hotels and focused on the impact of firm's business strategy on its T&D policy (training investment and formal plan) and the effect of T&D on customer satisfaction and performance. This study has extended Úbeda-García et al (2014)'s model in T&D focusing on the impact of soft skills T&D and its impact on performance.

2.9.2 Hypotheses Development

The conceptual framework is shown in Figure 2.5, in which four hypotheses will be tested.

Hypotheses (H1 and H2) test the direct relationships between soft skills T&D and human resource outcomes as well as firm performance respectively. The direct relationship between human resource outcomes and firm performance is tested by hypothesis H3. Finally, hypothesis H4 proposes the mediating role of human resource outcomes in the direct relationship between soft skills T&D and firm performance.

The following sections provide a more complete understanding of the formulation of these hypotheses which are to be tested and analysed.

2.9.2.1 Soft Skills T&D and Human Resource Outcomes (HRO)

"Training" aims at learning to manage current problems. It focuses on daily activities, while "development" refers to strategic training, aiming to enhance employees' competencies for future work-readiness (Elnaga & Imran, 2013; Lee et al., 2010; Ludwikowska, 2018; McDowall & Saunders 2010; Stam & Molleman, 1999). According to Hajjar & Alkhanaizi (2018), training is a systematic way to improve employee performance. It provides a link between job

requirements and current employees work practices. Literature demonstrates that for training to be effective, the training process should include training needs, training objectives, and training evaluation (Aguinis & Kraiger, 2009; Chi et al., 2008; Hughey & Mussnug, 1997; Úbeda- García, 2005; Úbeda-García et al., 2013; Úbeda-García et al., 2014). Using the description of Kirkpatrick (1996 & 2014) and Iqbal et al. (2011) as reviewed earlier - "training characteristics include needs of training, training objectives and training evaluation", soft skills T&D is studied as being characterised by the firm's training process of identifying training needs, formulating training objectives, and evaluating training outcomes.

The human capital theory describes human capital as skills, knowledge and ability of employees. RBV believes firm is a package of valuable resources and capabilities which are primary to the success of firm (Wernerfelt, 1984). Human capital resources comprise of skills, abilities and competencies of firms' management and workers (Becker, 1993). The construct, human resource outcomes in the framework refers to employees' hidden competencies such as competencies in soft skills, attitude, behaviour, commitment, and motivation enhancement. (Aragón-Sánchez et al., 2003; Kaur & Kaur, 2020; Katou, 2011; Thang et al., 2010 Úbeda-García et al., 2014) They are difficult to develop and quantify, but, as highlighted in RBV, they are important intangible resources/ capabilities which sustain a firm's competitive advantage (Kaur & Kaur, 2020; Kitchot et al., 2021). Bapna et al. (2013) and CIPD (2017) further indicate that

soft skills training has a greater impact on performance than specific training/hard skills training.

Given that the proactive approach to soft skills T&D aims at enhancing firm's internal resources (human capital), and firm's competitiveness. Hence, it should be constantly assessed based on different behavioural actions (AbuJbara & Worley, 2018; Ibrahim, et al., 2017; Mahadevan & Yap, 2019). Past studies have found a link between HRM practices and employees' performance. Training improves skills, behaviour, and job performance of employees as well as other aspects of business performance (Ibrahim et al., 2017; Katou, 2011; Wang, Huo, Qi, & Zhao, 2016). Ameeq-ul and Hanif's (2013) study indicated that training is an essential practice of firm as it has a direct influence on employees' performance which has a major influence on firm's performance.

Literature shows that there are controversial arguments about the value of soft skills training. For instance, Becker (1993) commented that general training would be useful in other firms, hence firms should not invest in it unless they do not have to pay for it. In contrast, Barba-Aragón et al. (2013) and CIPD (2017) pointed out that in some cases, compared to specific training, firm's general training has a greater influence on employee job performance and income. Yet, that there is a lack of empirical evidence on value of soft skills training as it is difficult to quantify. Hence, to examine the relationship between soft skills T&D

in the Malaysian manufacturing industry and employee performance, this study hypothesises that:

H1 There is a positive relationship between soft skills T&D and HRO

2.9.2.2 Soft Skills T&D and Firm Performance (FP)

The human capital theory and resource-based view believe that training enhances firm performance. Human capital theory uses productivity and profitability as yardsticks of firm performance; resource-based view uses "competitive advantage" as yarkstick of firm performance. In this study, firm performance refers to "objective financial performance" and "subjective financial and non-financial performance" (Newbert, 2007; Thang et al., 2010; Wright et al, 2001). Past studies on HRM practices and firm performance have demonstrated that human capital investment improves organisational performance by increasing productivity, profitability, and competitiveness (Ferguson & Reio, 2010; Kaur & Kaur, 2020; Lee et al., 2010; Niazi, 2011; Odhon'g & Omolo, 2015; Thang et al., 2010; Tharenou et al., 2007; Úbeda-García et al., 2014).

Yet, several reasons show that training does not always lead to increased firm performance. This is because skills and knowledge acquired are not properly transferred and applied to the job (Abdul Rahman et al., 2013; Barba-Aragón et al., 2013; Dermol & Čater, 2013; Hitt et al., 2001; Kwon, 2019; Thang et al.,

2010). Literature shows that learning transfer is a concern for soft skills T&D as soft skills are difficult to measure and there is a lack of an appropriate evaluation approach for soft skills T&D (International Youth Foundation, 2013; Jackson et al., 2019). Other studies also indicated that soft skills are not easy to train (Kaur & Kaur, 2020). Mastery of soft skills usually requires continued interaction or post-training guidance which is rarely forthcoming (Laker & Powell, 2011). Trained employees may lack the appropriate environment and incentives to utilise their acquired skills (Mizrahi, 2004, cited in Clarke, 2011). Some studies have commented that it is too expensive and not being properly transferred and applied to the job, and the organisation (Abdul Rahman et al., 2013; Barba-Aragón et al., 2013; Dermol & Čater, 2013; Hitt et al., 2001). This resulted in employees finding limited opportunities for soft skills T&D even though there is an increase in demand for soft skills in the new age (Bertolini & Goglio, 2017). This practice seems to be consistent with Becker's (1993) recommendation. According to him, generic skills are transferable skills. Firms should not provide such training unless they do not need to pay for the cost. This comment has the implication that employees who acquire transferable skills may leave the organisation which results in skills acquired through training benefiting other firms.

However, as argued by Renaud and Morin (2020), empirical evidence shows that T&D can minimise the chances of employees leaving the company. This contributes to firm performance and profitability. Further, Jain & Anjuman, (2013) also support that firms can drive success, growth, and a greater return on

their training investment if they put soft skills training as a priority. However, soft skills training is usually the least successful in terms of tangible gains, because of the lack of learning transfer in workplace to get its values (Hughey & Mussnug, 1997). However, the transfer of training is essential because it indicates training efficacy (Kodwani & Prashar, 2019).

Literature reveals that there appears to be an inconclusive finding on the relationship between soft skills T&D and firm performance although this relationship has yet to be tested empirically. Therefore, the following hypothesis is formulated to test this relationship

H2 There is a positive relationship between soft skills T&D and FP.

2.9.2.3 Human Resource Outcomes (HRO) and Firm Performance (FP)

According to Becker (1993), enhancement of human capital leads to firm performance. Mozael's (2015) literature review shows that there is a substantial relationship between employee performance and organisational performance, increased employee performance leads to increased organisational performance. Therefore, employee performance is a function of organisational performance.

The different theoretical frameworks used to study the linkage between performance of human resource and firm demonstrates a positive relationship

between the human resource outcomes and firm performance, and believe that HRM practices improve employees' competencies, behaviour, attitude, and work performance which leads to firm performance (Balcar, 2016; Bapna et al., 2013; Bhal, 2015; Cesário & Chambel, 2017; CIPD, 2017; Fey & Björkman, 2001; Tummers et al., 2015; Wang et al., 2016). In contrast, as described in the above item 2.5.1, learning transfer is a concern for the T&D. Moreover, soft skills are difficult to learn, quantify and evaluate, and it is less likely to be applied to work (Hughey & Mussnug, 1997). As suggested by Rodriguez and Walters, (2017), effective employee performance assessment approaches are needed for the study. The following hypothesis is developed for testing the impact of human resource outcomes on firm performance.

H3 There is a positive relationship between HRO and FP

2.9.2.4 Human Resource Outcomes (HRO) as a Mediator

As postulated in the human capital theory, the knowledge and skills of employees are firms' most valuable assets. Training can improve employee's skills and enhances productivity (Becker, 1993). Similarly, RBV posits that human capital is the resource and asset of a firm. When a firm has valuable, scarce, imperfectly imitable, and non-substitutable resources (VRIN), and capable of managing these resources, it can sustain firm's competitiveness. This shows that both theories support T&D improves firm performance. Yet, Youndt et al.

(1996) commented that the extent to which HRM practices will affect firm performance can depend on the contribution of employees to the firm. The comments of Youndt et al.'s (1996) are supported by the empirical studies of Barba-Aragón et al. (2013) and Rahman et al. (2013) which give evidence that the direct impact of training on firm performance is not always supported. Thang et al. (2010) elaborated that even though training may not have impact on firm performance directly, yet it may improve firm performance indirectly. Numerous past studies have established empirical evidences that the relationship between HRM practice-performance was partially mediated through HRM outcomes (Katou, 2011; Thang et al., 2010; Tharenou et al., 2007; Triguero et al., 2012; Úbeda-García et al., 2014). Similarly, the recent study by Guan and Frenkel (2019) also provided empirical evidence that employees' performance (behaviour and commitment) mediated the relationship between training and organisational performance (in task and organisational citizenship behaviour). This implies that human resource outcomes can play the role of a mediator between training and firm performance. However, there is a lack of study focused on soft skills training.

Given that companies may not directly enjoy the expected benefits of training, but indirectly receive them through human resource outcomes. Therefore, the following hypothesis is proposed:

H4 HRO mediates the relationship between soft skills T&D and FP

In summary, the proposed conceptual framework as shown in Figure 2.5 will be used to test the following hypotheses:

H1 There is a positive relationship between soft skills T&D and HRO

H2 There is a positive relationship between soft skills T&D and FP

H3 There is a positive relationship between HRO and FP.

H4 HRO mediate the relationship between soft skills T&D and FP

2.10 Summary

Soft skills are attributes of human capital. There are different definitions of soft skills. In general, soft skills are generic, transferable people and work skills (Schultz, 1961; Becker, 1964 & 1975; Snell & Dean, 1992; Stasz, 2001; Youndt et al., 2004; Yusoff et al., 2004; Cai, 2013). It is not easy to quantify, observe, measure and evaluate soft skills (Grugulis & Vincent, 2009; Ibrahim et al., 2017). However, given that the demand for softs skills to meet the needs of future IR4.0 job is high, one needs soft skills in addition to hard skills to maintain current business competitiveness (Horstmeyer, 2020; WEF & Kearney, 2018).

As shown in past studies, employers demand various skills such as: problem-solving; work ethic; attitude; creativity; reliability; motivation; communication and eagerness to learn; teamwork; analytical, and interpersonal skills; leadership and emotional intelligence; and proficiency in English (Akman

& Turhan, 2018; Bhal, 2015; Hutchins & Rodriguez, 2018; McMurray et al., 2016; Ngah et al., 2011; OECD, 2016; Singh & Chuah, 2012; Subramaniam & Youndt, 2005; Suleman, 2016; World Bank, 2013) However, the least in demand by employers was found to be entrepreneurship skills (Ngang et al., 2015).

Skills gap is a situation where workers' skills either exceed or lack those sought by the employers (AIM, 2009; Hogarth & Wilson, 2003; ISE, 2018). In particular, graduates' skills gaps are global issues (ISE, 2018). It affects the earnings of graduates and productivity and gives rise to high unemployment, which has major implications on economic growth (Albandea & Giret, 2018; Ayoubi et al., 2017; BNM, 2016; Ibrahim et al., 2017; Jackson & Chapman, 2012; McMurray et al., 2016; Rathelot & Van Rens, 2017; Suleman, 2016; WEF, 2014).

There are many factors contributing to skills gaps. Among the main causes of skills gaps include lack of emphasis on development of soft skills in the higher education institutions; students not learning enough the skills needed by the labour market; not fully understanding how employers value the important skills; poor collaboration among stakeholders; graduates not being able to transfer the acquired skills to workplace (Balcar, 2016; Jackson & Chapman, 2012; Suleman, 2016).

Despite several studies on skills demand and skill gaps have been conducted in Malaysia (Hairi et al., 2011; Rasul et al., 2013; Nordin et al., 2013; Chan et al., 2018; Zaharim et al., 2009; Seetha, 2014; Zainuddin et al., 2019), the results of these studies did not provide national quantitative statistical evidence.

Past studies linking HRM practice to human resource outcomes and firm performance provide the evidence of training enhancing human resource outcomes and leading firm performance (Balcar, 2016; Bapna et al., 2013; Bhal, 2015; CIPD, 2017; Kitchot et al., 2021; Mahadevan & Yap, 2019; Rodriguez & Walter, 2017; Salah, 2016; Tummers et al., 2015). However, there are controversial arguments on the direct relationship between training and firm performance. Some studies argue training does not necessarily improve firm performance. This may be due to lack of skills transferred to the job (Abdul Rahman et al., 2013; Barba-Aragón et al., 2013; Hitt et al., 2001; Kaur & Kaur, 2020). Findings of past studies further indicate that employees' performance mediates the relationship between training and firm performance (Guan & Frenkel. 2019; Katou, 2011; Kaur & Kaur, 2020; Thang et al., 2010; Tharenou et al., 2007; Triguero et al., 2012; Úbeda-García., 2014). However, these past studies did not specially focus on soft skills T&D.

Even though soft skills can be trained and learned (Goodwin et al., 2019; Ibrahim et al., 2017; Jain & Anjuman, 2013). However, because soft skills are difficult to observe, quantify, measure (ASTD, 2011; Grugulis & Vincent, 2009;

Ibrahim et al., 2017; Yen, Lee, & Koh, 2001) and less transferable to the job (Laker & Powell, 2011), there is an unequal development of soft and hard skills in schools and workplace (Balcar, 2016; Suleman, 2016). Also, adults are unlikely to develop new skills overnight because practice and application take time. Therefore, soft skills T&D is not considered as productive as hard skills (Laker & Powell, 2011). Due to today's rapid global and technological changes, there is a consensus that firms can develop employees' skills and knowledge and close the skills gap and remain competitive by aligning HRM practices with the strategic goal of the company.

As mentioned earlier, the literature on the impact of soft skills T&D on firm performance shows that the results are inconclusive. In addition, there have been few researches on the impact of soft skills T&D on the performance of Malaysian companies. Therefore, this study will analyse the relationship between soft skills T&D and firm performance, to reflect the values of soft skill T&D investment.

In addition, human capital theory suggests that investments in training enhance employees' skills and knowledge thus increasing productivity (Becker, 1993). RBV focuses on specific resources and emphasises that competitive advantage is based on "valuable, rare, inimitable, and non-substitutable (VRIN)" resources (Barney, 1991). According to these two theories, T&D is an important strategy and key investment in improving job skills and closing skills gap.

Therefore, it is necessary to study the benefits of investing in soft skills T&D, especially for manufacturing firms in the IR4.0 era. Yet, Becker (1993) recommends firm not to invest in general training as general skills are transferable which will benefit other firms. Moreover, as highlighted by Kraaijenbrink (2011) there is lack of empirical evidence to support resources which are applicable to a broad range of firms and industries contributes to firm's competitiveness. Therefore, this study expects to contribute to both practical and theoretical practice.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology used to answer the following research questions and to accomplish the research objectives of this study which will be conducted in two phases.

RQ1: "What are the areas of soft skills demanded by the Malaysian manufacturing industry currently and in the future?"

RQ2: "What are the soft skills competencies of entry-level graduate employees in the Malaysian manufacturing industry?"

RQ3: "What are the areas of soft skills gap in the Malaysian manufacturing industry?"

RQ4: "Is there a positive relationship between firms' soft skills T&D and human resource outcomes?"

RQ5: "Is there a positive relationship between firms' soft skills T&D and firm performance?"

RQ6: "Is there a positive relationship between human resource outcomes and firm performance?"

RQ7: “Do human resource outcomes mediate the relationship between soft skills T&D and firm performance?”

Following the introduction, subsequent section 3.2 discusses the research processes, which includes: research approaches, research design (target population, sampling design), measurement (operationalisation and measurement of variables, data collection method). Section 3.3 discusses the conceptual framework and hypothesis formulation. Section 3.4 discusses data analysis (statistical techniques used in analysing data) for both phases of study. Section 3.5 presents ethical considerations. Lastly, section 3.5 summarises the chapter.

3.2. Research Process

3.2.1. Research Approaches

Phase I of this study involves descriptive study to ascertain the areas of soft skills in demand and the skills gap. Phase II of the study develops the hypotheses based on relevant theories and then formulates the research approach to test them. Hypothesis testing is called deductive research (Sekaran, 2003, p. 31). The deductive approach can be considered particularly suited to the positivist approach, which permits the formulation of hypotheses and the statistical testing of expected results at an accepted level of probability (Snieder & Larner, 2009) for existing theory testing. According to Ponnan, 2015, it is also a process which

researchers arrive at a reasoned conclusion by logical generalisation of a known fact.

In this study, quantitative method was applied, and questionnaires were used in phases of the study. Several studies used questionnaire surveys to collect data and examine the demand for soft skills, skill gaps, and the impact of training on performance (Abbasi et al., 2018; Chan et al., 2018; Hossain et al., 2020; Kenayathulla et al., 2019; Patacsil & Tablatin, 2017; Rasul et al., 2013; Salah, 2016; Shafiq & Hamza, 2017; Úbeda-García et al., 2014). Therefore, there is a large amount of literature, known variables, and existing theories to support the work undertaken in this research. Rather than exploring in an interpretive way, this study, make an attempt to confirm, support or challenge the findings of other researchers in a different research context. Therefore, this study adopts a quantitative approach.

3.2.2 Research Design

The research design is the result of a series of reasonable decisions about the study's goal (exploratory, descriptive, hypothesis testing), targeted population, size of sample, and sampling design, operationalisation and measurements of variables, method of collecting data, and analysis of data (Sekaran, 2003). In the case of the current study, the research design provides the structure of the research needs in order to answer the research questions listed in section 1.8 of Chapter 1.

This study consists of two phases of research activities. Phase I of the study aims to examine the employers' perceptions of the demand for soft skills and soft skills competencies in the entry-level graduate workforce consisting of graduate employees with less than two years of working experience. Areas of soft skill gaps will then be identified. Phase II of the study examines the relationships between soft skills T&D, human resource outcomes and firm performance as well as the role of human resource outcomes on the relationship between soft skills T&D and firm performance. This study adopted a non-experimental quantitative, field survey method using a self-administered questionnaire to collect the data for the study. The data gathered is subject to quantitative statistical analyses. It is a cross-sectional study in which responses from the sample are gathered at only one point in time. The samples are selected from the manufacturing industry located in Selangor, Penang, Perak and Johor. The respondents are representatives of organisations holding managerial positions either in the human resource or training department, as they are considered as more well-versed and informed about the skills demand and training policy of the organisations. The responses will represent the organisation instead of the individual's viewpoints.

3.3 Target Population and Sample

The targeted population is manufacturing companies registered with the Malaysian Investment Development Authority (MIDA) office. The list of manufacturing companies was obtained from MIDA. This list includes all the

manufacturers of various sub-sectors in all the states of Malaysia. The manufacturers in the four states, namely Selangor, Johor, Penang, and Perak were selected as the targeted population for this study, as according to the list, these four states had the most manufacturing firms located. Moreover, most of the HRDF contributors were from these locations (HRDF, 2018).

The number of manufacturers in the four states as per MIDA's list supplied in 2016 is as follows:

Table 3.1: Number of Manufacturing Firms in the Four Identified States

State	No. of manufacturing firms
Selangor	2,036
Johor	1,324
Penang	827
Perak	291
Total	**4,478**

Source: MIDA listing, 2016

3.3.1 Sample Size

Quantitative data are required not only for descriptive studies in terms of frequencies or mean and standard deviation. They are also used for testing of

hypothesis using the statistical technique PLS-SEM, for Phase II of the study. Hence, the selection of sample size is an important element in the research design.

For methodological, ethical, human, and financial resources reasons, it is important to calculate the sample size of design research (Faber & Fonseca, 2014). Factors that affect the decisions of sample size include research approaches, analysis methods, variable number or model complexity, time and resources, completion rates, and research leaders (Memon, Ting, Cheah, Ramayah, & Cham, 2020).

The samples size should not be either too large or too small, as both have limitations that can affect the research conclusions. Using Cochran's (1977) formula, the ideal sample size representing the population is 354, which is consistent with the Krejcie and Morgan's (1970) table used to determine the sample size of a given population of 4,478.

Hair, Hult, Ringle, and Sarstedt (2014), further recommended to use the Cohen's (1992) table for the statistical power analyses of the multiple regression models, as shown in Appendix D or to use G*power (http://www.psycho.uni-duesseldorf.de/aap/projects/gpower) to calculate the sample size.

Referring to Cohen's (1992) statistical power table above, it is noted that the approach to sample size estimation involved three elements. They are: (i) the maximum number of arrows pointing at a latent variable or construct in a model; (ii) the significance level used; and (iii) the minimum R-squared in the model. Kock and Hadaya (2018) defined this approach to estimating sample size as the "minimum R-squared method" as the minimum R-squared model is used for minimum sample size estimation. For this study, the sample size estimation is shown in Table 3.2 below, which is a reduced version of Appendix D presented by Cohen (1992). This reduced version of the table is calculated based on the significance level of 5% and assumes that statistical power is set at 0.8. Hair et al. (2014) claimed that this approach is an alternative way of improving the 10-time rule estimation as it takes into account the significant level and R-squared value. Hence, if the R squared falls between 0.10 and 0.75 with assumptions of a statistical power of 80%, at 5% significance level and the maximum number of arrows pointing at a latent variable is 2, the minimum samples required are merely between 26 and 110 observations in this case.

Table 3.2: Sample Size Recommendation: Minimum R-Squared Method

Maximum number of arrows pointing at a latent variable	Minimum R^2 in the Model			
	0.1	0.25	0.50	0.75
2	**110**	**52**	**33**	**26**
3	124	59	38	30
4	137	65	42	33
5	147	70	45	36
6	157	75	48	39
7	166	80	51	41
8	174	84	54	44
9	181	88	57	46
10	189	91	59	48

Source: Cohen 1992

As noted, the minimum sample size requirement for PLS-SEM using Cohen's statistical power approach is much lower than those of estimation using the formulation of Cochran (1977) and Krejcie and Morgan's (1970) table.

As suggested by Saunders, Lewis and Thornhill (2009), researchers also need to take into account the likely response rate when considering a suitable sampling frame and calculation of actual sample size. Sekaran (2003) highlighted that some of the shortcomings of using a mail questionnaire survey are poor response rate and follow up procedures are necessary for non-responses (Sekaran, 2003). Researchers of past studies who had encountered similar problem with poor response rates when collecting data from SME in the manufacturing industry included Ho, Ahmad, and Ramayah (2016), who had in their study on SMEs in the manufacturing sector, sent out 1,535 questionnaires to SME manufacturers, 145 of the questionnaires were returned, giving a response rate of 9.4%. In Abdul Rahman et al.'s (2013) study on Malaysian manufacturers' investments in

employee training and knowledge transfer's influence on organisational effectiveness, 1,000 questionnaires were sent out. However, only 88 responded, giving a response rate of 8.8%. In the study by Islam et al. (2007) on manufacturing practices adopted by Malaysian manufacturers, 70 out of 400 manufacturers responded (17.5%) to their study. Similarly, the recent study by Nor-Aishah, Ahmad, and Ramayah (2020) on SMEs in the manufacturing sector also showed that out of 1,000 companies, 146 responded (14.6%). In contrast to the above response rate, Chan et al. (2018) managed to get a response rate of 45.5% (182 out of 400) for their study. The summary of the response rates of past studies on SME in the manufacturing industry is shown in Table 3.3 below:

Table 3.3: Summary of the Response Rate of Past Studies Conducted on Manufacturing Industry

Authors	Total Questionnaires sent	Questionnaires received	Response rate
Ho, Ahmad and Ramah (2016)	1,535	145	9.4%
Abdul Rahman et al. (2013)	1,000	88	8.8%
Islam et al. (2007)	400	70	17.5%
Nor-Aishah, Ahmad and Ramayah (2020)	1,000	146	14.6%
Chan et al. (2018)	400	182	45.5%
		Average response rate	19.16%

Yet, according to Patel and Cardon, (2010, cited in Ho et al., 2016, p. 9) "a response rate of around 10% is common among SMEs". Sekaran (2003) recommended that sample sizes which are greater than 30 and less than 500 are appropriate for most research.

In addition to considering the response rate, as emphasised by Sekaran (2003) and Saunders et al. (2009), the sample size and the technique used are also affected by the availability of resources, especially the financial support and the time available for sample selection and collection, computer input, and data analyse. Hence, considering that the average response rate of the past studies conducted on local manufacturers was about 20% this study will target 1,790 as the actual sample size to obtain a sample size of 358, which is calculated as follows:

Actual sample size = 358 x 100 / 20 = 1,790

The breakdown of the actual sample size (about 40% of the population in the targeted states) for each state is shown in Table 3.4.

Table 3.4: Break Down of Actual Sample Size for Each State

Targeted State	Total number of manufacturers	%	Sample size / state
Selangor	2,036	40	814
Johor	1,324	40	530
Penang	827	40	330
Perak	291	40	116
Total	4,478		1,790

3.3.2 Sampling Design

Once the appropriate sampling frame is selected and the sample size required for the study is determined, the most appropriate sampling technique must be selected to obtain a representative sample. Since the representativeness of the sample is of importance for the interests of wider generalisability, a probability sampling design is adopted. They are either "unrestricted" (simple random sampling) or "restricted" (systematic and stratified random sampling) (Sekaran, 2003). This study used a computer to generate random numbers to draw a simple random sample because it had the least bias and offered the most generalisability. All the potential sampling units have an equal chance of being chosen. It is also a basic sampling technique in which a group of subjects (a sample) is selected to study from a larger group (a population) (Sekaran, 2003; Chan et al., 2018). In addition, when there is an accurate and easily accessible

sampling frame that lists the entire population, it is best to use simple random sampling (Saunders et al., 2009).

From the targeted population of the list provided by MIDA, 814 manufacturer respondents from the state of Selangor, 530 respondents, 330 and 116 respondents from the state of Johor, Penang, and Perak respectively were selected using a simple random sampling technique. First, a consecutive number was assigned to the list of MIDA manufacturers in the respective states. Next, a computer programme called "Research Randomizer" (https://www.randomizer.org) was used to generate the 814, 530, 330, and 116 samples for the respective states.

3.4 Survey Instrument

This study adopted a quantitative survey methodology that used a self-administered questionnaire to collect data for both phases of study.

3.4.1 Questionnaire and Scale Design

The questionnaire was created in relation to the research questions and objectives of this study. This study assembled and adapted components of several existing research instruments mainly from Katou (2011), Thang et al. (2010), Úbeda-Garcia (2005), Úbeda-García et al. (2104) and Malaysian Soft Skills Scale

(My3S), a survey instrument used by Ministry of Higher Education to assess the mastery level of undergraduates and graduates' competencies in soft skills.

The selected measurements were modified to accommodate the sample of this study. Details of the modification are highlighted in the subsequent section on "Operationalisation and Measurement of Variables".

Twenty seven (27) items relating to 8 components of soft skills identified for Phase I of the study and 34 items relating to soft skills training and development ("training needs", "training objectives" and "training evaluation"), human resource outcomes and firm performance for Phase II of the study and other general questions about organisations and respondents were included in the survey questionnaire. The questions were organised in four sections as follows:

(i) Section I: Details of the Organisation

This section contains questions to collect background information about the type, firm size, and age of the organisation respondent is working.

(ii) Section II: Respondent's Information

This section contains six questions specifically tailored to obtain personal information of the respondent. Questions are related to information of demographic such as respondents' age, position held, and gender.

(iii) Section III: a 5-point Likert-scale was used to capture respondents' views on: (i) "the importance of soft skills, job knowledge and technical skills at the workplace"; (ii) "the various areas of soft skills demanded and types of languages from current and future entry-level graduates"; (iii) "competencies of the existing graduates at entry-level in the firm".

(iv) Section IV, questions were designed to get the respondents' opinions on (i) soft skills training and development strategies (related to training needs, training objectives and training evaluation); (ii) its impact on human resource outcomes and firm performance based on a 5-point Likert scale.

The "Entry-level graduates" stated in the questionnaire referred to graduates with less than 2 years of work experience.

As noted from the above, the survey instrument used in this study was adapted from the past studies. To ascertain good content validity, the draft survey instrument was first sent to the HR managers and training managers of some organisations through unstructured interviews. Both academician and practitioners were also asked to evaluate and provide comments on the survey instrument in terms of its wordings, clarity and relevancy of the questions. A few minor rectifications were made such as: (i) re-phrased some ambiguous questions and instruction statements; (ii) re-worded some questions to reflect a manufacturing context; (iv) amended some background questions about organisation and

respondent in section II. To ensure good degree of reliability and validity, the questionnaire was also pilot tested and pre-test prior to a full-scale main survey.

After refining the questionnaire, a pilot survey was administered to 30 employers. Reliability tests were then performed for each construct on the data collected. Both Cronbach's alpha and composite reliability (CR) were applied to estimate the reliability of measurement instrument. Generally, the lower acceptance limit of Cronbach's alpha is 0.70 (Ramayah, Cheah, Chuah, Ting, & Memon, 2018; Hair et al., 2014). For this study, the analysis results for pilot test show that the reliability of the constructs was satisfactory as their CR values were range from 0.833 to 0.963 which are above the minimum threshold value of 0.7, they are within the acceptable range.

3.5 Operationalisation and Measurement of Variables

Phase I Study: Soft Skills Demand and Skills Gap

The Phase I of the study aims at addressing the following research questions:

RQ1: "What are the areas of soft skills demanded by the Malaysian manufacturing industry currently and in the future?"

RQ2: "What are the soft skills competencies of entry-level graduate employees in the Malaysian manufacturing industry?"

RQ3: "What are the areas of soft skills gaps in the Malaysian manufacturing industry?"

3.5.1 Components of Soft Skills

There are different definitions for soft skills. In this study, soft skills are defined as "intra-personal and inter-personal skills, abilities, and traits related to personality, attitude and behaviour. They are difficult to observe, quantify, measure and transfer" (Laker & Powell, 2011; Moss & Tilly, 1996, p. 253; Ibrahim et al., 2017, p. 391). When reviewing the relevant literature, this study identified seven categories of soft skills. It has been found that these items were the best to capture soft skills as they were not only commonly used in the literature but also included all personal and interpersonal aspects of people skills (Abbasi et al., 2017, Balcar et al., 2018; Dean & East, 2019; Suleman & Laranjeiro, 2018). They are: "communication skills", "critical thinking, creative thinking and problem-solving skills", "moral and professional ethics", "teamwork", "leadership skills", "entrepreneurship skills", and "emotional intelligence". It is noteworthy that the first six soft skills fall into the eight domains of learning outcomes emphasised in MQF. These six areas of soft skills are also embedded in the compulsory Malaysian undergraduate curricula as stipulated by the Malaysian Ministry of Education. In addition to these six areas

of soft skills, "emotional intelligence" was added to this study, as it was one of the top ten skills highly demanded by employers in the workforce as identified in the WEF (2016) report. Most of the past literature and economic reports also highlighted the importance of various aspects of emotional intelligence such as attitude, commitment, and initiative (Bhal, 2015; Hutchins & Rodriguez, 2018; Urhan, 2018; WEF, 2016 & 2020).

Notwithstanding the above, this study also includes language skills, as based on the review of the literature in the previous chapter, most empirical studies emphasise that mastery of written and spoken skills in English is a key ability to create an organisational advantage (Akman & Turhan 2018; JobStreet.com., 2015, 2018 & 2019; KRI, 2018; Krish et al., 2012; MEF, 2016; Ngah et al., 2011; Singh & Chuah, 2012; OECD, 2016; World Bank, 2013). In responding to the demand, Malaysians must utilise additional languages to engage with foreign management, workers, suppliers, consumers, distributors, and other entities as a result of the desire for internationalisation and the various demands of multinational corporations. Malaysia's primary language is Bahasa Malaysia, and English and Chinese are the country's second languages of communication.

In addition, Bhal's (2015) comments that soft skills are strongly linked to the English language, but emotional intelligence alone covers soft skills, supporting the reason for this study to integrate language skills and emotional intelligence.

In this study the measuring items of the identified soft skills and languages in demands and competence levels of the entry-level graduate workforce were adapted from the Malaysian Soft Skills Scale (My3S), an instrument adopted by Ministry of Higher Education to evaluate students of higher education institutions at time of entering and graduate. Seventeen (17) items for measuring six (6) components of soft skills (communication, thinking, teamwork, entrepreneurship, moral and professional ethics, and leadership skills) were adopted from My3S. Four (4) items and six (6) items to measure "emotional intelligence" and "language" skills respectively were incorporated in this study. They were modified to better reflect the context of "employee to workplace" context. Hence, a total of 27 items for the measurement of the identified soft skills and languages are shown in Table 3.5. Respondents were asked to indicate the level of importance of these items required of an entry-level graduate workforce to undertake the duties of a current job position and in the future (in the next 5 years). All items were measured using a 5-point Likert scale – "1= very poor to 5= very good".

Table 3.5: Construct Operationalisation, Sources of Scale Items and Types of Scale Measurement for Soft Skills Demand

	Component	No. of items	Operationalisation of variables	Source	Scale
Soft skills	1. Communication skills	3	i) Ability to present ideas in writing with confidence. ii) Ability to present ideas verbally with confidence. iii) Ability to communicate with others from different cultures	Adapted from Malaysia Soft skills scale (My3S)	Five – point Likert scale Level of importance: "1= not at all important to 5= extremely important" Level of competence: "1 = very poor to 5 = very good"
	2. Thinking skills	3	i) Ability to analyse problems in complex and ambiguous situations ii) Ability to develop new ideas iii) Ability to think-out-of-the box		
	3. Teamwork	3	i) Ability to work effectively with others to achieve common objectives ii) Ability to respect the attitudes, behaviours and beliefs of others iii) Ability to contribute to the planning and coordination of group efforts		

Table 3.5 continued: Construct Operationalisation, Sources of Scale Items and Types of Scale Measurement for Soft Skills Demand

	Component	No. of items	Operationalisation of variables	Source	Scale
Soft skills	4. Entrepreneurship skills	3	i) Ability to identify business opportunities ii) Ability to frame a business plan iii) Ability to explore business opportunities	Adapted from Malaysia Soft skills scale (My3S)	Five – point Likert scale Level of importance: "1= not at all important to 5= extremely important"
	5. Moral and Professional ethics	3	i) Ability to engage in their work professionally ii) Ability to analyse and make decisions to solve problems related to ethics iii) Ability to practise ethical behaviour in addition to having a responsible attitude towards society		Level of competence: "1= very poor to 5= very good"
	6. Leadership	2	i) Ability to lead a project ii) Ability to supervise a team		
	7. * Emotional Intelligence	4	i) Ability to be proactive in preparation for a given task ii) Ability to accept challenges with positive attitude iii) Ability to work independently iv) Ability to work under pressure	Modified items	

Table 3.5 continued: Construct Operationalisation, Sources of Scale Items and Types of Scale Measurement for Soft Skills Demand

Component	No. of items	Operationalisation of variables	Source	Scale
8.* Language	6	i) Ability to write in English ii) Ability to speak fluently in English iii) Ability to write in Bahasa Malaysia iv) Ability to speak fluently in Bahasa Malaysia v) Ability to write in Mandarin vi) Ability to speak fluently in Mandarin	Modified items	Five – point Likert scale Level of importance: "1= not at all important to5= extremely important" Level of competence: "1= very poor to 5= very good"

Note: items 7 and 8 are modified items

Phase II study: The Relationships between T&D, Human Resource Outcomes and Firm's Performance

Phase II of the study aims to answer the following research questions:

RQ4: "Is there a positive relationship between firms' soft skills T&D and human resource outcomes?"

RQ5: "Is there a positive relationship between firms' soft skills T&D and firm performance?"

RQ6: "Is there a positive relationship between human resource outcomes and firm performance?"

RQ7: “Do human resource outcomes mediate the relationship between soft skills T&D and firm performance?”

The following sections include the operationalisation and the multiple-item indicators used to measure the variables, namely soft skills T&D (comprising of training needs, objectives, and evaluation), human resource outcomes, and firm performance in the proposed conceptual framework of this study in Figure 2.5.

3.5.2 Independent Variable

3.5.2.1 Soft Skills Training and Development (T&D)

The independent variable for this study measures firms’ soft skills training and development (T&D). As discussed in Section 2.5.1, the soft skills T&D construct has been conceptualised and assessed in various ways, such as process of acquiring or transferring the knowledge, skills, and abilities required to perform tasks and activities to achieve a firm’s long-term and short-term goals (Niazi, 2011) and to improve employee performance (Kraiger, McLinden and Casper, 2004). It comprises of three components or dimensions, namely “training needs”,” training objectives”, and “training evaluation”, which were identified as the important training phases which most of the past studies had included in studies of T&D strategies (Aguinis & Kraiger, 2009; Chi et al., 2008; Hughey & Mussnug, 1997; Úbeda-García, 2005; Úbeda-García et al., 2013; Úbeda-García et al., 2014). In addition, literature also indicated these training components were

training characteristics that had been frequently used to study learning and organisational performance (Iqbal et al., 2011).

Consistent with previous training literature, T&D was measured by the three dimensions. The five measurement items adapted from Úbeda-García et al.'s (2014) and Úbeda-García's (2005) studies items were designed for each of the dimensions of soft skills T&D.

Training Needs

Training needs refer to the analysis undertaken by firms to identify their involvement and needs in conducting training for soft skills. A review of relevant literature (Chang et al., 2012; Khan & Masrek, 2017; Ludwikowska, 2018; Zheng, 2014) highlighted the four important aspects to be identified when conducting training needs analysis: "whether a firm performs diagnosis training needs for employees", "soft skills employees already possessed", "soft skills needed for future improvement for the firm" and soft skills needed for improvement as expressed by staff". (See Section 2.6.1).

The measurement items were adapted from studies conducted by Úbeda-García (2005) and Úbeda-García et al. (2014). The items delineate "confirmation of firm conducting training needs analysis for soft skills", "identification areas of soft skills possessed by existing employees"; "identification of areas of soft skills

needed for future"; "consideration training requests expressed by employees"; and identification of soft skills needed by employees to improve job performance". These items were modified from Úbeda-García's (2005) and Úbeda-García et al.'s (2014) studies to reflect the context of this study that is to focus on "soft skills". For instance, "There is an identification of the knowledge, skills and attitudes that workers will have to develop in order to improve in their current job" was changed to "My organisation identifies the different areas of soft skills employees will have to develop in order to improve their current job performance".

Training Objectives

Previous literature on training objectives in Chapter 2 (see Section 2.6.2) indicated that the key aspects of training objectives for soft skills included developing employees' soft skills for the purpose of helping them to improve their current job performance, adapting to anticipated changes, increasing their job satisfaction, and for organisation to close the soft skills gap (Elnaga & Imran, 2013; Stam & Molleman, 1999; Otuko et al., 2013; Kucherov & Manokhina, 2017; Ibrahim et al., 2017).

In this study, training objectives focus on the five purposes of helping staff to develop soft skills. They are: "to help staff to adapt to anticipated changes"; "to increase staff's job satisfaction"; "to close soft skill gaps"; "to ensure greater

involvement in the organisation"; "to enhance employees' moral". These items were adapted from studies of Úbeda-García et al.'s (2014) and Úbeda-García's (2005) to fit them to this study which focuses on soft skills. For instance, "training seeks to adapt the staff to foreseen changes" was changed to "my organisation's training seeks to develop staff's soft skills to help them adapt to anticipate changes".

Training Evaluation

Training evaluation is conceptualised as having four important dimensions, namely enhancing employees' morale, involvement in the organisation, performance and long-term development of the firm's business (Bächmann et al., 2019; Iqbal et al., 2011; Kucherov & Manokhina, 2017; Kunche et al., 2011; Olexová, 2017; Tharenou et al., 2007).

Based on the above reviews, it was found that the reviewed measuring items were the best to capture the three training components and they had been largely used in previous studies, such as Aragón-Sánchez et al. (2003), Kucherov & Manokhina, (2017), Otuko et al. (2013), Úbeda-García et al. (2013 & 2014), and Zheng (2014). Added to this, also used these items to measure these three training variables in their studies where a 10-point scale - "1= totally disagree to 10= totally agree" were applied.

In this study, the measurement items for "training evaluation" were specially designed to evaluate soft skills training and examines the outcome of training in five aspects. They are: "confirmation of firm evaluates application of acquired soft skills"; "contribution to long-term development of business"; "impact on employees' performance"; "meeting organisation's needs"; and "impact on employees' morale".

Five-point Likert scales were used to measure all items. Firms with mean scores more than 3.5 for soft skills T&D were interpreted as firms with high commitment, efforts and pressing needs to include those aspects in the training components. A summary of the construct operationalisation for soft skill T&D is presented in Table 3.6.

Table 3.6: Construct Operationalisation, Sources of Scale Items and Types of Scale Measurement for Soft Skills T&D

Construct		No. of items	Operationalisation of variables		Source	Scale
Training & Development	1. Training Needs	5	i)	*My organisation performs diagnosis of training needs for the T&D of soft skills for employees	Adapted from Úbeda-García et al. (2014)	Five-point Likert scale. Extent to which respondents agree with the statements describing training variables as applicable to their organisations over the past 12 months. "1= strongly disagree to 5= strongly agree"
			ii)	*My organisation identifies the different areas of soft skills employees have		
			iii)	*My organisation identifies the different areas of soft skills for future improvement		
			iv)	*My organisation considers training requests expressed by staff to improve their soft skills		
			v)	*My organisation identifies the different areas of soft skills employees will have to develop in order to improve their current job performance.		

*Modified items i) to v)

Table 3.6 continued: Construct Operationalisation, Sources of Scale Items and Types of Scale Measurement for Soft Skills T&D

Construct	No. of items	Operationalisation of variables		Source	Scale
2. Training Objectives	5	i)	*My organisation's training seeks to develop staff's soft skills to help them adapt to anticipated changes.	Adapted from Úbeda-García (2005), and Úbeda-García et al. (2014)	Five-point Likert scale
		ii)	*My organisation's training seeks to *develop staff with soft skills to* increase their job satisfaction		
		iii)	*My organisation's training seeks to close the gap of soft skills		
		iv)	*My organisation's training seeks to enhance employees' soft skills to ensure greater involvement in the organisation		
		v)	My organisation's training seeks to enhance employees' morale		

*Modified items i) to iv)

Table 3.6 continued: Construct Operationalisation, Sources of Scale Items and Types of Scale Measurement for Soft Skills T&D

Construct	No. of items	Operationalisation of variables	Source	Scale
3.Training Evaluation	5	i) *My organisation evaluates the contribution of soft skills training to the long-term development of its business	Adapted from Úbeda-Garcia (2005), and Úbeda-García et al. (2014)	Five -point Likert scale
		ii) *My organisation evaluates the impact of soft skills training on employees' performance		
		iii) *My organisation evaluates the application of soft skills acquired during training.		
		iv) *My organisation evaluates the soft skills training offered to employees to see if it meets the organisation's needs.		
		v) *My organisation evaluates the impact of soft skills training on the morale of employees		

*All the above measurements are modified items

3.5.3 Dependent Variables

3.5.3.1 Human Resource Outcomes (HRO)

The human resource outcomes of the soft skills training in this study referred to the employee's performance at the workplace. Most of the past studies in training measured employee's competence in skills trained, attitude, and behaviour as human resource outcomes of training (Katou 2011; Thang et al., 2010; Úbeda-García et al., 2014; Zuo, Zhao, Nguyen, Ma, & Gao, 2018). In this phase of study, the main categories of soft skills were referred to the seven identified areas of soft skills and languages as reviewed in Section 3.5.1 and listed in Table 3.5 above. They are: "teamwork", "communication skills", "leadership", "critical thinking, creative thinking, and problem-solving", "language", "decision-making", "emotional intelligence", and "moral, and ethics".

The human resource outcomes were assessed in three aspects: s "employee's competence" (8 items of soft skills), "employee's behaviour" (work satisfaction and work participation), and "employee's attitudes" (work attitude and facing challenges). The measurement items were adapted from past studies (Katou, 2011; Thang et al., 2010; Úbeda-García et al., 2014; Zuo et al., 2018) to fit into the context of this study which focuses on soft skills. For instance, Katou (2011)'s measurement item for "competence on skills" was changed to "competence on eight items of soft skills".

The respondents were asked to rate the extent to which the training would affect the level of competencies in the employees' soft skills achieving higher employee participation levels; work attitude, and the ability to face challenges. The items of the construct were measured on a 5-point Likert scale - "1= very low level to 5= very high level". A summary of the measurement items is presented in Table 3.7.

Table 3.7 Construct Operationalisation, Sources of Scale Items and Types of Scale Measurement for HRO

Construct	No. of items	Operationalisation of variables	Source	Scale
Human Resource Outcomes	12	Employees improve their level of competence in the following areas of soft skills, attitudes and behaviours: i) *Soft skills competencies 1.1. Teamwork 1.2. Communication skills 1.3. Leadership skills 1.4. Critical thinking, creative thinking and problem-solving skills 1.5. Language skills 1.6. Decision-making skills 1.7. Emotional Intelligence 1.8. Moral and ethics ii) Behaviour 2. Achieving higher employee work satisfaction level 3. Achieving higher employee participation levels iii) Attitude 4. Improvement of employees' work attitude 5. Employees' ability to face challenges	Adapted from My3S; Katou (2011); Thang, et al. (2010); Úbeda-García et al. (2014); Zuo et al. (2018)	5-point Likert scale Level of contribution the soft skills training in the organisation has made during the last two years in influencing the Human resource variables 1= Vey low level 5= very high level

*Modified items: i) (1.1) to (1.8)

3.5.3.2 Firm Performance (FP)

The ultimate dependent variable for this study is firm performance. In general, firm performance refers to: "objective financial performance"; "subjective financial performance" which include ROI, ROA, ROE, ROS, sales, profitability, competitiveness, and productivity; and "subjective non-financial performance" which include labour turnover, absence, conflict, and quality of products, product and service quality, quantity (Newbert, 2007; Thang et al., 2010; Wright et al., 2001). Recent researchers have begun to use subjective financial and non-financial measures to evaluate the change level in organisational performance, as most firms are reluctant to disclose the financial aspects of their firm. This seems to have some limitations if the study on financial performance is only based on subjective measurements. In this context, Analoui and Karami (2003, cited in Ferguson & Reio, 2010, p. 477) listed the following challenges in the objective financial measures of organisational performance: (i) objective financial measurement is limited to research or case studies of public firms, as private and non-profit companies, may have different measurement standards; (ii) Firms in certain industries (such as bank and utilities) may not be able to disclose information due to governmental regulations; (iii) Financial ratios are only used as the accounting data is reliable; (iv) Financial ratios may not accurately reflect the company's current and future financial status. Karami, Analoui, and Cusworth (2004), and Forth and McNabb (2008) also pointed out that, due to the strong correlation between the "subjective" and "objective" measures of firm

performance, in exploratory research, “subjective” measures are appropriate alternatives for “objective” measures. Similarly, Liao (2005) supported that firm performance can be measured by objective or subjective means. Dess and Robinson (1984, cited in Liao, 2005, p. 300) suggested that in the absence of objective standards, self-assessment can be used as an appropriate and reliable alternative indicator. For these reasons, many researchers have chosen “subjective” financial measures of firm performance in their research (Lai, Saridakis, & Johnstone, 2016).

In view of the above reviews, firm performance for this study was assessed from both the “subjective financial” and “non-financial performance”. The measurements for company’s “subjective financial” and “non-financial performance” were adapted from Huang (2001) and Úbeda-García, et al.’s (2014) studies. The measurement of these “subjective financial” and “non-financial performance” concern firm’s performance in “profitability”, “product quality, service quality”, “competitiveness”, “capacity to address future opportunities and challenges”, “ability to lower production costs”, and “innovativeness”. The modifications include changing the word “increase”, “improve”, and “providing faster service” to “enhance”. The word “enhance” was used to describe the outcomes of soft skills T&D as the expected results were to enhance firm performance. Table 3.8 lists the seven descriptive indicators used to measure these performances using a 5-point Likert scale - “1= very low level to 5= very high level”. A summary of these measurements is presented in Table 3.8.

Table 3.8: Construct Operationalisation, Sources of Scale Items and Types of Scale Measurement for FP

Construct	No. of items	Operationalisation of variables		Source	Scale
Firm Performance	7	i)	*Enhancing the organisation's profitability	Adapted from Huang, (2001); Úbeda-García et al. (2014)	5-point Likert scale Level of contribution the soft skills training in the organisation has made during the last two years in influencing the Human resource variables 1= Vey low level 5= very high level
		ii)	*Enhancing the organisation's product quality		
		iii)	*Enhancing the organisation's quality of service		
		iv)	*Enhancing the organisation's competitiveness		
		v)	*Enhancing the organisation's capacity to meet future opportunities and challenges		
		vi)	*Enhancing the organisation's ability to reduce its production costs		
		vii)	*Enhancing the organisation's innovativeness		

*Modified items i) to vii)

3.6 Data Collection Method

In total, 1,790 questionnaires were posted to the managers of the human resources / training departments of the selected manufacturing firms in the identified four states. A stamped addressed envelope was attached to the questionnaire for the respondent to return after completing the questionnaire, along with were a cover letter informing the purpose of the survey and a declaration of protection of personal data protection form. After three weeks, reminders were sent by e-mail and by telephone to those who had not returned the questionnaire.

The data collection was carried out and followed up for a duration of nine months to get responses from the employers of the manufacturing industry. They were used for the two phases of the study.

This study will conduct a check on non-response bias, Mann-Whitney U Test will be conducted to compare the responses of the late respondents' responses (questionnaire received after three weeks after sending) to those of early respondents (questionnaire received within the first three weeks after sending). Details of the analysis are discussed in Section 4.2.1.

3.7 Analysis Method

Phase I of the study: Soft Skills Demand and Skills Gaps

3.7.1 Descriptive Analysis

Each completed questionnaire was scrutinized for errors. Descriptive analysis was then conducted. The frequencies, means, and standard deviation of the collected data were computed to have an overview of the characteristics and distribution of the collected sample to answer research questions 1, 2, and 3 in the Phase I of the study.

As described by AIM (2009), the skill gap is the gap between a firm's skill needs and its current employees' competence. This study will adopt this description of skill gap and a similar method of measure used by studies of Abbasi et al. (2018), Kenayathulla et al. (2019), Seetha (2014) and Zaharim et al. (2009) where employers' expectations of the skills in demand and their perceptions of the competencies of similar skills of their employees were compared.

Most of these past studies used the Likert scale to measure the items of expectations and perceptions where the mean scores, standard deviation of expectations ("level of importance") and perceptions ("level of competence")

were computed. The mean scores were compared to establish skill gaps (Abbasi et al., 2018; Baird & Parayitam, 2019; Bhanugopan et al., 2017; Burke, Jones, & Doherty, 2005; Dacko, 2006; Jackson, 2014; Ngang et al., 2015; Nolan, Conway, Farrell, & Monks, 2010; Nordin et al., 2013; Patacsil & Tablatin, 2017; Robinson & Garton, 2008; Thai, 2011). Likert-based questionnaires have been widely used as a means of assessing expected and actual performance for 'gap' studies (Jackson, Helms, & Ahmadi, 2011). However, the controversial argument is that the Likert scale represents an ordinal scale and must undergo non-parametric analysis. According to Abeson (1995, cited in Jackson et al., 2011, p. 398) the difference between ordinal and interval was not clear. According to Sirkin (2005, cited in Jackson et al., 2011, p. 398) ordinal data could be analysed parametrically.

Below is the computation of 'scores for mean gap'

$$\text{Scores for Mean Gap}_p = \frac{\sum_{i=1}^{n} [(\text{Expectation})_i - (\text{Perception})_i]}{n}$$

Where

i refers to the i^{th} respondent, i.e. i=1, 2, 3…n

p refers soft skills attributes where p = Communication skills, teamwork…

n refers to the total number of the respondents

A higher mean gap value indicates that there is a large difference between the employers' expectations from the workforce and the employers' perceptions of the skill level of existing workforce. In addition, negative results show that

employers value soft skills more and their employees' competencies do not meet employers' expectations; positive results indicate that employees' soft skills competencies meet employers' expectations.

The results of the Phase I of the study were analysed by descriptive analysis. Descriptive analysis is intended to interpret the data and characteristics of the population or phenomenon under study. The results generated by the descriptive analysis were based on the mean scores of the employers' perceptions to identify the most important soft skills for the manufacturing entry-level graduate workforce to perform their current and future tasks. The highest mean score would be ranked one (1), which was considered as the most important skill. This applied to analysis of skill gaps where the differences in mean scores were ranked to indicate the sizes of skills gaps.

3.7.2 Common Method Bias

Podsakoff, MacKenzie, Lee, and Podsakoff (2003) suggested researchers take some procedural and statistical control efforts to deal with the problem of common method bias and to minimise the potential impact of common method variance on research findings. In this study, the data collected will be checked for its potential common method bias because the data were collected from the same respondent for descriptive study (Phase I of the study) and endogenous and exogenous constructs (Phase II of the study). Harman's single–factor test, which

has been adopted by past researchers for their studies to check for common method bias (Lam, 2020; Leimeister, Sidiras, & Krcmar, 2006; Podsakoff et al., 2003). According to these researchers, the two conditions for determining common method bias are: "a single factor", arose from the factor analysis, and "a general factor", which explains most of the co-variance in the independent variables and criterion variables. According to Podsakoff et al. (2003), the amount of variance attributed to common method bias depends on the research area. For example, in studies examining behavioural topics, common method bias exists when the co-variance accounted for that single factor is greater than 40.7%. The basic assumption of the test is: "if there is a large amount of common method bias, factor analysis of all the data will result in a single factor accounting for the majority of the variance of the independent and dependent variables".

Phase II of the study: The Relationships between T&D, Human Resource Outcomes, and Firm's Performance

3.8 Preliminary Data Analysis (Data Screening)

As recommended by Hair et al. (2014), outliers should be identified before performing PLS-SEM as the offending responses would affect the analysis results.

3.8.1 Multivariate Outliers Checking

Hair et al. (2014, p. 53) describes an outlier as “an extreme response to a specific question, or the extreme responses to all questions”. Outlier identification is important as they are one of the main factors which could lead to non-normality of data distribution, affect the estimated results’ validity and reliability and then distort the statistical results of the study. Hence, once outliers are detected, they should be considered to be removed from the data set. Multivariate outlier detection (Mahalanobis D^2 distance) will be used to identify outliers (Pallant, 2010).

3.8.2 Normality Test

In Phase II of the study, PLS-SEM technique was used to validate the research model and test the proposed research hypotheses.

Although normality assumption is not required for PLS-SEM, it is critical to check for outliers since presence of outliers in the data set might skew the statistical results (Hair et al., 2014; Tabachnick & Fidell 2015).

According to Hair et al. (2014), tests of normality assumption may be tested using: (i) the Kolmogorov-Smirnov test and the Shapiro-Wilks test which compare the data to a normal distribution with the mean and standard deviation as

in the sample. Hair et al. (2014) on the other hand, pointed out that both of these methods are of little help in determining whether the data are too far from the normal distribution, since because they only indicate whether the null hypothesis of normally distributed data should be accepted or rejected. The bootstrapping procedure will perform fairly robustly if the data are non-normal. Instead, Hair et al 2014 suggests researchers to test the normality assumption by examining the skewness and kurtosis of data. The values of skewness and kurtosis should fall within the range of ±2 when the data are normally distributed or approximately normal (Garson, 2012; Moorthy, Lim, Ooi, Ooi, Ooi, & Tan 2017.

Both univariate and multivariate normality will be assessed. In checking the univariate normality, both skewness and kurtosis were used. According to Hair et al. (2019, cited in Lam. 2020, p. 210), the expected normal probability plot is used to evaluate multivariate normality.

3.9 Analysis of Measurement and Structural Model

The following sections describe and justify the use of the PLS-SEM statistical technique for analysis and hypothesis testing.

SEM is a statistical analysis technique used to evaluate the overall fit of the model and to test the structural model (Gefen, Straub, & Boudreau, 2000). It is a flexible tool which consists of a process of multivariate statistical techniques for many multivariate statistical analyses. It also allows researchers to study the direct

and indirect relationships between independent and dependent variable(s) (Gefen et al., 2000; Hair et al., 2014).

3.9.1 Approaches: Covariance-based-SEM and Partial Least Squares-SEM

CB-SEM (Covariance-based SEM) and PLS-SEM (Partial Least Squares SEM are two approaches of statistical modeling techniques to estimate the relationships of constructs in SEM. CB-SEM aims to replicate the theoretical covariance matrix, without paying attention to the explained variance. On the other hand, PLS-SEM aims to maximise the explained variation of the independent variables (endogenous latent constructs). CB-SEM is used when the objective of study is theory testing, theory confirmation, or comparison of theories. Error terms require additional specifications such as covariation, the structural model has a non-recursive relationship, and the study requires a global goodness-of-fit criterion and test for measurement model invariance. PLS-SEM is used when the research goal is to predict key target constructs, explore extensions relating to existing theory, small sample sizes, data not normally distributed, and complex models (Hair et al., 2014; Henseler, Ringle, & Sinkovics, 2009). The evaluation of the measurement and structural model results in PLS-SEM builds on a set of nonparametric evaluation criteria and uses procedures for bootstrapping and blindfolding (Hair et al., 2014).

Considering the above characteristics and objectives that distinguish the two approaches of statistical modeling techniques to estimate the relationships of constructs in SEM, this study used PLS-SEM as a statistical method to evaluate the research path model shown in Figure 2.5 for the following reasons:

i. The focus of this study is on prediction factors related to respondents' training and the impact of training on performance.
ii. The study focus is to test the relationship between constructs based on previous theoretical knowledge and explore an extension of existing structural theory
iii. The study does not require large sample size and normally distributed data.

As highlighted above, according to Hair et al. (2014) and Tabachnick and Fidell (2015), even though normally distributed of data is not required for PLS-SEM, it is recommended to check for outliers as presence of outliers might distort the statistical results.

The two theories described above (human capital theory and RBV) were used in this study as support to conceptualise the research model (Figure 2.5). Six constructs have been identified. The exogenous construct, soft skills T&D is conceptualised as three lower-order constructs: training needs, training objectives, and training evaluation, which consists of a reflective structure or relationship. The two endogenous constructs are human resource outcomes and firm

performance. The model predicts that human resource outcomes and firm performance are influenced by soft skill T&D. Based on past studies on HRM policies and organisational performance, human resource outcomes are expected to be a mediator of soft skills T&D and firm performance.

3.9.2 Path Model

According to Hair et al. (2014), the first stage of a study involving the use of SEM is to design a drawing that describes the hypotheses and the variables' relationships under study. The design is called "path model", which consists of structural model and measurement model. The structural model is also called the inner model. It describes the relationship between the latent variables, while the measurement model describes the relationships between the latent variables, and their measures (i.e. indicators). The independent construct is also called exogenous latent variable, and the dependent construct is called endogenous latent variable. The PLS-SEM path model in this study as shown in Figure 3.1, comprises exogenous and endogenous constructs; indicators and arrows showing variables' relationships. Soft skills T&D (which includes "training needs", "training objectives", and "training evaluation"), human resource outcomes, and firm performance are examples of such constructs.

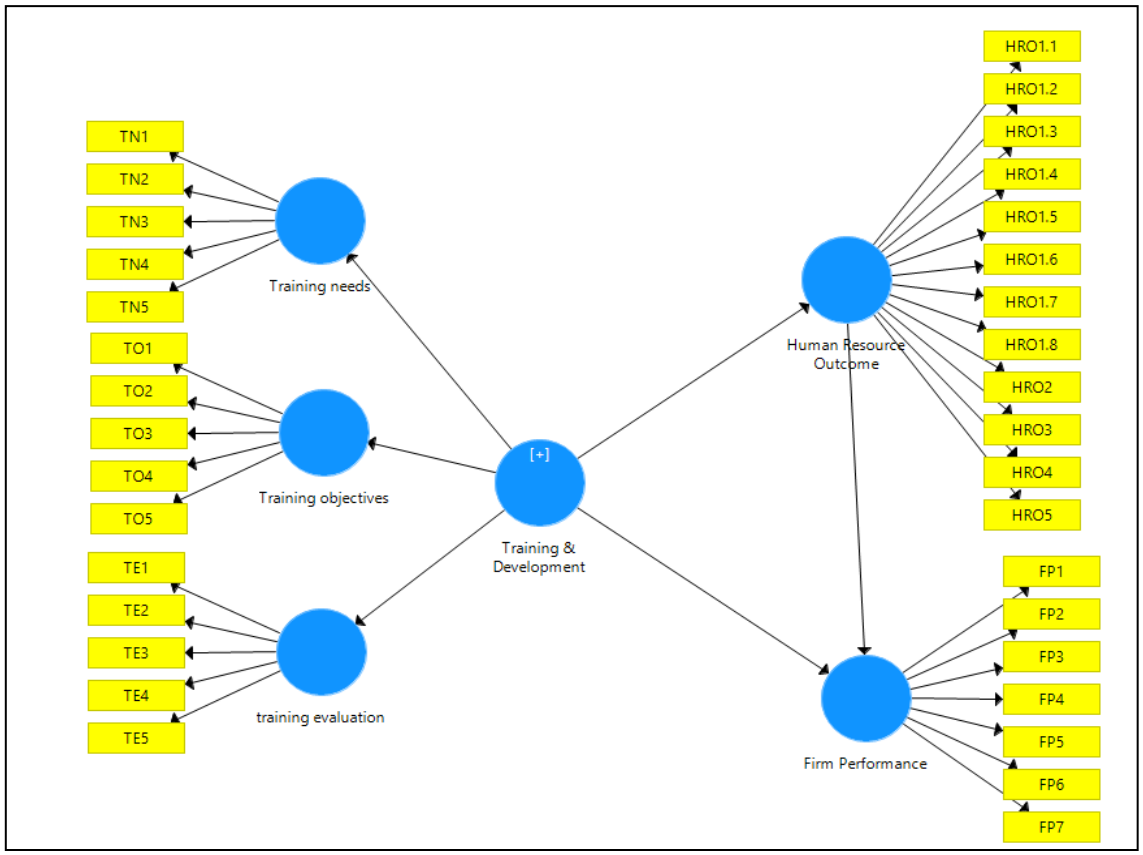


Figure 3.1: Path Model of the study

3.9.3 Higher-Order Modelling

Based on SEM-PLS literature, constructs can also be operationalised at a higher level of abstraction that is using a higher-order model or a hierarchical component model (HCM) that involves testing a second-order structure containing two layers of components (Hair et al., 2014; Ramayah et al., 2018; Roni et al., 2015). Based on theoretical / conceptual point of view, the construct T&D is studied as a one-dimensional higher-order component (HOC) which aggregates lower-order components (LOCs), three-training variables to form a single multi-dimensional HOC. The PLS path model has now become more

parsimonious and directly models the correlations between the LOCs, which is the product of the reflective relationships via HOC (Hair et al., 2014).

The PLS path model in this study is now represented by construct, soft skills T&D (exogenous) and human resource outcomes (endogenous) and firm performance (endogenous). The three aspects of HOC of soft skills T&D are now characterised by the LOC of "training needs", "training objectives", and "training evaluation" constructs.

3.9.4 Reflective vs. Formative

Understanding the underlying essence of this second-order construct is important to see the reflective or formative nature of first and second-order factors. In reflective constructs, the arrow direction points from the construct (i.e. latent variable) to the measured indicator variables. Indicators serve as representative of the latent variables (Ramayah, Cheah, Chuah, Ting, & Memon, 2018). According to Haelain and Kaplan (2004, cited in Ramayah et al., 2018, p. 10) and Hulland (1999, cited in Ramayah et al., 2018, p. 10), these indicators are highly correlated and interchangeable. Removal of the indicators will not alter the meaning of the latent variables. In a formative construct, the arrows points from indicators to the construct (latent variable). Formative indicators are indicators which cause or form the measurement of the latent variable and are therefore not interchangeable among themselves. Changes to any of them will have a consequential effect on

the validity of the measured latent variable. (Hair et al., 2014; Ramayah et al., 2018).

Yet, Hair et al. (2014, p.46) further comment:

"The decision of whether to measure a construct reflectively or formatively is not clear-cut … The decision as to which measurement model is appropriate has been the subject of considerable debate … and is not fully resolved".

Similarly, Ramayah et al. (2018, p.12) also support Hair et al. (2014)'s above comment that the decision of whether to measure a construct reflectively or formatively is not clear-cut in practice. According to Baxter (2009, cited in Ramayah et al., 2018, p. 12), and Howell and Breivik (2008, cited in Ramayah et al., 2018, p. 12), the same list of items can be formative or reflective depending on the measurement conceptualisation.

Since literature indicates that the decision of whether to measure a construct reflectively or formatively is not clear cut in practice, it depends primarily on measurement conceptualisation. In this study, soft skills T&D is perceived as a reflective construct in line with Úbeda-García et al. (2014)'s study. Variables of training needs, training objectives, and training evaluations, which are training characteristics of training policies are used to measure T&D (Iqbal et al., 2011; Kirkpatrick, 1996 & 2014). These variables have also been consistently

included in workplace learning and performance study. Moreover, literature also indicates there is no consensus on how to quantify and design training characteristics. In this study, soft skills T&D relating to employees' acquisition of both current and future knowledge and skills is characterised by the firm's identification of training needs, formulation of training objectives, and evaluation of training outcomes.

3.10 Assessing Reflective Measurement Model

3.10.1 Indicator Reliability (Outer Loadings)

The first test in the reflective measurement model (stage 1) involves examining the outer loadings of the indicators. They are the estimated relationships between the indicator and its construct. It indicates the proportion of indicator variance that is explained by the construct (Ramayah et al., 2018). The rule of thumb is that a latent variable should explain at least 50% of each indicator's variance (Hair et al., 2014). This means that an indicator's outer loading should be above 0.708 since the square of it is equal to 0.50. In this study, a threshold value of 0.7 was adopted for outer loading as it is considered close enough to 0.708. The loading of the indicator which is less than 0.70 will be deleted if the deletion improves the threshold values of average variance extracted (AVE) and composite reliability (CR) (Hair et al., 2014). Deletion of these indicators shows that they are unimportant and lack absolute contribution to the

construct assigned (Hair et al., 2014) or they lack support for the concepts of the respective constructs (Roni, Djajadikerta, & Ahmad, 2015).

According to Wetzels, Odekerken-Schröder, and Van Oppen (2009), to examine the loadings of the indicators with the model of second-order construct in PLS, a two-step approach method must be implemented. First, conduct an initial estimation of the first-order constructs of the model. This estimation of the latent variable scores will be used in the estimation of the second-order factor model also.

3.10.2 Internal Consistency Reliability

The second test is on evaluation of the internal consistency reliability, a type of reliability used to assess if items measuring a construct have similar scores (i.e., if the correlations between the items are large) (Hair et al., 2014). Cronbach's alpha and (CR) are the two most often used criteria for assessing internal consistency (Hulland, 1999). Cronbach's alpha is adopted widely by most studies (Santos, 1999). According to Hair et al. (2014) CR suggests that all indicators are reliable (have same loadings on the construct). In contrast, PLS-SEM prioritised the indicators based on reliability of individual. Furthermore, CR is sensitive to the number of items on the scale, it generally underestimates the reliability of internal consistency. Due to the above limitations, Ramayah et al. (2018) recommended using CR to measure the internal consistency as it considers

the loadings of the indicators. As a rule of thumb, CR value of 0.7 or greater indicates sufficient convergence or internal consistency (Hair et al., 2014). This study, hence, adopted CR to evaluate the internal consistency of the study and accepted the value above 0.70 as satisfactory for CR.

3.10.3 Convergent Validity

The third test is on to evaluate the convergent validity of each construct measure that is the degree to which a construct converges to explain the variance of its items. It is determined by the AVE of all items on each construct. It is calculated by squaring the loading of each indicator on a construct and computing its mean value. The recommended acceptable AVE is 0.50 or higher, indicating that the construct explains at least 50% of its items' variance (Hair, Risher, Sarstedt, & Ringle, 2018).

3.10.4 Discriminant Validity

The fourth test is to evaluate the discriminant validity. It is the degree to which a construct is differing empirically from other constructs in the structural model. (Hair et al., 2018). As recommended by Henseler, Ringle, and Sarstedt, (2015) and Ramayah et al. (2018) Heterotrait-Monotrait Ratio of Correlations (HTMT) inference test was used to examine the measurement model's discriminant validity. It is the ratio of correlations within constructs to

correlations between constructs. Its values should fulfil the criterion of 0.90 (Gold Malhotra, & Segars, 2001) and 0.85 (Kline, 2011). If the HTMT value is high, it indicates that discriminant validity problems exist.

The summary of indices used for the reflective measurement model assessment of this study is shown in Appendix E.

3.11 Structural Model Assessment

Having confirmed the reliability and validity of the construct measures, assessment of the structural model which includes verifying the model's predictive power and the relationships between constructs. According to Hair et al. (2014), the systematic methods to assess the results of the structural model includes the following:

i. Collinearity assessment
ii. Significance and relevance of the structural model relationships
iii. Coefficient of Determination (level of R^2)
iv. Effect size (f^2)
v. Predictive relevance (Q^2)
vi. Indirect effect and variance accounted for (VAF)

3.11.1 Collinearity Assessment

According to Hair et al. (2014) the estimation of path coefficients in the structural models is based on the ordinary least squares (OLS) regression of each endogenous latent variable on its corresponding predecessor constructs. If the estimation involves significant levels of collinearity among the predictor constructs, the path coefficients might be biased. Hence it is important to ensure that there is no lateral collinearity issue in the initial stage of assessing the structural model. To check for collinearity issue, each predictor construct would be assessed separately. The tolerance value of each predictor construct's tolerance value should be 0.20 or more and the VIF value should be 5 or less. This indicates that lateral multi-collinearity is not an issue in the study. Ideally, the VIF values should be close to 3 and less (Hair, Hult, Ringle, & Sarstedt, 2017; Ramayah et al., 2018).

3.11.2 Structural Model Path Coefficients

To begin, the significance of the path coefficients will be assessed via bootstrapping. Hair et al. (2014) recommended using 5,000 as the minimum number for bootstrap resampling in the procedure performing. The critical values for a one-tailed test are 1.28, 1.645 and 2.33 at significance levels of 10%, 5%, and 1% respectively. In practice, the path coefficients with a probability of error of 5% should be considered significant. The goal of PLS-SEM is not only to

identify significant path coefficients in the structural model but also to identify relevant effects. The path coefficients of the structural model will explain each other. If one path coefficient is larger than the other, its influence on the endogenous variable is greater.

In addition to assessing the direct influence of one construct on another, the indirect influence of the same construct through one or more mediating constructs will also be studied. The sum of the direct and indirect effects is called the total effect. The interpretation of total effects is used to explore the different effects of different driver constructs on a criterion construct through the mediating variable.

3.11.3 Coefficient of Determination (R^2Value)

R^2 is a measure of the proportion of an endogenous construct's variance that is explained by its predictor constructs. It has a value ranging from 0 to 1 with higher levels suggesting more prediction accuracy. As a general rule, R^2 values of 0.75, 0.5 or 0.25 are substantial, moderate, or weak respectively (Hair et al., 2014).

3.11.4 Effect Size f^2

The effect size f^2 is a measure used to evaluate the relative influence of the predictor construct on an endogenous construct. As a rule of thumb, effect size (f^2) values of 0.02, 0.15 and 0.35 indicate small, medium, or large impacts of an exogenous construct on an endogenous construct (Cohen, 1988).

3.11.5 Predictive Relevance Q^2

The alternate means of assessing the PLS path model's predictive accuracy is to calculate the value of Q^2 based on the blindfolding procedure. If Q^2 value of a specific endogenous construct is greater than zero, this shows the path model has predictive accuracy for that construct. As a rule of thumb, for a given endogenous construct, Q^2 value higher than 0, 0.25 and 0.50 represent small, medium, and large predictive relevance respectively for a certain endogenous construct (Hair et al., 2018).

3.11.6 Indirect Effect and Variance Accounted for (VAF)

Through performing PLS algorithm and bootstrapping procedures include the mediator, the paths from exogenous variable to the mediator and the mediator to the independent variable were verified. According to Preacher and Hayes

(2008), if the bootstrapping result shows that the indirect effect of the construct was significant, it indicates that there is a mediating effect.

In order to establish the strength of the mediating effect, the variance accounted for (VAF) is assessed. VAF is the variance explained in the dependent variable (firm performance) by the indirect relationship. It is calculated as:

VAF = indirect effect / total effect.

The summary of indices used for the structural model assessment are presented in Appendix F.

3.12 Ethical Considerations

Before the data collection process, documents for application of ethical clearance for the study were submitted to the UTAR Vice President's Office (Research & Development & Commercialisation) for approval. The details of the study were supplied in the attached form. Upon obtaining approval for ethical clearance, the questionnaires with an accompanying letter, and a copy of Personal Data Protection Statement form to obtain the consent of the respondents, were sent by post to the identified manufacturing firms.

3.13 Summary

The study consists of two phases. First, identify the areas of soft skills in demand, competence levels of the entry-level graduate workforce and skill gaps. Second, examine the effect of soft skills T&D on human resource outcomes and firm performance. This chapter first described the data collection methods (population, sampling method, and survey instrument) and the approaches used to develop the research instrument for both phases of the study. Then, other aspects of research design, such as operationalisation and measurement, and justification on the use of data analysis methods used for both phases of the study were detailed separately. Furthermore, issues related to the ethical considerations of this research were presented.

CHAPTER 4

RESULTS OF ANALYSIS AND DISCUSSIONS

4.1 Introduction

Phase I of the study elicits employers' comments on soft skills demand and their employees' level of competencies of soft skills, so as to find out the soft skills gap. Phase II of the study is on hypotheses testing to establish the impacts of soft skills T&D on human resource outcomes and firm performance. This chapter explains the analysis conducted and its results.

The following sections discuss the response rate, non-response bias, demographic characteristics, and preliminary analysis of the survey for employers' preference for soft skills, job knowledge, and technical skills will be presented. Then the analysis results of Phase I of the study on current and future soft skills and languages in demand, soft skills and language gaps, and discussion of these findings are presented. Analysis results of phase II study include multivariate outliers check, common method bias, and evaluation of the measurement model, structural model, and discussion of the findings of the analysis results. Thereafter, the chapter is closed with a summary.

4.2 Response Rate

Using a random sampling selection procedure, a total of 1,790 questionnaires were mailed to respondents. After a few follow-ups via emails or telephone, 199 were returned representing 11.12% response rate. Table 4.1 summarises the study's response data.

Table 4.1: Summary of the Response Data of the Study

State	Total Number of Manufacturers Registered with MIDA	Targeted Sample Size	Returned Questionnaires	Response Rate
Selangor	2,036	814	33	4.05%
Johor	1,324	530	37	6.98%
Penang	827	330	91	27.58%
Perak	291	116	38	32.76%
Total	4,478	1,790	199	11.12%
Response Rate		1,790/199 = 11.12%		

4.2.1 Non-response Bias

The response rate of 11.12% appears rather low. However, other studies which were carried out in the Malaysian manufacturing industry using mail surveys had quite a similar response rate (Abdul Rahman, et. al., 2013; Nor-Aishah et al., 2020; Ho et al., 2016). As highlighted by Sekaran (2003), this is one of the disadvantages of using a mail questionnaire survey. The non-response rate is a concern in survey methodology as it may affect the validity and generalisability of results. Following Armstrong and Overton's (1977) recommendation, this study compared the responses of late respondents to those of early respondents on the key constructs to check non-response bias. The late responses were treated as a proxy for non-response. Early responses were those questionnaires received within the first three weeks (60.3%, 120 respondents). Those received after three weeks were treated as late responses (39.70%; 79 respondents). Pallant (2010) and Nachar (2008) recommended using Mann-Whitney U Test, one of the statistical tests for comparing two independent groups to check the non-response bias as it is one of the non-parametric techniques most suited for data measured on both ordinal and nominal scales where large normally distributed samples are not required. As highlighted by Kasuya (2001, cited in Nachar, 2008 p.13), Mann-Whitney U Test, is commonly used in behavioural sciences study for non-parametric statistical testing.

The following assumptions are made for the test:

(i) The two groups under examination are selected at random from the population targeted.

(ii) Every respondent is counted once. They are mutually independent of one another.

(iii) The scale of measurement is an ordinal or continuous.

The z values shown in this analysis are -0.165 (T&D), -0.67 (HRO) and -0.696 (FP) with significant levels (p) of p=0.869 (T&D), 0.946 (HRO) and 0.486 (FP) respectively. The result is statistically insignificant as the probability values (p) are > 0.05. This demonstrates that there is no significant difference in the scores T&D, HRO and FP of two groups at 5% significance level (Pallant, 2010; Nachar, 2008) (refer to Table 4.2 & 4.3). This finding concluded that even though the response rate is low, it does not necessarily lead to biased results.

Table 4.2: Analysis Mann-Whitney U Test

	T&D	HRO	FP
Mann-Whitney U	4635.500	4674.000	4428.000
Wilcoxon W	11775.500	11814.000	7588.000
z	-.165	-.067	-.696
Asymp. Sig. (2-tailed)	**.869**	**.946**	**.486**

Table 4.3: Ranks

Construct	Group	N	Mean Rank	Sum of Ranks
T&D	group 1	120	98.95	11775.50
	group 2	79	100.32	7925.50
	Total	199		
HRO	group 1	120	99.28	11814.00
	group 2	79	99.84	7887.00
	Total	199		
FP	group 1	120	101.79	12113.00
	group 2	79	96.05	7588.00
	Total	199		

4.2.2 Characteristics of the Respondents

The target respondents were managerial level from human resource / training department from various sub-sectors of the Malaysian manufacturing industry. The respondents consist of managers / senior managers /directors (48.70%), executives (39.70%), and others (11.5%) from various sub-sectors namely: “electrical and electronics” (29.15%); “food, beverage, and tobacco” (9.55%); “non-metallic, mineral products, basic metal, and fabricated metal products” (13.57%); “petroleum, chemical, rubber, and plastics” (15.06%); “textile, weaving, apparel and leather” (4.02%); “transport, equipment, and other manufacturers” (18.09%), and “wood products, furniture, paper products, and printing” (10.55%). The distribution of the respondents is shown in Appendix G.

4.3 Data Analysis for Preliminary Survey and Phase I Study

The analyses of the data gathered for preliminary survey and Phase I of the study were carried out through statistical analyses employing descriptive such as means, and standard deviation and inferential statistics such as comparison of means by t-test.

Preliminary Survey

4.3.1 Preferences for Technical Skills, Job Knowledge and Soft Skills

Figures 4.1, 4.2, and 4.3 depict the level of preference for technical skills, job knowledge and soft skills among employers in the various subsectors respectively.

4.3.1.1 Preference for Technical Skills

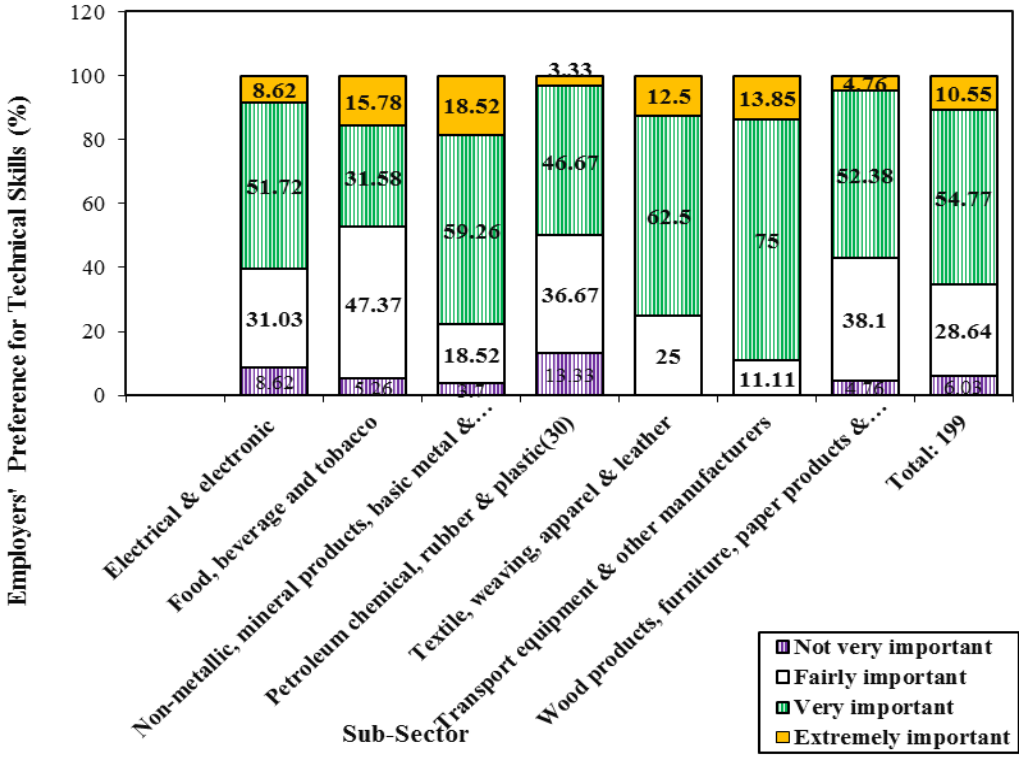


Figure 4.1: Employers' Preferences for Technical Skills (in Percentage)

A total of 65.32% (n=130) of the respondents rated technical skills as "very important" or "extremely important". As shown in Figure 4.1, technical skills are specially preferred by employers from sub-sectors "transport equipment & other manufacturers", "non-metallic, mineral products, basic metal & fabricated metal products" and "textile, weaving, apparel & leather" as more than 75% of the respondents from these sub-sectors indicated that technical skills are very important or extremely important (88.85%, 77.78 %, and 75% respectively).

4.3.1.2 Preference for Job Knowledge

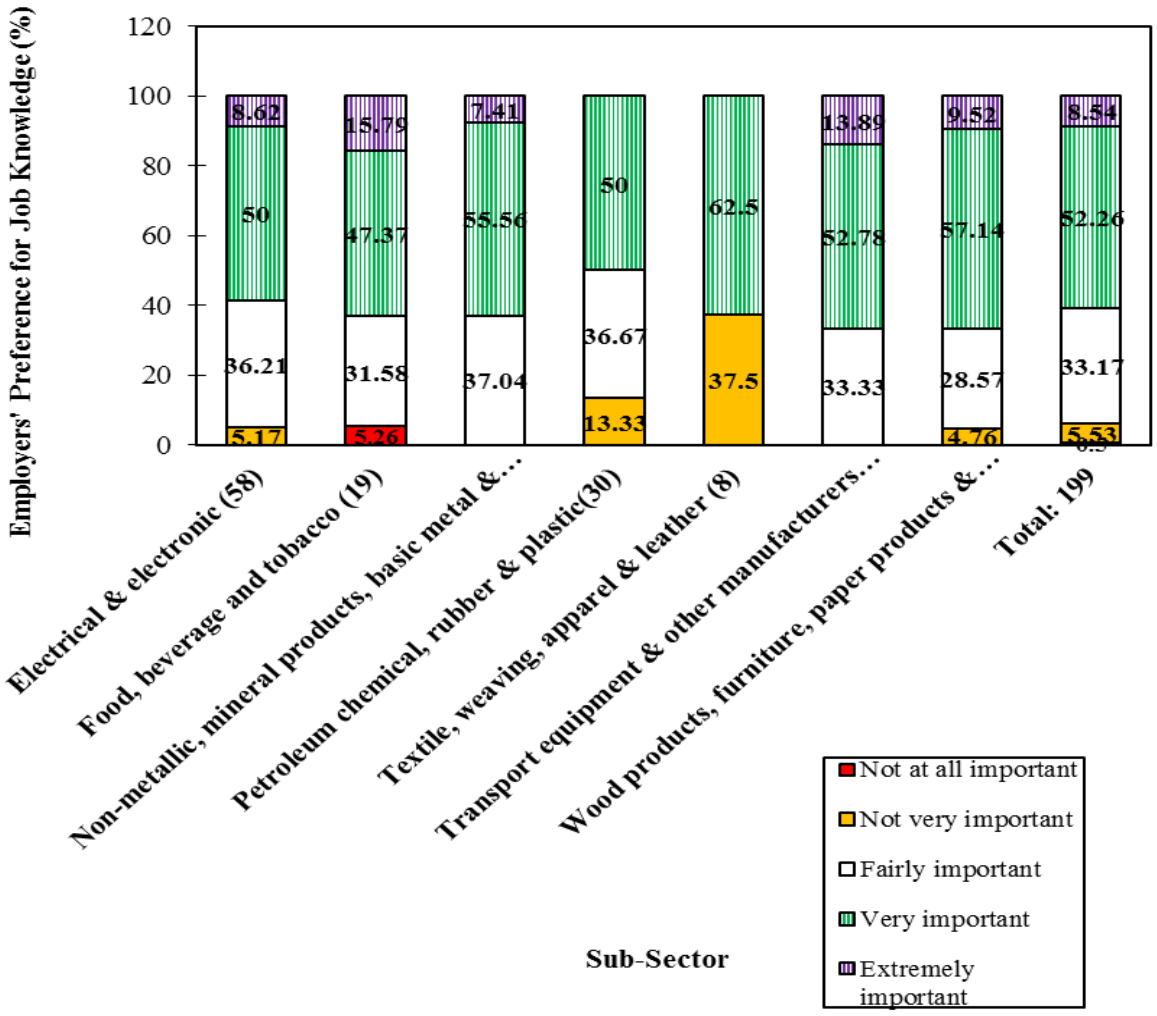


Figure 4.2: Employers' Preferences for Job Knowledge (in Percentage)

Job knowledge was regarded as very important or extremely important by 60.80% of the respondents (n=121). Figure 4.2 illustrates that, with the exception of the "electrical and electronic" and "petroleum chemical, rubber and plastic" sub-sectors, more than 62% of the respondents in the other five sub-sectors rated job knowledge as very important or extremely important.

4.3.1.3 Preference for Soft Skills

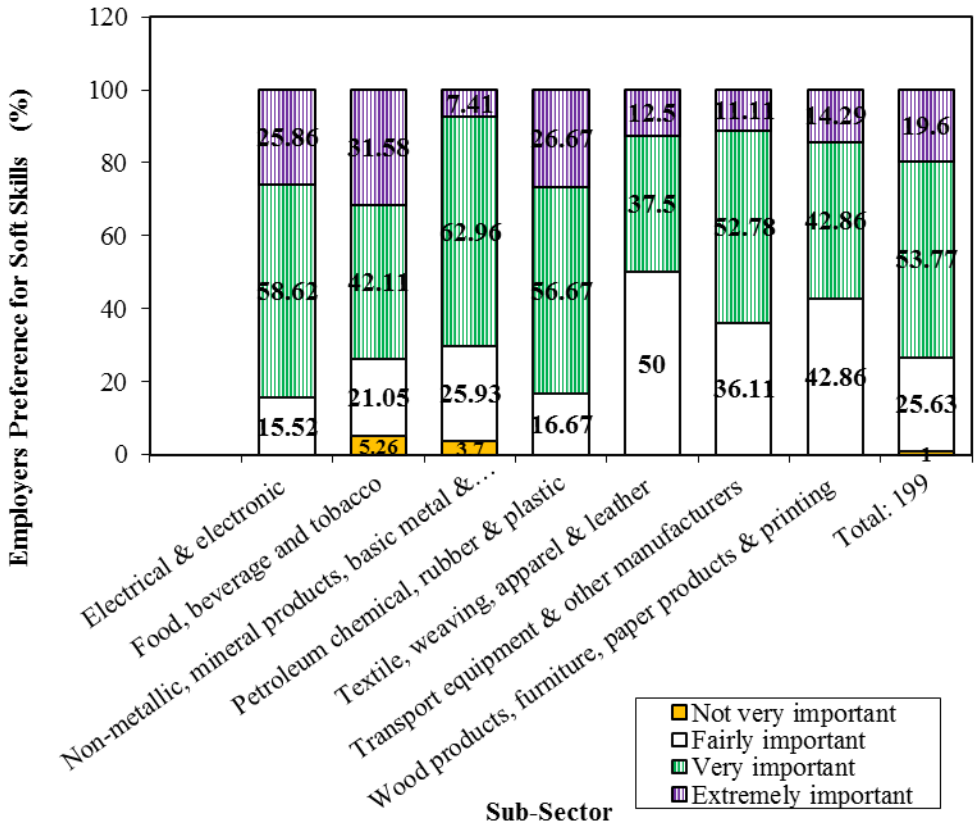


Figure 4.3: Employers' Preferences for Soft Skills (in Percentage)

A total of 73.37% (n=146) of the employers rated soft skills as "very important" or "extremely important". Figure 4.3 shows that more than 80% of the respondents from the "electrical and electronic" and "petroleum chemical, rubber and plastic" sub-sectors rated soft skills as "very important" or "extremely important". Respondents in the sub-sectors of "textile, weaving, apparel, and leather" and "wood products, furniture, paper products, and printing" have placed less importance on soft skills. A total of 50% and 57.15% of the respondents respectively rated it as "very important" or "extremely important".

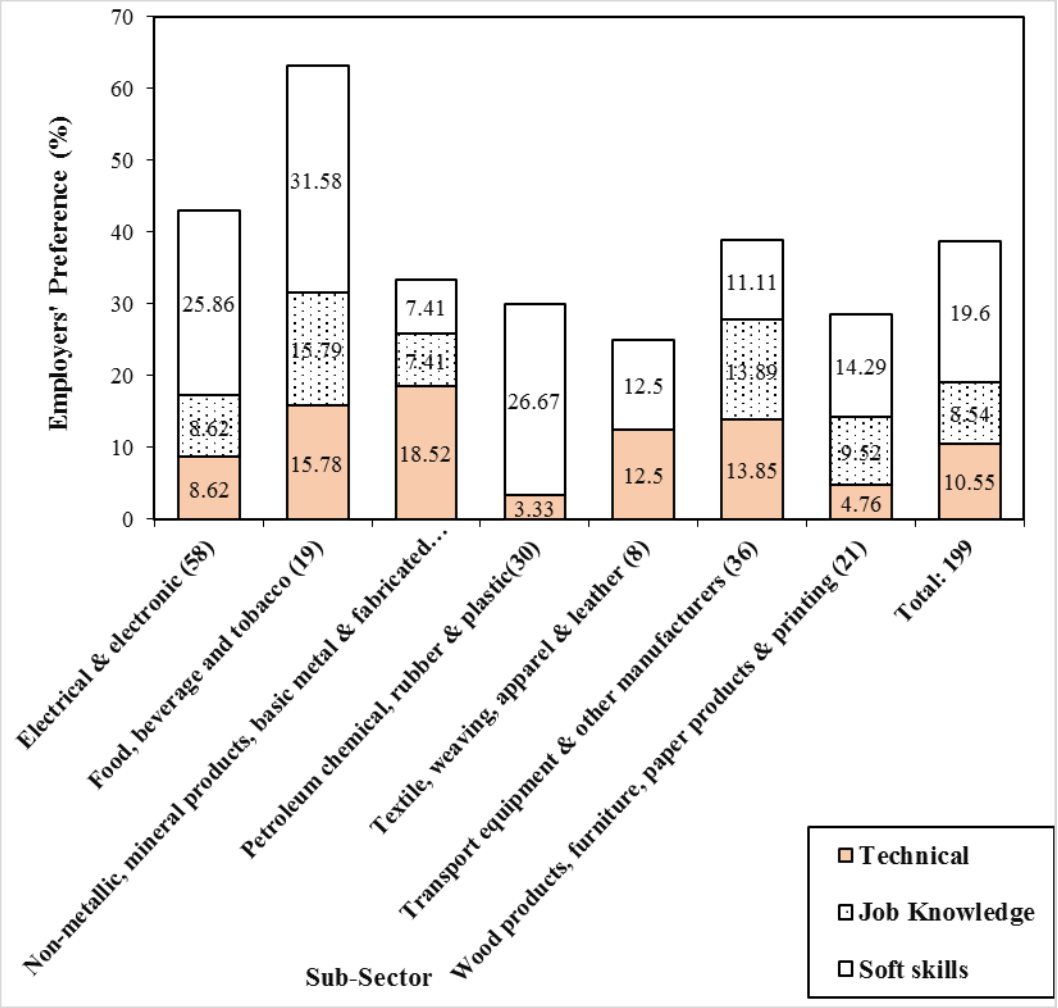


Figure 4.4: Employers Who Rated Technical Skills / Job Knowledge / Soft Skills as 'Extremely Important'

Different sub-sectors had shown different preferences for skills mainly due to the nature of jobs, requirements of skills involved in different production processes and activities. Figure 4.4 presents subsectors' highest preferences among technical skills / job knowledge /soft skills which are summarised as follows:

A) Sub-sectors showed a higher preference for soft skills than technical skills and job knowledge

- Electrical & electronics
- Food, beverage, and tobacco
- Petroleum chemical, rubber & plastic:
- Wood products, furniture, paper products & printing

This finding suggests that these sub-sectors involve working with various resources both internally such as colleagues in other departments and externally such as vendors, partners, and customers, hence soft skills are highly demanded in these sub-sectors.

B) Sub-sector showed a higher preference for technical skills than for job knowledge and soft skills.

- Non-metallic, mineral products, basic metal & fabricated metal products

This result indicates that tasks of employees in "Non-metallic, mineral products, basic metal & fabricated metal products" are highly technical and machine dependent.

C) Sub-sector showed a higher preference for technical skills and soft skills than job knowledge.

- Textile, Weaving, apparel & leather

This finding suggests that in the “textiles, weaving, apparel and leather” sub-sector, employees may need to work production process that involved both various raw materials, product designs and handling of customers.

D) Sub-sector showed a higher preference for technical skills and knowledge than soft skills

- Transport equipment & other manufacturers

This result shows that tasks in sub-sector “transport equipment and other manufacturers” focus more on technological innovations and product design and are heavily machine-dependent. Hence employees need technical skills and knowledge to handle these tasks.

4.3.2 Soft Skills and Language in Demand at Present and in the Future

Using a 5-point Likert scale - "1= not at all important to 5= extremely important", respondents were requested to identify the firm's present and future demand of soft skills and languages identified for this study. The higher the number on the Likert scale, the greater the level of importance. The following table (Table 4.4) summarises the current and future demand for the seven categories of soft skills and three languages, as well as their attributes rated by manufacturing employers. These are the areas of soft skills and languages which employers expect from their employees in order for them accomplish their jobs at their firm in the present and future states. Figure 4.5 reports the ranking of soft skills based on mean scores.

Table 4.4: Soft Skills and Languages in Demand (Current and Future)

Categories of soft skills and attributes	Items code	Current demand (a)			Future demand (next 5 years) (b)			Change in demand (b)-(a)	
		M	SD	Rank	M	SD	Rank	M	Rank
1. Communication skills	**CC**	**3.589**	**0.534**	**4**	**4.340**	**0.511**	**7**	**0.751**	**7**
Ability to present ideas in writing with confidence.	CC1	3.465	0.626		4.263	0.631		0.795	
Ability to present ideas verbally with confidence.	CC2	3.621	0.624		4.399	0.549		0.779	
Ability to communicate with others from different cultures	CC3	3.687	0.655		4.369	0.684		0.683	
2. Critical, creative thinking and problem- solving skills	CTPS	**3.560**	**0.609**	**5**	**4.501**	**0.526**	**3**	**0.941**	**2**
Ability to analyse problems in complex and ambiguous situations	CTPS1	3.571	0.663		4.525	0.567		0.959	
Ability to develop new ideas	CTPS2	3.556	0.743		4.490	0.619		0.934	
Ability to think-out-of-the box	CTPS3	3.558	0.730		4.487	0.636		0.932	
3.Teamwork	TS	**3.783**	**0.647**	**1**	**4.505**	**0.469**	**2**	**0.722**	**8**
Ability to work effectively with others to achieve common objectives	TS1	3.859	0.691		4.606	0.520		0.751	
Ability to respect the attitudes, behaviours and beliefs of others	TS2	3.798	0.754		4.460	0.609		0.662	
Ability to contribute to the planning and coordination of group efforts	TS3	3.692	0.734		4.449	0.574		0.758	

Table 4.4 continued: Soft Skills and Languages in Demand (Current and Future)

Categories of soft skills and attributes	Items code	Current Demand (a)			Future Demand (next 5 years) (b)			Change in future demand (b)-(a)	
		M	SD	Rank	M	SD	Rank	M	Rank in change
4.Entrepreneurship	KK	**3.239**	**0.825**	**7**	**4.123**	**0.832**	**8**	**0.884**	**3**
Ability to identify business opportunities	KK1	3.323	0.888		4.177	0.875		0.857	
Ability to frame a business plan	KK2	3.131	0.851		4.045	0.874		0.919	
Ability to explore business opportunities	KK3	3.263	0.868		4.146	0.892		0.887	
Moral and professional Ethics	EP	**3.640**	**0.569**	**3**	**4.431**	**0.569**	**4**	**0.791**	**4**
Ability to engage in their work professionally	EP1	3.662	0.589		4.500	0.602		0.838	
Ability to analyse and make decisions to solve problems related to ethics	EP2	3.626	0.677		4.449	0.665		0.824	
Ability to practise ethical behaviour in addition to having a responsible attitude towards society	EP3	3.631	0.691		4.343	0.663		0.709	
Leadership	LS	**3.369**	**0.739**	**6**	**4.407**	**0.625**	**6**	**1.038**	**1**
Ability to lead a project	LS1	3.364	0.780		4.399	0.659		0.816	
Ability to supervise a team	LS2	3.374	0.762		4.414	0.669		0.676	
Emotional Intelligence	EQ	**3.771**	**0.593**	**2**	**4.527**	**0.488**	**1**	**0.756**	**6**
Ability to be proactive in preparation for a given task	EQ1	3.737	0.662		4.505	0.594		0.773	

Table 4.4 continued: Soft Skills and Languages in Demand (Current and Future)

Categories of soft skills and attributes	Item code	Current Demand			Future Demand (next 5 years) (b)			Change in demand (b)-(a)	
		M	SD	Rank	M	SD	Rank	M	Rank in change
Ability to accept challenges with positive attitude	EQ2	3.803	0.635		4.520	0.540		0.717	
Ability to work independently	EQ3	3.813	0.661		4.535	0.530		0.727	
Ability to work under pressure	EQ4	3.732	0.743		4.545	0.584		0.818	
Language									
English	LP_Eng	**3.783**	**0.743**	**1**	**4.568**	**0.562**	**1**	**0.785**	**5**
Ability to write in English	LP1	3.788	0.751		4.591	0.587		0.802	
Ability to speak fluently in English	LP2	3.778	0.768		4.545	0.601		0.772	
Bahasa Malaysia	LP_BM	**3.157**	**0.808**	**9**	**3.513**	**0.947**	**10**	**0.356**	**10**
Ability to write in Bahasa Malaysia	LP3	3.131	0.839		3.470	0.996		0.339	
Ability to speak fluently in Bahasa Malaysia	LP4	3.182	0.823		3.556	0.937		0.378	
Chinese	LP_Chi	**3.172**	**0.988**	**8**	**3.730**	**1.104**	**9**	**0.558**	**9**
Ability to write in Chinese	LP5	3.101	1.008		3.707	1.129		0.609	
Ability to speak fluently in Chinese	LP6	3.242	1.058		3.753	1.106		0.508	

4.3.2.1 Soft Skills in Demand at Present

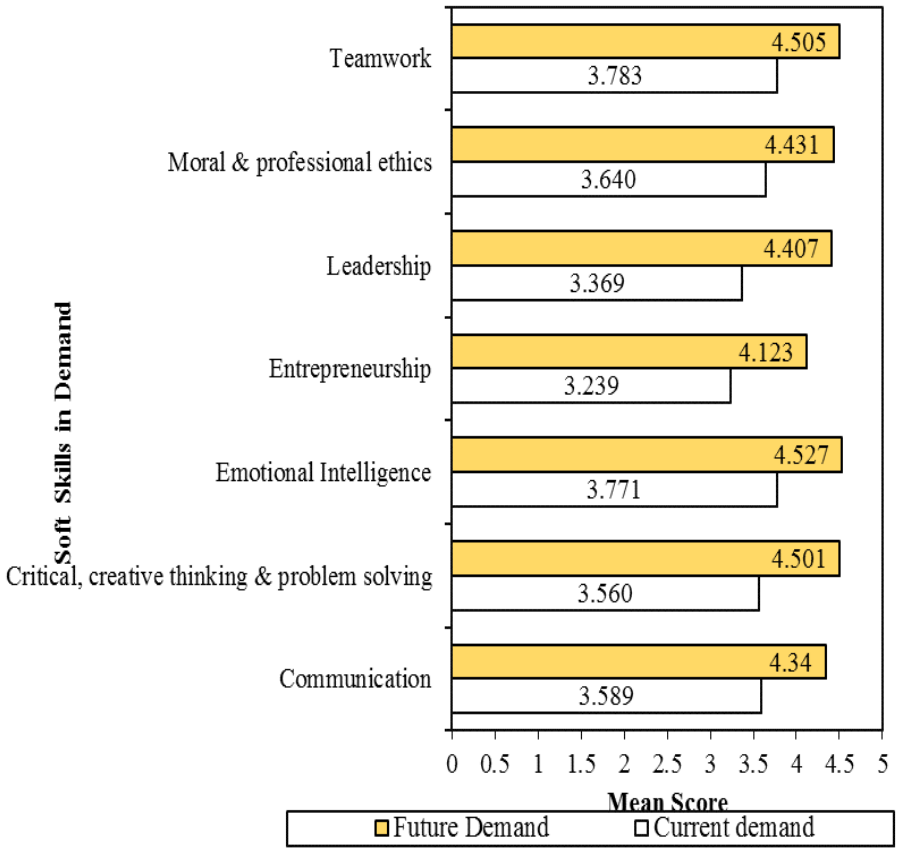


Figure 4.5: Mean Scores of Soft Skills in Demand (Current and Future)

As shown in Figure 4.5, no soft skill in the proposed categories has a mean response of lower than 3.0 "fairly important" (out of 5) in the current demand. "TS: teamwork" (mean score: 3.783), "EQ: emotional intelligence" (mean score: 3.771) and "moral and professional ethics" (mean score: 3.640) are the three most demanded skills by employers. All of these soft skills categories have mean scores greater than 3.60, denoting that they are viewed as above 3.0 "fairly important" and nearing 4 "very important" skill sets that employers sought.

According to Table 4.4, the descriptive statistics under “TS: teamwork”, the measuring item “TS1: ability to work effectively with others to achieve common objectives” has the highest mean score (M=3.859) and item ”TS3: ability to contribute to the planning and coordination of group efforts” has the lowest mean score (M=3.692). For “EQ: emotional intelligence”, the highest mean score is for item “EQ3: ability to work independently” (M= 3.813) while the lowest is for item “EQ4:“ability to work under pressure” (M=3.732). The items measuring “EP: moral and professional ethics” reveal that the greatest mean score is for item “EP1: ability to engage in their work professionally” (M=3.662), while the lowest mean score is for item “EP2: ability to analyse and make decisions to solve problems related to ethics” (M=3.626).

4.3.2.2 Soft Skills in Demand in the Future

As indicated in Figure 4.5, all categories of soft skills are in high demand in the future (mean score above 4.3). The three areas of soft skills, “TS: teamwork”, “EQ: emotional intelligence”, and “CTPS: critical, creative thinking and problem-solving skills”, which are of high demand currently, are also seen as having the most important magnitude, as they occupy the top three most important skills with mean scores of above 4.0 (very important). The top three high demanded skills in the future are: “EQ: emotional intelligence” (mean score 4.527), “TS: teamwork” (mean score 4.505), and “CTPS: critical, creative thinking and problem-solving skills” (mean score 4.501). Even while “EQ:

emotional intelligence" and "TS: teamwork" remain in the top three ranks of future demand, the rankings of these two areas of soft skills have shifted. The demand for "EQ: emotional intelligence" has grown, but "TS: teamwork" is ranked second in future demand vs. first in present demand. It is observed that the demand for "CTPS: critical, creative thinking, and problem-solving skills" has grown, moving it from fifth in current demand to third in future demand. Further study on the measuring items of these areas of soft skills that will be in high demand in the future, shows that under "EQ: emotional intelligence", the measuring item "EQ4: ability to work under pressure" receives the highest mean score (M=4.545) followed by item "EQ3: ability to work independently" (M=4.535). The measuring item "TS1: ability to work effectively with others to achieve common objectives", remains the most demanded skill in teamwork followed by item "TS2: ability to respect the attitudes, behaviours and beliefs of others" (M=4.460). In terms of soft skills component, "CTPS: critical thinking, creative thinking and problem-solving", there is a substantial rise in demand of measuring item,"CTPS1: ability to analyse problems in complex and ambiguous situations" (M=4.525), followed by item "CTPS2: ability to develop new ideas" (M=4.490) and "CTPS3: ability to think-out-of-the box" (M=4.487).

4.3.2.3 Change in Soft Skills Demand (Compared Current and Future Demand)

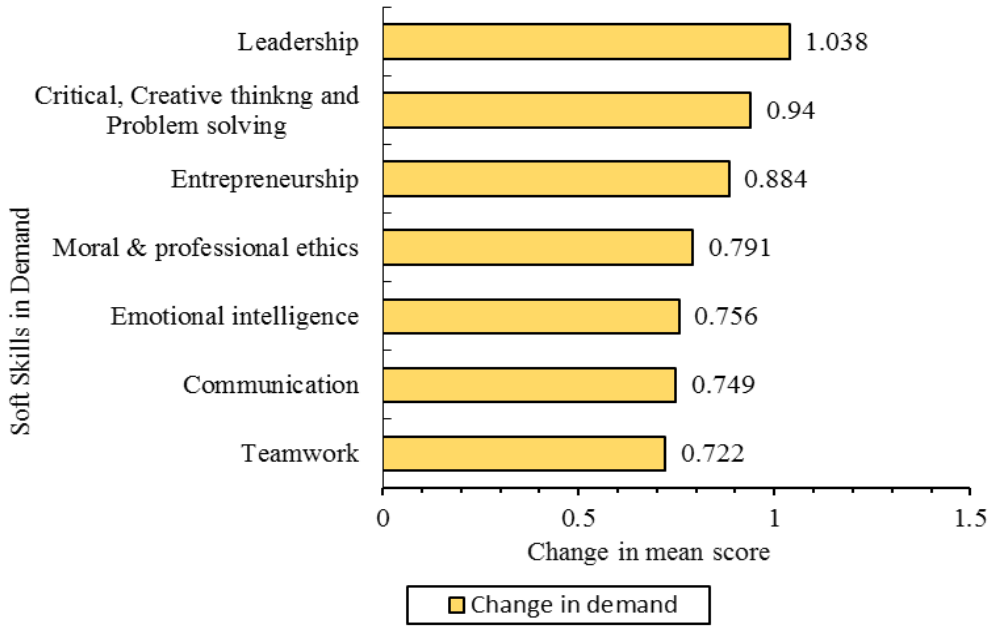


Figure 4.6: Change in Mean Scores of Soft Skills (Compared Current and Future Demand)

The three categories of soft skills which show a significant increase in their mean scores of above 0.80 when comparing the current and future demand are: "LS: leadership skills", followed by "TS: teamwork" and "CTPS: critical thinking, creative thinking and problem-solving" (change in mean scores: 1.038, 0.94, and 0.884 respectively) (Table 4.4 and Figure 4.6). The significant increase in demand for the measuring items of these areas of soft skills is shown as follows:

Emotional intelligence: Measuring items: "EQ1: ability to be proactive in preparation for a given task" and "EQ4: ability to work under pressure" (change in mean score: 0.594 and 0.584 respectively).

Teamwork: Measuring items: “TS3: ability to contribute to the planning and coordination of group efforts”, and “TS1: ability to work effectively with others to achieve common objectives” (change in mean scores: 0.758 and 0.751 respectively). The finding on the importance of the various areas of soft skills matches well with the report of WEF (2016), where these areas of soft skills highlighted in the report would be in high demand by employers of their employees to perform tasks in the age of IR4.0.

Critical thinking, creative thinking, and problem-solving: Measuring items: “CTPS1: ability to analyse problems in complex and ambiguous situations” followed by “CTPS2: ability to develop new ideas”, and “CTPS3: ability to think-out-of-the box” (change in mean scores: 0.758, 0.934 and 0.932 respectively).

4.3.2.4 Languages in Demand at Present

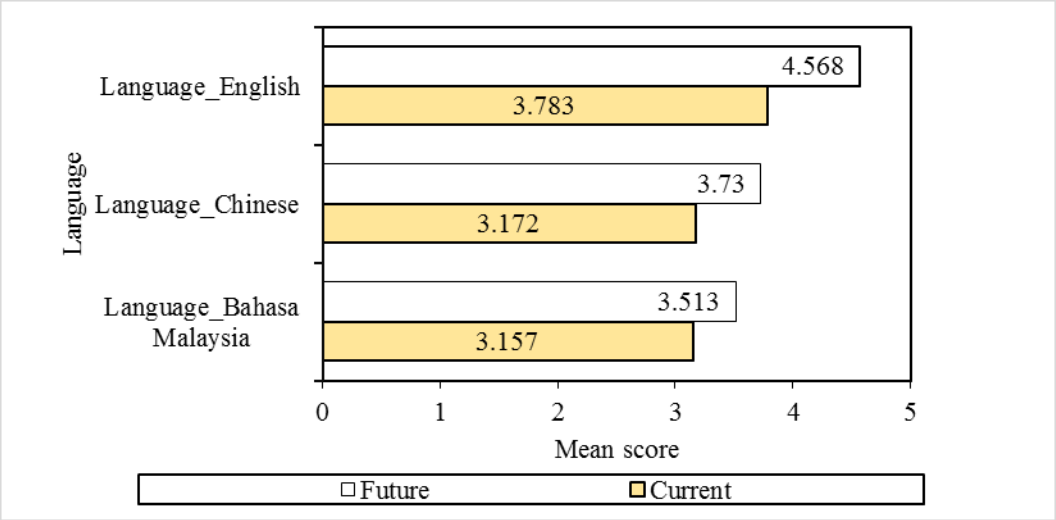


Figure 4.7: Mean Scores of Language in Demand (Current and Future)

As seen in Figure 4.7, English is the most important language used nowadays. Employers valued both oral and written skills in English equally. The next language skills in line are Chinese followed by Bahasa Malaysia. Compared to–written skills, there is a higher demand for oral skills in both Chinese and Bahasa Malaysia (see Table 4.4).

4.3.2.5 Languages in Demand in the Future

The English language remains in high demand by employers in future. (M=4.568). Both oral and written skills in this language are placed equally important in future by employers. The next language which is in high demand is Chinese while both oral and written skills are also rated equally important.

4.3.2.6 Change in Language in Demand (Compared Current and Future Demand)

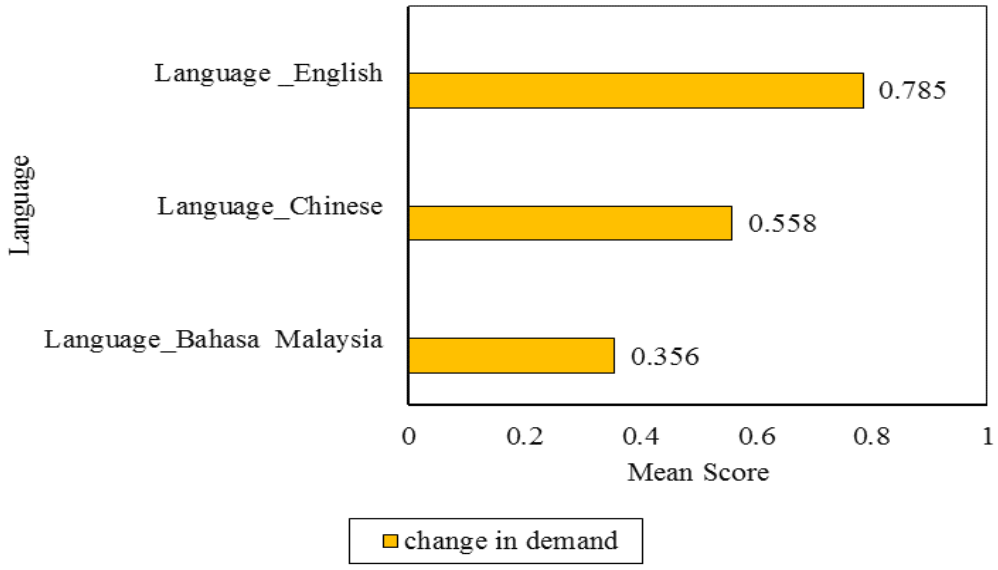


Figure 4.8: Change in Mean Score of Languages in Demand (Compared Current and Future Demand)

As noted from Figure 4.8, the change in the mean score of the English language is significant (0.785). The change in mean score in written skills in this language (0.802) is slightly higher than the change in oral skill (0.772). It is also worth highlighting that the change in mean score for item "LP5: ability to write in Chinese" (0.609) is more significant than the "LP6: ability to speak fluently in Chinese" (0.508). The change in the mean score for Bahasa Malaysia is less than 0.5 for both oral and written skills in this language (LP3 & LP4).

Table 4.5 summarises the findings of the above analysis which answer RQ1: "What are the areas of soft skills demanded by the Malaysian manufacturing industry currently and in the future?"

Table 4.5: Summary: Soft Skills and Languages in Demand (Current and Future)

Rank	Soft skills in Demand				Language in Demand			
	Current		Future		Current		Future	
	Component	Mean score	Component	Mean score	Language	Mean score	Language	Mean Score
1	Teamwork	3.783	EQ	4.527	English	3.783	English	4.568
2	EQ	3.771	Teamwork	4.505	Chinese	3.172	Chinese	3.730
3	Moral and prof ethics	3.640	Critical, thinking creative thinking and problem solving	4.505	Bahasa Malaysia	3.157	Bahasa Malaysia	3.513
4	Com-munication	3.589	Moral and professional ethics	4.431				
5	Critical, thinking, creative thinking, and problem-solving	3.560	Leadership	4.407				
6	Leadership	3.369	Com-munication	4.340				
7	Entrep	3.239	Entrep	4.123				

4.3.3 Competencies of Entry-Level Graduate Employees

To answer RQ2: “What are the soft skills competencies of entry-level graduate employees in the Malaysian manufacturing industry?” Respondents were asked to rate the level of competencies of their existing entry-level graduate workforce on a 5-point scale – “1=very poor to 5=very good”. The data of the employers’ ratings on their existing entry-level graduate workforce’s competencies are tabulated in Table 4.6 and presented in Figures 4.9 and 4.10 graphically.

Table 4.6: Competencies of Entry-Level Graduate Employees (Soft Skills and Languages)

Categories of soft skills and attributes	Item code	Competencies of existing entry-level graduate employees M	SD	Rank
1. Communications skills	CC	**2.995**	**0.547**	6
Ability to present ideas in writing with confidence.	CC1	2.812	0.647	
Ability to present ideas verbally with confidence	CC2	3.030	0.614	
Ability to communicate with others from different cultures	CC3	3.150	0.703	
2. Critical thinking, creative thinking, and problem-solving	**CTPS**	**2.813**	**0.668**	2
Ability to analyse problems in complex and ambiguous situations	CTPS1	2.797	0.779	
Ability to develop new ideas	CTPS2	2.893	0.738	
Ability to think-out-of-the box	CTPS3	2.750	0.760	
3. Teamwork	**TS**	**3.215**	**0.539**	7
Ability to work effectively with others to achieve common objectives	TS1	3.305	0.622	
Ability to respect the attitudes, behaviours, and beliefs of others	TS2	3.264	0.663	
Ability to contribute to the planning and coordination of group efforts	TS3	3.076	0.685	

Table 4.6 continued: Competencies of Entry-Level Graduate Employees (Soft Skills and Languages)

Categories of soft skills and attributes	Item code	Competencies of existing entry-level graduate employees		Rank
		M	SD	
4. Entrepreneurship	KK	**2.514**	**0.775**	3
Ability to identify business opportunities	KK1	2.599	0.806	
Ability to frame a business plan	KK2	2.431	0.840	
Ability to explore business opportunities	KK3	2.513	0.873	
5. Moral and Professional Ethics	**EP**	**2.968**	**0.619**	**4**
Ability to engage in their work professionally	EP1	3.046	0.649	
Ability to analyse and make decisions to solve problems related to ethics	EP2	2.898	0.769	
Ability to practise ethical behaviour in addition to having a responsible attitude towards society	EP3	2.959	0.706	
6. Leadership	**LS**	**2.713**	**0.763**	**5**
Ability to lead a project	LS1	2.701	0.787	
Ability to supervise a team	LS2	2.726	0.837	

Table 4.6 continued: Competencies of Entry-Level Graduate Employees (Soft Skills and Languages)

Categories of soft skills and attributes	Item code	Competencies of existing entry-level graduate employees M	SD	Rank
7. Emotional Intelligence	**EQ**	**3.000**	**0.671**	**1**
Ability to be proactive in preparation for a given task	EQ1	2.970	0.684	
Ability to accept challenges with positive attitude	EQ2	3.061	0.753	
Ability to work independently	EQ3	2.995	0.792	
Ability to work under pressure	EQ4	2.975	0.811	
8. Language				
English	**LP_E**	**2.891**	**0.800**	**1**
Ability to write in English	LP1	2.832	0.867	
Ability to speak fluently in English	LP2	2.949	0.813	
Bahasa Malaysia	LP_BM	**3.322**	**0.703**	**3**
Ability to write in Bahasa Malaysia	LP3	3.274	0.740	
Ability to speak fluently in Bahasa Malaysia	LP4	3.371	0.714	
Chinese	LP_Chi	**3.135**	**0.834**	**2**
Ability to write in Chinese	LP5	3.041	0.282	
Ability to speak fluently in Chinese	LP6	3.230	0.896	

4.3.3.1 Competencies of Soft Skills

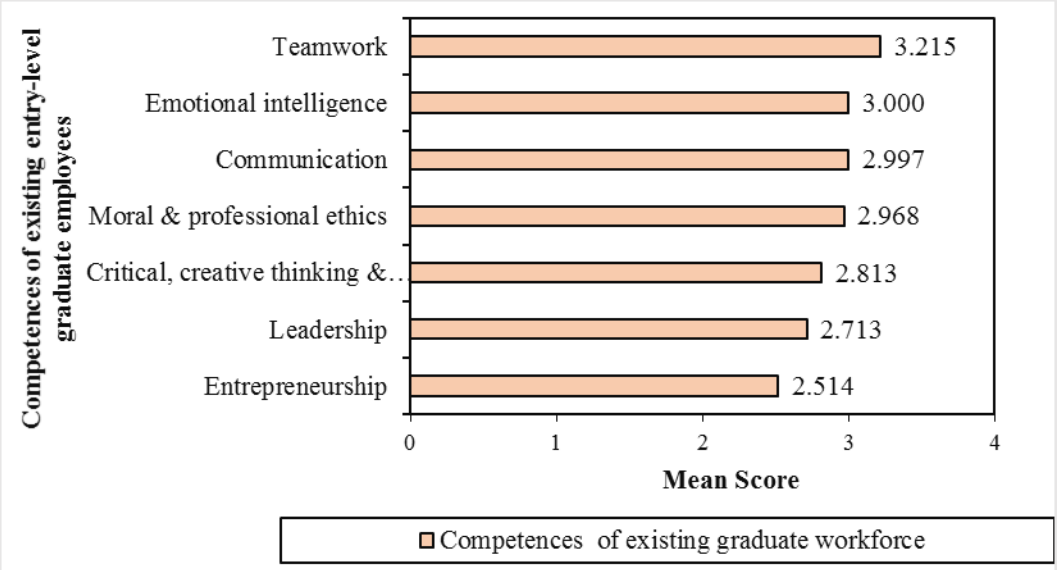


Figure 4.9: Existing Entry-Level Graduate Employees' Competencies of Soft Skills

The analysis results shown in Table 4.6 and Figure 4.9 highlighted the following observations. First, the existing entry-level graduate employees scored "average" level of competencies in teamwork and emotional intelligence (mean score of 3.2 and 3.0 respectively). Second, these employees are poor in "communication", "moral and professional ethics", "critical thinking, creative thinking, and problem-solving", "leadership", and "entrepreneurship" skills (mean score of 2.514 to 2.997 display the low competencies levels).

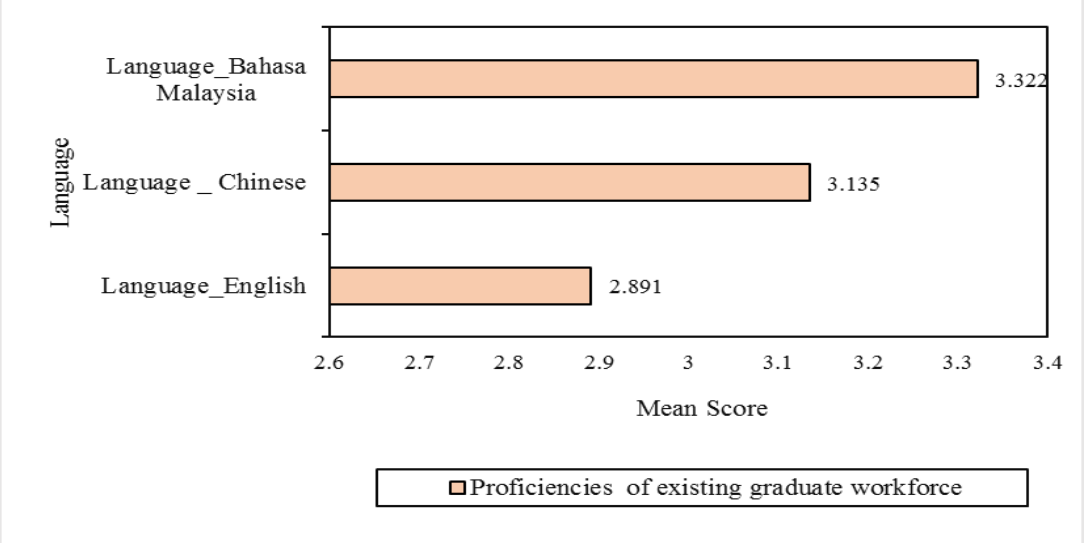


Figure 4.10: Existing Entry-Level Graduate Employees' Language Proficiency Levels

4.3.3.2 Language Proficiency

Among the three languages, the command of Bahasa Malaysia and Chinese among the entry-level graduate employees are at the "average" level, with mean scores of 3.322 and 3.135 respectively. However, the English language proficiency of the existing graduate workforce is poor (mean score of 2.891). (Table 4.6 and Figure 4.10). This implies that the present graduate workforce's English proficiency does not match with employers' demand, hence, efforts for improvement are needed.

4.3.4 Soft Skills and Language Gaps

In order to answer RQ3, "What are the areas of soft skills gaps in the manufacturing industry in Malaysia and the level of competencies of the soft skills of their existing graduate workforce, a paired samples t-tests were used conducted to measure the differences in employers' perception of the demand for soft skills and the competencies of the entry-level graduate workforce. Both the demand and the competencies were rated on the same scale 1=not at all important to 5= extremely important)

SPSS was used to perform the paired-samples t -test. An independent sample tells the researcher whether there is a statistically significant difference in the mean scores for two sets of data collected. The difference in mean score (gap score) between the demand (level of importance) and competencies (level of competence) indicates if graduates' quality of soft skills in the workplace meets employers' expectation. A negative value implies that the employees' competencies did not meet the employers' expectations, whereas a positive sign indicates that the employees' competencies were above the employers' expectations. The lower value of the gap score indicates that the soft skills competencies of graduates are approximately equal to the expectations of employers.

Table 4.7: Analysis Results of Paired-Samples T-Test to Compare Mean Values of Demand and Competencies

Component (Demand – Competency)		Paired Differences					t	df	Sig. (2-tailed)
		Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
1	Communication	-0.594	0.732	0.052	-0.697	-.492	-11.452	198	.000
2	Critical, creative and problem solving	-0.748	0.940	0.067	-0.880	-.617	-11.225	198	.000
3	Teamwork	-0.570	0.861	0.061	-0.690	-0.449	-9.338	198	.000
4	Entrepreneurship	-0.725	1.088	0.077	-0.878	-0.573	-9.401	198	.000
5	Moral & Prof ethics	-0.672	0.828	0.059	-0.787	-0.556	-11.438	198	.000
6	Leadership	-0.656	0.953	0.068	-0.789	-0.523	-9.711	198	.000
7	EQ	-0.771	0.834	0.059	-0.888	-0.655	-13.041	198	.000
8	Language-English	-0.892	0.997	0.071	-1.031	-0.753	-12.617	198	.000
9	Language -BM	0.166	0.895	0.063	0.041	0.291	2.614	198	.010
10	Language - Chinese	-0.038	1.014	0.072	-0.179	0.104	-.524	198	.601

As suggested by Pallant (2010), if the probability (p) value in Sig (2-tailed) column is less than 0.05, it is concluded that there is a significant difference between the scores of the two sets of data collected from the same group of respondents. In this analysis, as shown in Table 4.7, the probability for pairs 1-9, the probability is < 0.05. Therefore, this concludes that there is a significant difference in the Demand scores and Competencies scores for pairs 1-9 (i.e. 7 components of soft skills and 2 languages).

The results of the paired-samples t-test also indicate that there is no significant difference between demand and competencies of Chinese language as its p value of 0.601 is >0.05. The gap score is 0.038.

Considering the results from the paired-sample t-test, the findings from the above tables show that there is a significant negative gap between employers' expectations and the competencies of their existing entry-level graduate workforce in all components of soft skills identified for this study except for the Chinese language. Moreover, the score gap in Bahasa Malaysia is positive which indicate the competency of Bahasa Malaysia of entry-level graduate workforce meets (equal) the expectation of employers.

The details of the soft skills and language gaps are summarised and presented in Table 4.8 and Figures 4.11 and 4.12 below which answer RQ3: "What are the areas of soft skills gaps in the Malaysian manufacturing industry?"

Table 4.8: Summary of Soft Skills Gap and Language Gap

Rank	Soft Skill	Gap Score	Language	Gap Score
1	EQ	-0.771	English	-0.892
2	Critical thinking, Creative thinking, and problem-solving	-0.748	Chinese	-0.037
3	Entrepreneurship	-0.725	Bahasa Malaysia	+0.165
4	Moral and professional ethics	-0.672		
5	Leadership	-0.656		
6	Communication	-0.594		
7	Teamwork	-0.570		

4.3.4.1 Soft Skills Gaps

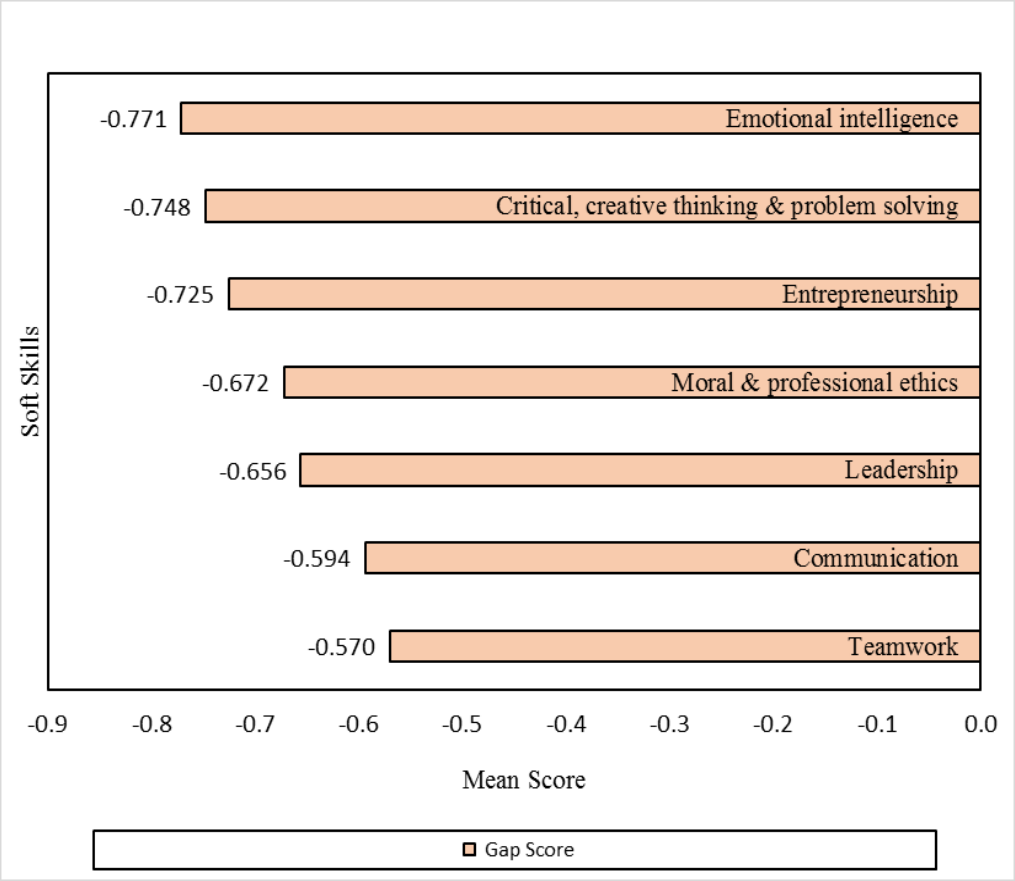


Figure 4.11: Soft Skills Gap

As shown in Table 4.8 and Figure 4.11, the highest soft skill gap score is "emotional intelligence" (skill gap score: 0.771), followed by "critical thinking, creative thinking, and problem-solving skills" (gap score: 0.748), and "entrepreneurship" (gap score: 0.725). The gap score for "teamwork" is the lowest (gap score: 0.570).

4.3.4.2 Language Gaps

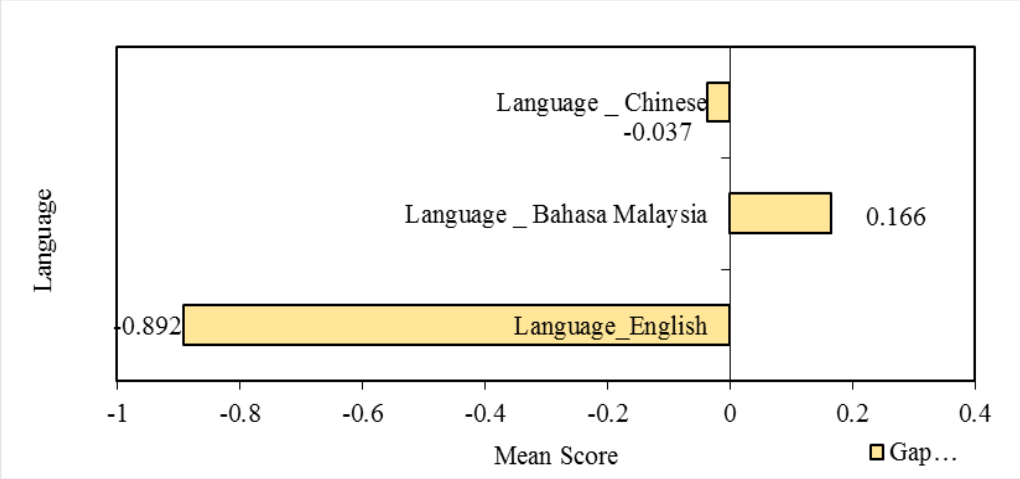


Figure 4.12: Language Gap

As shown in Table 4.8 and Figure 4.12, the largest gap score for languages that exceed the gap score of 0.70 is English (gap score: -0.892) while the skills gap in Chinese has the smallest gap score at -0.037.

4.4 Discussion on the Phase I of Study:

4.4.1 Preliminary Survey: Employers' Preference for Soft Skills Compared to Technical Skills and Job Knowledge

The above analysis shows that different sub-sectors of the manufacturing industry indicated varying levels of preference for technical skills, job knowledge, and soft skills. In summary, 73.37% (n=146) of respondents in the manufacturing industry preferred soft skills (with scores of 'very important' and 'extremely

important') above technical skills (65.32%, 130 respondents) and job knowledge (60.80%, 121 respondents) (Figure 4.4). These findings are consistent with the literature which emphasises the high demand of soft skills at work. Compared to hard skills, such as technical skills, some employers prefer soft skills (Behle, 2017; Bhal, 2015; Grugulis & Vincent, 2009; Ibrahim et al., 2017; Malik & Venkatraman, 2017; McMurray et al., 2016; Sarker et al., 2019; Stasz 2001; WEF, 2016). Employers in the sub-sectors "non-metallic, mineral products, basic metal and fabricated metal products" and "transport equipment and other manufacturers" had high preferences for technical skills and job knowledge rather than soft skills. This may attribute to the reason that these sub-sectors are a highly mechanised industry where production activities are heavily machine-dependent. Firms may have more focus on technological innovations and product designs. Hence, employees working in these sub-sectors need technical skills and knowledge to handle these types of tasks. The analysis also shows that in the sub-sector "textiles weaving, apparel and leather", technical skills and soft skills are equally important. The findings suggest that in the 'textile, weaving, apparel and leather' sub-sector, the work of employee's work may involve processing various raw materials in the production process and is responsible for manufacturing these raw materials for customers. Hence, employers prefer technical skills. On the other hand, in this sub-sector, firms may also be involved in mass production of garments / clothing where many low-skilled workers are employed. Hence, soft skills are needed to handle employees. As highlighted in Figure 4.4 the 'food, beverage and tobacco' sub-sector recorded the highest scores for 'extremely

important' of soft skills. The findings suggest that technical skills and job knowledge are in highest demand in innovative and productive groups, but soft skills are highly valued by employers in tasks that involve product promotion and customer service. In summary, preference of technical skills, job knowledge and soft skills are very much dependent on the nature of the job, production activity, and business strategy of the firm.

4.4.2 Categories of Soft Skills and Types of Languages in Demand at Present and in the Future

4.4.2.1 Categories of Soft Skills in Demand at Present

The mean scores of current demands for all soft skills categories and their indicators used in this study are above 3.0 (Table 4.4). This indicates that currently, these soft skills are fairly important / important to the manufacturing workforce. Among all the identified categories of soft skills, "teamwork", "emotional intelligence", and "moral and professional ethics" are in high demand by employers at present. Existing graduate employees are expected to "work effectively with colleagues/clients/public to achieve common objectives", "respect the attitudes, behaviours, and beliefs of others", and "contribute to the planning and coordination of group efforts". What can be deduced from the demand for "emotional intelligence", and "moral and professional ethics" which are seen as critically needed areas of soft skills in the manufacturing industry, is that employees are expected "to be proactive in the preparation for a given task",

"to accept challenges with a positive attitude" and "to work independently and under pressure". They are also expected "to engage in their work professionally", "to analyse and make decisions to solve problems related to ethics" and "practise ethical behaviour in addition to having a responsible attitude towards society". This may be because firms are expected to operate in an increasingly complex and dynamic global business environment both locally and overseas. Overall, the above findings reveal that there is some degree of consonance in the employers' demand for soft skills identified in studies of Rasul et al. (2013), and Hairi et al. (2011) which were conducted in Malaysia. On the other hand, as shown in Figure 4.5, "entrepreneurship skills" are the least important skills for entry-level graduate employees to perform their jobs in the manufacturing industry which is currently in demand by employers. This finding supports the study of Ngang et al. (2015) where entrepreneurial skills are the least in demand by employers. This indicates that the entry-level graduate workforce is not expected to identify and explore business opportunities nor prepare business plans at the entry-level. This could be due to this graduate workforce being new to the work environment, lack of experience and in the learning stage.

4.4.2.2 The Most Demanded Language by Employers at Present

Among the three languages, the English language is the most in-demand among employers. This finding supports past studies indicating that the English language is the primary language used in business communications and employers

prefer to recruit fresh graduates who have a good command of English (Akman & Turhan, 2018; Bae, 2013; JobStreet.com., 2015; Krish et al., 2012; Ngah et al., 2011; OECD, 2016; Singh & Chuah, 2012; World Bank, 2013; Zainuddin et al., 2019). On the other hand, Chinese and Bahasa Malaysia were found to be less important languages compared to the English language. This may suggest that graduates would have fewer opportunities to use Chinese and Bahasa Malaysia language in the workplace.

4.4.2.3 Categories of Soft Skills in Demand in the Future

It is worth noting that the importance of soft skills in all categories is increasing to meet future needs. In other words, there is a higher demand in all these seven areas of soft skills, while "emotional intelligence", "teamwork", "moral and professional ethics", and "critical thinking, creative thinking, and problem-solving" were the top three areas of soft skills highly demanded by employers. This finding supports the report of WEF (2016) on the high demand and importance of these skills in the new age. The results also demonstrate that employers place great importance on the ability of graduates to exhibit a wide variety of soft skills, so graduates must develop these skills throughout their university education. This could be an indication that the industry is anticipating going global in the fourth industrial revolution and will be operating in an increasingly complex global business environment to deal with more demanding foreign investors or customers for quality products and services. What can be

deduced further from the results of the significant change scores of "leadership skills" (change in mean score: 1.038), "critical thinking, creative thinking and problem-solving skills" (change in mean score: 0.914), and "entrepreneurship skills" (change in mean score: 0.884), suggests that graduate employees working in the new competitive digital age need the ability to analyse problems in complex and ambiguous situations, to think-out-of-the box and to develop new ideas. They are expected to have "leadership skills" (change in mean score: 1.038), "to lead projects" and "supervise team members". In addition, these graduate employees are not only expected to have high EQ, "to work under pressure" (change in mean score: 0.818), they are expected "to explore, identify and frame business opportunities" and "frame business plans" for the success of the firm with the "entrepreneurship skills" possessed by them (change in mean score: 0.884).

4.4.2.4 Types of Languages in Demand in Future

The English language will become more important in the future. This implies that, in addition to developing soft skills, to pursue a brilliant career in the new era of IR4.0, the future graduate workforce is also expected to be fluent in English (both oral and written). This suggests that English may be designated as an international language, a business language, and a technology language. The next language which is in line with high demand is Chinese (both oral and written skills). This may suggest China is increasing its presence in the business global

player, knowing their language would be the best way to open doors to business opportunities and facilitate dealing.

4.4.2.5 Competencies of Entry-Level Graduate Employees' Soft Skills and Soft Skill Gaps

The results where skills gaps exist in all the categories of soft skills (Figure 4.11; Table 4.8) indicate that the competencies of the existing graduate workforce did not meet employers' expectations. This finding has some degree of consonance with the soft skills gaps identified in past studies conducted in Malaysia. For instance, the study of Rasul et al. (2013) which showed that gaps exist in "leadership", and "entrepreneurship" skills, while in Nordin et al. (2013)'s study, skill gaps exist in "communication", "leadership", and "critical thinking, creative thinking, and problem-solving skills". However, the dissonance appears in the ranking of the skills in these studies. The differences could be due to varying emphasis on technology, job nature and educational paradigms in recent years. The current study also shows that skill gaps found in the past, "teamwork", "leadership", "entrepreneurship", "communication", "critical thinking, creative thinking, and problem-solving" (Abbasi et al., 2018; Rasul et al., 2013; Nordin et al., 2013), still exist in today's graduate workforce. The cause of this shortfall may also suggest a lack of emphasis, inappropriate learning methods, and consistent practice, as soft skills cannot be acquired in a day. A viable explanation could also be that these graduates were lacking appropriate training and exposure to hone, practise and apply their soft skills in the course of their studies in HEIs.

This results in them lacking the ability to perform tasks and to meet the employers' expectations. In addition, the analysis also provides evidence that skill gaps exist in the top soft skills demanded by employers in the IR4.0 highlighted in the WEF 2016 report. This has given an alarm to higher education institutions, related stakeholders, and policymakers that efforts should be made to assist undergraduates to improve their thinking skills.

4.4.2.6 Proficiencies of Entry-Level Graduate Employees' Language Skills and Language Gap

The graduate workforce's English proficiency would be a concern for employers as whose mean score is 2.891, which is lower than the average of 3.0 (Table: 4.6). This implies that even though past studies have repeatedly highlighted the poor proficiency of Malaysian graduates in the English language (Bae, 2013; OECD, 2016; Singh & Chuah, 2012; World Bank, 2013), there have been no significant improvements in this aspect in all these years. Among all the categories of languages, the proficiency of Bahasa Malaysia had the highest mean score (3.322) in level of competencies, and there was no gap (deficiency). This could be due to it being the national language and having been emphasised and prioritised in academic studies in both primary and secondary schools.

4.5 Data Analysis for Phase II study: The Relationships between T&D, Human Resource Outcomes and Firm's Performance

4.5.1. Checking Multivariate Outliers

Following the recommendation of Hair et al. (2014), the data were checked for outliers before performing the PLS-SEM. As suggested by Pallant (2010), the Mahalanobis distance is calculated to detect outliers. According to Tabachnick and Fidell (2015), the Mahalanobis distance is the distance of a particular case from the centroid of the remaining cases, where the centroid is the point created by the means of all the variables. The Mahalanobis D^2 distance for each case was computed by arbitrarily selecting a numerical variable with no missing cases as the dependent variable, and all other non-demographic measures were considered as independent variables. According to Pallant (2010, p. 159) Mahalanobis's distance is a statistical measure to identify outliers based on the critical chi-square value using the number of independent variables as the degrees of freedom. Tabachnick and Fidell (2007, cited in Pallant, 2010, p. 159) suggest using an alpha level of 0.001. Referring to the Chi-Square table, value at 0.001 significance level with 33 degree of freedom, the critical value is 63.87. In this analysis, no multivariate outliers were detected. As shown in Appendix H, the maximum score for Mahalanobis D^2 distances is 15.987, which is smaller than the critical value of 63.87. Since, there are no outliers in the data set reported in Table 4.9, this study retained all 199 cases.

Table 4.9: Mahalanobis D^2 Distances Values

Case	D^2 Value	Case	D^2 Value	Case	D^2 Value	Case	D^2 Value
65	15.99	123	2.33	111	1.26	80	0.57
189	10.36	72	2.22	165	1.25	168	0.57
67	9.98	84	2.21	17	1.22	44	0.51
193	9.74	128	2.21	37	1.22	46	0.51
12	9.53	126	2.20	30	1.19	147	0.51
106	9.25	76	2.17	52	1.19	155	0.51
53	6.74	150	2.17	104	1.19	50	0.48
3	6.68	81	2.08	182	1.12	60	0.44
68	6.66	180	2.05	26	1.11	113	0.43
185	6.54	170	1.99	107	1.08	142	0.43
39	6.44	22	1.94	169	1.08	25	0.43
161	5.91	66	1.89	100	1.08	122	0.41
96	5.88	163	1.84	118	1.08	146	0.41
184	5.78	86	1.83	139	1.08	32	0.41
56	5.76	48	1.83	127	1.07	99	0.41
9	5.47	75	1.80	151	1.00	152	0.40
177	5.44	125	1.80	145	0.99	167	0.40
20	4.92	98	1.79	97	0.95	83	0.40
92	4.81	42	1.75	181	0.94	78	0.40
6	4.46	138	1.75	27	0.94	108	0.37
154	4.23	16	1.74	19	0.93	190	0.34
120	4.23	63	1.74	82	0.92	70	0.30
130	4.22	134	1.64	136	0.91	195	0.29
58	4.03	8	1.61	87	0.91	18	0.27
88	3.65	33	1.61	23	0.90	28	0.25
197	3.58	54	1.61	14	0.89	7	0.25

Table 4.9 (continued): Mahalanobis D^2 Distances Values

Case	D^2 Value	Case	D^2 Value	Case	D^2 Value	Case	D^2 Value
198	3.58	85	1.61	188	0.89	199	0.23
61	3.55	124	1.61	103	0.86	4	0.23
21	3.38	164	1.61	135	0.83	110	0.23
109	3.37	90	1.61	140	0.83	101	0.23
166	3.36	49	1.61	40	0.83	117	0.23
91	3.32	34	1.58	73	0.83	143	0.22
179	3.22	137	1.58	15	0.80	35	0.15
93	3.22	160	1.57	79	0.80	2	0.15
132	3.20	159	1.56	176	0.78	141	0.15
148	3.20	51	1.54	129	0.77	144	0.12
183	3.20	196	1.52	38	0.76	119	0.11
47	3.04	95	1.43	69	0.76	59	0.11
45	3.03	112	1.42	71	0.76	24	0.07
62	2.98	191	1.42	187	0.76	43	0.07
186	2.95	13	1.38	158	0.75	10	0.06
131	2.81	29	1.38	121	0.67	116	0.05
31	2.81	55	1.38	162	0.67	192	0.05
41	2.73	115	1.38	57	0.66	157	0.05
77	2.73	172	1.38	74	0.64	149	0.04
89	2.69	178	1.38	174	0.64	156	0.04
94	2.69	1	1.28	175	0.64	102	0.03
114	2.60	173	1.28	194	0.64	10	0.003
133	2.55	5	1.27	171	0.63	153	0.02
64	2.33	36	1.27	11	0.57		

4.5.2 Assessment of Normality

As suggested by Hair et al. (2014), even though PLS-SEM does not need to satisfy the assumption of normality, it is important to discern the distribution of variables so that it can provide more robust results. Both univariate and multivariate normality was assessed.

4.5.2.1 Checking Univariate Normality

Following the recommendations of Hair et al. (2014), both skewness and kurtosis are used to test the univariate normality of the data in this study. As presented in Table 4.10, skewness, and kurtosis values for of all constructs vary from -0.802 to +0.170 and +0.592 to +1.190 respectively. At the indicator level, as shown in Table 4.11, the values of the skewness and kurtosis of all the indicators vary from -1.120 to + 0.235 and -0.415 and +2.285 respectively. They fall within the acceptable value of ±2 recommended by Garson (2012). The only exception is the TE4 indicator, which has a kurtosis of 2.285 so it exhibited a slight non-normality. However, since the extent of kurtosis is not serious, and moreover, TE4 is one of the four indicators used to measure the construct TE, this deviation from normality is not considered a problem. Hence, this indicator is maintained (Hair et al., 2014) and the data at this phase of study seems to have sufficient normality.

Table 4.10: Univariate Normality Checking: Skewness and Kurtosis of Constructs

Items / Indicators	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
T&D	-0.802	0.173	1.190	0.344
HRO	0.170	0.173	0.592	0.344
FP	0.232	0.173	0.965	0.344

Table 4.11 Univariate Normality Checking: Skewness and Kurtosis of indicators

Items / Indicators	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Training Needs				
TN1	-.745	.173	.788	.345
TN2	-1.047	.202	.912	.401
TN3	-.547	.202	.156	.401
TN4	-.697	.202	1.122	.401
TN5	-.595	.202	1.477	.401
Training Objectives				
TO1	-.446	.173	.563	.345
TO2	-1.025	.202	.968	.401
TO3	-.715	.202	.121	.401
TO4	-.568	.202	1.441	.401
TO5	-.578	.202	.379	.401
Training Evaluation				
TE1	-.583	.202	.656	.401
TE2	-.652	.202	.715	.401
TE3	-1.001	.202	.905	.401
TE4	-1.120	.202	2.285	.401
TE5	-.842	.202	.842	.401

Table 4.11 continued: Univariate Normality Checking: Skewness and Kurtosis of indicators

Items / Indicators	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Human Resource Outcomes				
HRO1.1	-.833	.202	1.741	.401
HRO1.2	.201	.202	.448	.401
HRO1.3	.071	.202	.254	.401
HRO1.4	.076	.202	.097	.401
HRO1.5	.212	.202	.297	.401
HRO1.6	.011	.202	-.164	.401
HRO1.7	-.042	.202	.213	.401
HRO1.8	-.114	.202	-.415	.401
HRO2.0	.064	.202	-.145	.401
HRO3.0	-.061	.202	-.368	.401
HRO4.0	-.306	.202	-.057	.401
HRO5.0	-.128	.202	.212	.401
Firm Performance				
FP1	-.042	.202	.035	.401
FP2	-.326	.202	.735	.401
FP3	-.303	.202	.637	.401
FP4	.120	.202	.261	.401
FP5	.235	.202	.372	.401
FP6	-.048	.202	.257	.401
FP7	.091	.202	.203	.401

Note: n= 199 for all items

T&D = Training and development; HRO= Human Resource Outcomes; FP= Firm Performance; TN = Training Needs; TO= Training Objectives; TE= Training Evaluation

4.5.2.2 Checking Multivariate Normality

The above analysis shows that univariate normality was achieved as the skewness and kurtosis of the constructs and indicators' data were within the acceptable value of ±2 recommended by Garson (2012). With regard to multivariate normality, according to Garson, (2012), if all the residual variables of the study are normally distributed (within the acceptable skewness and kurtosis values or by Q-Q plots), then the data are assumed to be is multivariate normal. In addition, as recommended by Hair et al., (2019, cited in Lam, 2020 p. 188), the expected normal probability was also used to evaluate multivariate normality. As shown in Figure 4.13, the normal P-P plot of the regression standardised residual exhibits to be normal.

In conclusion, both univariate and multivariate normality were achieved in this study.

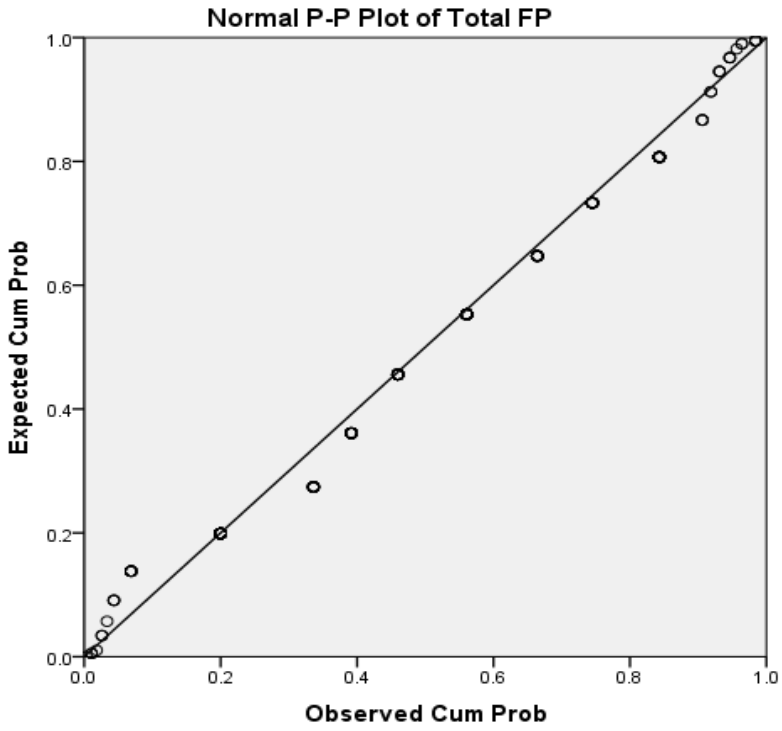


Figure 4.13: Normal P-P Plot of Regression Standardised Residual

4.5.3 Common Method Bias

"Harman's one-factor" test was conducted for purpose of evaluating the existence and severity of common method bias due to measurement issues rather than to the constructs of study. This will also minimise the potential impact of common method variance, on the results of this study (Podsakoff et al., 2003). Summary of the results are reported in Table 4.12 shows the eigenvalue associated with each component or factor. The output shows that component 1 explains 20.06% of total variance, while the subsequent components explain relatively small amounts of variance, which are generally less than 12.3%. Given that the results exhibit 17 components with eigenvalues greater than 1 and their

respective variances are below 50%, as suggested by Eichhorn (2014), this gives the idea that common method biases are unlikely to exist in the current study (Podsakoff et al., 2003).

Table 4.12: Harman's One-factor Test: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	17.651	20.058	20.058	17.377	19.747	19.747	5.874
2	10.804	12.277	32.335	10.468	11.895	31.642	8.891
3	6.876	7.814	40.148	6.586	7.484	39.126	5.857
4	4.816	5.473	45.621	4.495	5.108	44.234	5.627
5	3.778	4.293	49.914	3.561	4.047	48.281	5.605
6	3.539	4.021	53.935	3.299	3.749	52.029	7.909
7	2.865	3.256	57.191	2.691	3.058	55.088	6.698
8	2.307	2.622	59.813	2.044	2.323	57.410	7.221
9	2.208	2.509	62.322	1.890	2.148	59.558	4.931
10	2.007	2.280	64.603	1.729	1.965	61.523	6.065
11	1.647	1.871	66.474	1.306	1.484	63.007	6.971
12	1.565	1.778	68.252	1.211	1.377	64.383	7.920
13	1.481	1.683	69.935	1.179	1.339	65.723	5.826
14	1.384	1.573	71.508	1.087	1.235	66.957	3.241
15	1.225	1.392	72.900	.875	.994	67.952	5.303
16	1.178	1.339	74.239	.831	.944	68.896	4.060
17	1.107	1.258	75.496	.750	.852	69.748	4.382

4.6 To Examine the Relationship between the Soft Skills T&D of Firms, HRO and FP

Phase I of the survey identified soft skills areas that employers demanded currently, and the areas of future demand. It also provides empirical evidences that soft skills and language gaps exist in the manufacturing industry. This raises the question of how well the industry meets its needs for soft skills and how well it narrows the soft skills gap through T&D as indicated in the literature. Phase II survey examined the impact of soft skills T&D of firms on performance.

As described in the Chapter 3, the analysis PLS-SEM statistical technique was used to analyse the model and test the hypotheses. The analysis was carried out in two stages: (i) analysis of the measurement model (outer model) and (ii) analysis of the structural model (inner model). This sequence ensures that the measurement scales are valid and reliable. The evaluation of the reflective measurement models examined their reliability and validity, especially: "item reliability", "construct reliability", "convergent validity", and "discriminant validity". The evaluation in the structural model assessed the "sign, magnitude and significance of the relationships between variables" (structural path coefficients: ß); "explained the variance of endogenous variables" (R^2); "level of effect size (f^2)", and "predictive relevance" (Q^2). The analysis also included examining the direct and indirect relationships between exogenous and endogenous latent variables to establish their mediating relationships.

4.6.1 Assessment of the Measurement Model

Reflective measurement models evaluation include checking CR of evaluating "internal consistency", indicator loadings of evaluating "item reliability", AVE of evaluating "convergent validity", and HTMT ratio of the correlations of evaluating "discriminant validity" (Hair et al., 2014). The results and summary of the measurement model are presented in Figure 4.14 and in Table 4.13. The interpretations of the results are discussed in the following sections.

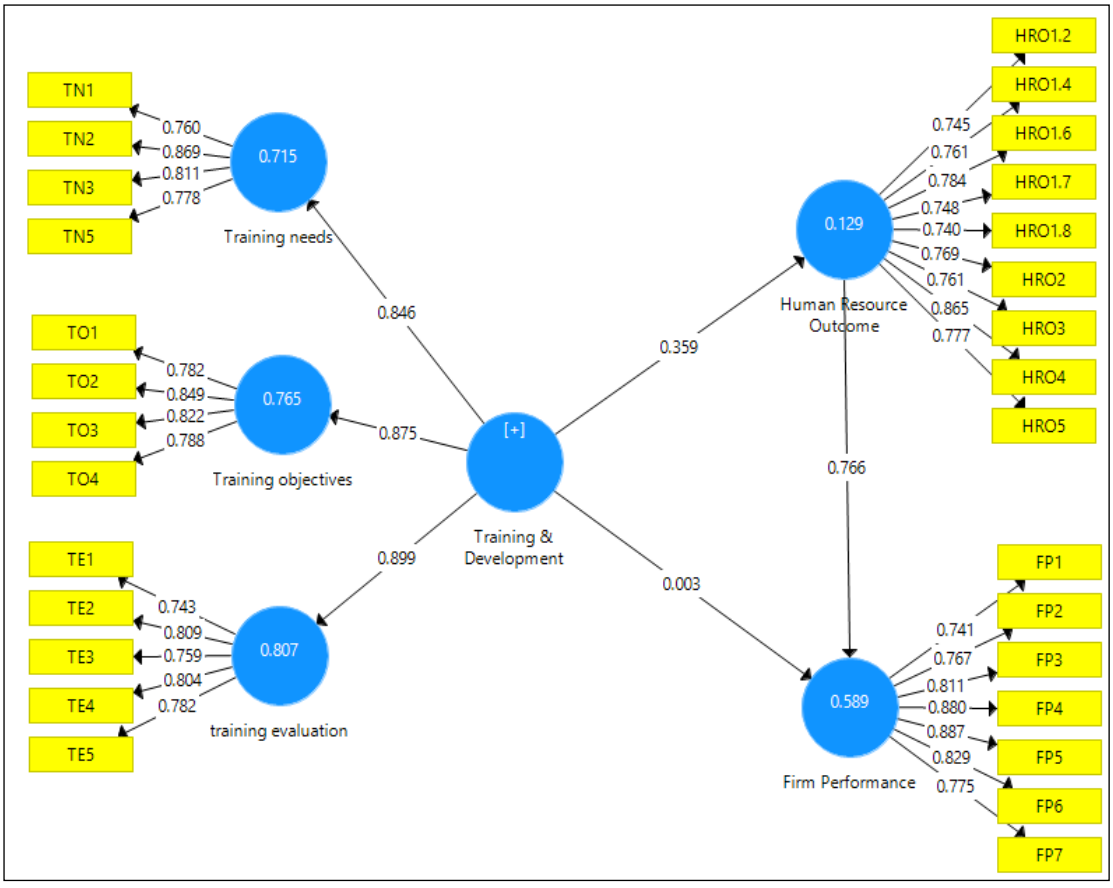


Figure 4.14: Assessment of the Measurement Model with Indicators and Path Coefficients for Constructs Soft Skills T&D, Human Resource Outcomes and Firm Performance

Table 4.13: Results Summary of the Measurement Model

Constructs and description of items	Indicators	loadings (λ) (>0.70)[a]	Cronbach's α (>0.70)[a]	Composite reliability (>0.70)[a]	AVE (>0.50)[a]
Training & Development			0.911	0.924	0.636
Training Needs	TN	0.846	0.819	0.881	0.649
My organisation performs diagnosis of training needs for T&D of soft skills for employees	TN1	0.760			
My organisation identifies the different areas of soft skills employees have	TN2	0.869			
My organisation identifies the different areas of soft skills for future improvement	TN3	0.811			
Training requests expressed by staff to improve soft skills	TN4	0.566[b]			
My organisation identifies the different areas of soft skills employees will have to develop in order to improve their current job performance.	TN5	0.778			
Training Objectives	TO	0.875	0.826	0.885	0.657
My organisation's training seeks to develop staff 's soft skills to help them adapt to anticipated changes.	TO1	0.782			
My organisation's training seeks to develop staff with soft skills to increase their job satisfaction	TO2	0.849			
My organisation's training seeks to close the gap of soft skills	TO3	0.822			

Table 4.13 continued: Results Summary of the Measurement Model

Constructs and description of items	Indicators	loadings (λ) (>0.70)[a]	Cronbach's α (>0.70)[a]	Composite reliability (>0.70)[a]	AVE (>0.50)[a]
My organisation's training seeks to enhance employees' soft skills to ensure greater involvement in the organisation	TO4	0.788			
My organisation's training seeks Enhance employees' morale	TO5	0.637[b]			
Training Evaluation	TE	0.899	0.839	0.886	0.608
My organisation evaluates the contribution of soft skills training to the long-term development of its business	TE1	0.743			
My organisation evaluates the impact of soft skills training on employees' performance	TE2	0.809			
My organisation evaluates the application of soft skills acquired during training.	TE3	0.759			
My organisation evaluates the soft skills training offered to employees to see if it meets the organisation's needs.	TE4	0.804			
My organisation evaluates the impact of soft skills training on the morale of employees	TE5	0.782			

Table 4.13 continued: Results Summary of the Measurement Model

Constructs and description of items	Indicators	loadings (λ) (>0.70)[a]	Cronbach's α (>0.70)[a]	Composite reliability (>0.70)[a]	AVE (>0.50)[a]
Human Resource Outcomes					
Soft Skills competencies					
1.1 Teamwork	HRO1.1	0.596[b]			
1.2 Communication skills	HRO1.2	0.745	0.916	0.930	0.598
1.3 Leadership	HRO1.3	0.690[b]			
1.4 Critical thinking, creative thinking and problem-solving skills	HRO1.4	0.761			
1.5 Language skills	HRO1.5	0.672[b]			
1.6 Decision-making skills	HRO1.6	0.784			
1.7 Emotional Intelligence	HRO1.7	0.748			
1.8 Moral and ethics	HRO1.8	0.740			
Behaviour					
2.0 Achieving higher employee work satisfaction level	HRO2.0	0.769			
3.0 Achieving higher employee participation levels	HRO3.0	0.761			
Attitude					
4.0 Improvement of employees' work attitude	HRO4.0	0.865			
5.0 Employees' ability to face challenges	HRO5.0	0.777			

Table 4.13 continued: Results Summary of the Measurement Model

Constructs and description of items	Indicators	loadings (λ) (>0.70)[a]	Cronbach's α (>0.70)[a]	Composite reliability (>0.70)[a]	AVE (>0.50)[a]
Firm Performance			0.915	0.932	0.663
Enhancing the organisation's profitability	FP1	0.741			
Enhancing the organisation's product quality	FP2	0.767			
Enhancing the organisation's quality of service	FP3	0.811			
Enhancing the organisation's competitiveness	FP4	0.880			
Enhancing the organisation's capacity to meet future opportunities and challenges	FP5	0.887			
Enhancing the organisation's ability to reduce its production costs	FP6	0.829			
Enhancing the organisation's innovativeness	FP7	0.775			

Notes: [a] an acceptable level of reliability and validity

[b] these items were removed as λ is smaller than 0.70.

Items removed are: TN4, TO5, HRO1.1, HRO1.3 and HRO1.5

4.6.1.1 Indicator Reliability (Outer Loadings)

The indicator reliability for reflective measures of this study was analysed by examining the outer loadings. As recommended by Hair et al. 2014, items with loadings exceeded 0.7 were retained (Table 4.13). The indicator with loading less than 0.70 is deleted. By deleting these insignificant indicators, the average variance extracted (AVE) and composite reliability (CR) values used to measure

internal consistency reliability and convergent validity were improved. The outer loadings of other indicators of the construct were also improved. (Hair et al., 2014). Indicators which were removed in this analysis were: "TN4: training requests expressed by staff to improve their soft skills", "TO5: training seeks to enhance employees' morale", "HRO1.1, HRO1.3, and HRO1.5: employees improve their level of competencies in the areas of teamwork, leadership, and language skills" respectively. As shown in Table 4.13, the loading of the retained measuring items, is greater than 0.70, ranging from the lower limit of 0.740 to the upper limit of 0.887. The result shows that the indicators used in this study are with satisfactory indicator reliability.

4.6.1.2 Internal Consistency Reliability

The value of Composite Reliability (CR) was used to determine if the scores of the items that measured a construct were similar in their scores that was, if the correlation between the items was large. As presented in Table 4.13, the CR values are in the range of from 0.881 to 0.930 are much higher than its critical value of 0.70, which support the internal consistency reliability.

4.6.1.3 Convergent Validity

Convergent validity measures the degree to which a construct converges to explain the variance of its items. The assessment of the model's convergent validity is based on the values of indicators' outer loadings and the constructs' AVE values. AVE is the total average of the squared loadings of all the construct-related indicators. As indicated in Table 4.13, the AVE values in the range of 0.598 to 0.663, exceeded the acceptable value of 0.50 (Hair et al., 2014). The above analysis shows that measurement model of this study has demonstrated sufficient convergent validity.

4.6.1.4 Discriminant Validity

The discriminant validity measures how different each construct differs from other (Chin, 1998). Heterotrait-Monotrait (HTMT) ratio of the correlations was used for the analysis. In this study, the HTMT values were lower than the threshold values of 0.85 or 0.90 recommended by Henseler et al. (2015), which indicated adequate discriminant validity (Table 4.14).

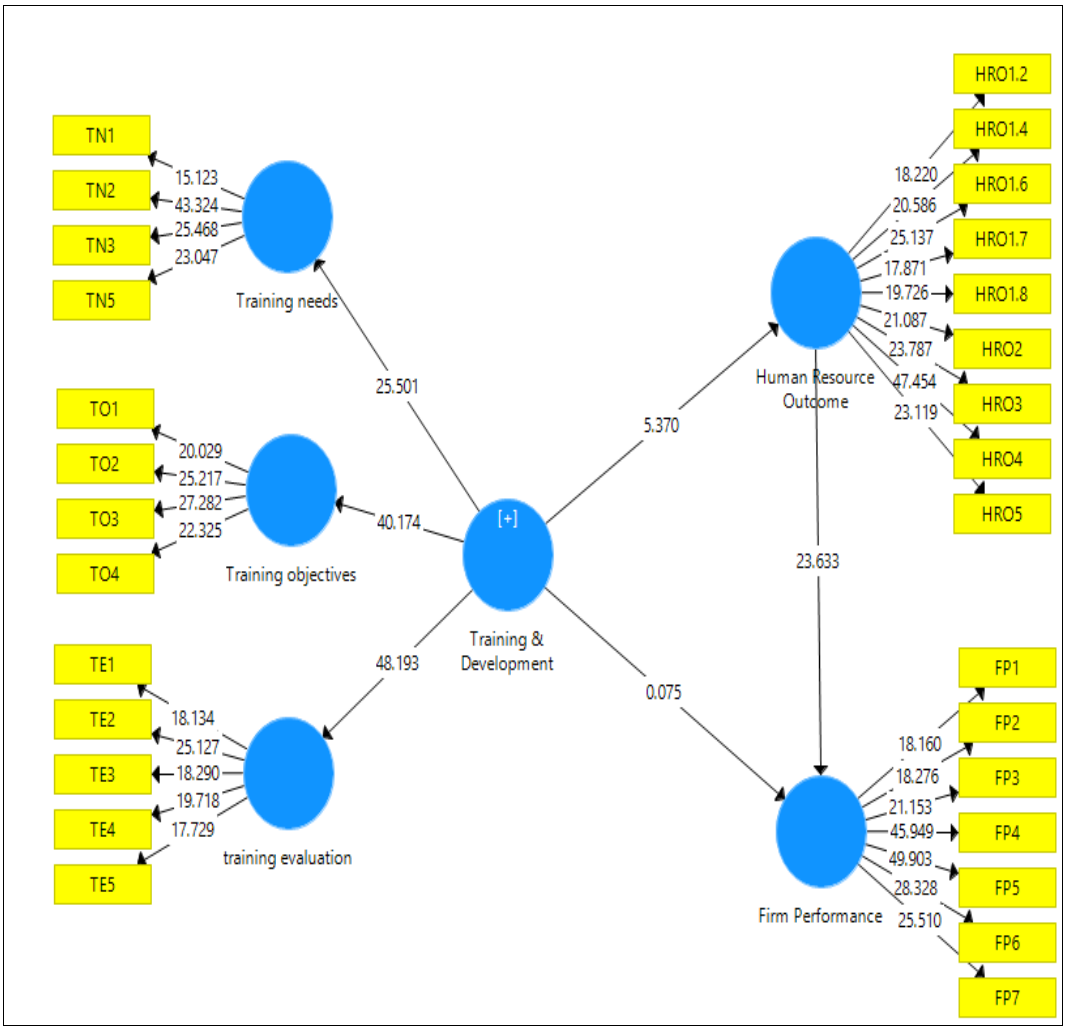
Table 4.14 Heterotrait-Monotrait Ratio

	Firm Performance	Human Resource Outcomes
Firm Performance		
Human Resource Outcomes	0.832	
Training & Development	0.303	0.39
Training Needs	0.237	0.368
Training Objectives	0.289	0.335
Training Evaluation	0.301	0.366

Overall, the test of reliability and validity of the measurement model were considered adequate. This indicates that the measurement model has been validated successfully and is adequate to assess the structural model

4.6.2 Structural Model Assessment

The following sub-sections discuss the tests of hypotheses expressed by the structural model to establish if they are supported by the data. The assessment was based on the results of standard model estimation, the bootstrapping and the blindfolding procedures.



***p<0.001**

Figure 4.15 Assessment of the Structural Model Results with Soft Skills T&D as the Second-Order of the Study

4.6.2.1 Collinearity Issues of the Structural Model

As presented in Table 4.15, the VIF values of two predictive constructs (HRO and soft skills T&D) are less than 5 while the values of Tolerance are higher than 0.2. This implies that there are no constructs that measure the

same thing. In other words, the constructs are not highly correlated to one another (Hair et al., 2014)

Table 4.15: Collinearity Assessment: VIF and Tolerance Values

Construct	VIF	Tolerance
	Firm Performance	Firm Performance
Human Resource Outcomes	1.148	0.871
Training & Development	1.148	0.871

4.6.2.2 Coefficient of Determination (R^2)

Table 4.16: Coefficient of Determination (R^2)

Construct	R^2
Firm performance	0.589
Human resource outcomes	0.129

The R^2 measures the proportion of an endogenous latent construct's variance that is explained by the predictor constructs. As a general rule, R^2 value of 0.75, 0.5 or 0.25 are substantial, moderate, or weak respectively (Hair et al., 2014). With reference to Table 4.16, T&D is able to explain 12.9% of the variance in HRO. Meanwhile, T&D, and HRO are able to explain 58.90% of the

FP variance. The contribution of each one of these variables to the final result will be determined by the product between the path and the correlation between that variable and FP. In this case, the calculation will be as shown in Table 4.17:

Table 4.17: Contribution of T&D and HRO on Firm Performance (FP) (R^2= 0.589)

Variables	Path Coefficient	Correlation	Contribution
T&D	T&D -> FP = 0.003	T&D – FP = 0.279	0.003 x 0.279= 0.0008
HRO	HRO -> FP = 0.766	HRO – FP = 0.767	0.766x 0.767= 0.587
			Total: 0.5878

The above computation results show that HRO is a significant variable which is able to explain 58.7% of the variance in FP. However, T&D is not a significant variable as it explains only a variance of 0.08% in FP, which is less than the minimum threshold proposed by Hair et al. (2014). According to Hair et al. (2014), the values of 0.25 for R^2 of the endogenous latent variable is considered weak, and 0.5 and 0.75 are moderate and substantial. Hence, the results revealed that T&D weakly explain 0.08% of the variance for FP while HRO moderately explain 58.7% of the variance in FP among the Malaysian manufacturing industry.

4.6.2.3 Assessment of the Effect Size f^2

The f^2 was used to assess the relative influence of the predictor exogenous construct to the R^2 value of an endogenous latent variable. The f^2 values of 0.02, 0.15, and 0.35 indicate small, medium, or large impact of the exogenous construct on an endogenous construct (Hair et al., 2014). In the study, the results show that the f^2 value of soft skills T&D (0.148) has a close to medium effect on HRO but no effect on firm performance. However, the HRO, with a high f^2 of 1.244, indicates that the HRO has a substantial effect on FP (Table 4.18).

Table 4.18: Results of Effect Size f^2

Hypothesis	f^2
Human Resource Outcomes-> Firm Performance	1.244
Training & Development->Firm Performance	0.148

4.6.2.4 Assessment of the Predictive Relevance of Q^2.

The Q^2 test measures the predictive relevance of endogenous variables. As a rule of thumb, the values of Q^2 of 0.02, 0.15, and 0.30 suggest the PLS-path model has a small, medium, and large predictive relevance (Hair et al., 2014). Hence, the Q^2 values of 0.357 (FP), and 0.068 (HRO) in this study indicate that

the exogenous constructs have large and small predictive relevance respectively for the endogenous construct under investigation (see Table 4.19).

Table 4.19: Blindfolding Procedure Result –Q^2

Total	SSO	SSE	Q^2 (=1-SSE/SSO) (0.02=small 0.15=medium 0.35 =large)
Firm performance	1,393.00	895.61	0.357
Human Resource Outcomes	1,791.00	1,669.31	0.068
T&D	2,587.00	2,587.00	

4.7 Significance and Relevance of Structural Model Relationships

After confirming the explanatory and predictive power of the model, the final step is to evaluate the statistical significance and relevance of the path coefficients.

The Bootstrapping procedure reports the significance of empirical 't statistics' and 'p values' of the path coefficient values for all the hypothesised paths (Table 4.20). Using the results of the path assessment to determine the acceptance or rejection of the hypotheses proposed. The proposed hypotheses test results are discussed in the following sections (4.10.1 and 4.10.2).

Table 4.20: Testing Hypothesis between T&D, HRO and FP (Excluding Mediation)

Hypothesis	Suggested effect	Path coefficients	t-value	p-value	Results
H1: T&D -> HRO	+	0.359	5.370	0.000	Supported
H2: T&D ->FP	+	0.003	0.075	0.940	Not supported
H3: HRO ->FP	+	0.766	23.633	0.000	Supported

4.7.1 Hypothesis Testing

The path coefficients between the latent variables were assessed so as to verify the formulated hypotheses and the structural model. According to Hair et al. (2014), to account for a given impact within the model, the minimum value of the path coefficient should be 0.1. The path coefficient assessment shows that H1 and H3 are supported but not H2. The direct influences of T&D on HRO and HRO on FP are significant. The influence of HRO on FP is 0.766, while T&D's influence on HRO is 0.359. The impact of T&D on FP is found to be not significant (Table 4.20).

4.7.2 Mediation Analysis:

By running the PLS algorithm and bootstrapping procedures including the mediator, the paths of the exogenous variable to the mediator and from the

mediator to the independent variable were examined. If the bootstrapping results shows that the indirect effect of the construct is significant, it indicates that there is a mediating effect (Preacher & Hayes, 2008). It is apparent from Table 4.21 that the independent variable's indirect influence is significant. Hence, it is concluded that human resource outcomes have a mediation effect on the independent variable of soft skills T&D.

Table 4.21: HRO as a Mediator

Path	Original Sample (O)	Sample Mean (M)'	T-statistic (lO/STDEVl)	P-value
HRO ->FP				
T&D-> FP	0.275	0.277	4.947	0.000
T&D-> HRO				

p<0.001

To determine the strength of the mediating effect, the VAF (indirect effect relative to total effect) was evaluated. A VAF value of 99% (0.275/0.279=0.99) indicates a full mediation has occurred (Hair et al., 2017).

The above analysis not only shows that HRO mediates the relationship between T&D and FP but also indicates that HRO has a full mediation effect on T&D and FP.

4.8 Discussion on the Phase II of the Study

In this section, the causal relationships found between the lower-order constructs (training needs, training objectives, and training evaluations) and the higher-order construct (soft skills T&D) and the linkages between soft skills T&D, human resource outcomes, and firm performance are described, discussed, and compared with related previous studies in accordance with the underlying studies.

4.8.1 Soft Skills T&D and its Associated Variables (Training Needs, Training Objectives and Training Evaluation)

As mentioned above, three training variables ("training needs", "training objectives", and "training evaluation"), are characteristics and important elements of soft skills T&D. This higher-order component (HOC) has a strong relationship with its lower-order component (LOC), training needs (λ=0.846), training objectives (λ=0.875), training evaluations (λ=0.899) (please refer to Table 4.13 and Figure 4.14).

Training needs have a factor loading of 0.846. It is the first important phase in workforce development. Among the five reflective indicators of training needs, the item "TN4: training requests expressed by staff to improve their soft skills" was found not significant to training needs. Item "TN2: identifying areas of soft skills employees have" (λ=0.869); item "TN5: identifying soft skills for current jobs" (λ=0.778), and item "TN3: identifying the different areas of soft

skills for future improvement" (λ=0.811) are important training needs indicators. This indicates that to achieve the best soft skills T&D results in terms of human resource outcomes, and firm performance, indicator, "TN4: training requests expressed by staff to improve their soft skills" is not important". Instead, firms should focus on "TN2: identify the areas of soft skills which employees already possessed" and "TN3: different areas of soft skills for future improvements". The results supported past literature where firms should use a proactive approach to anticipate future demands, and identify gaps in competencies of existing employees to be closed with training (Ibrahim et al., 2017; Ludwikowska, 2018; Niazi, 2011; Ogunade, 2011; Otuko et al., 2013; Úbeda-García et al., 2014).

The factor loading of the training objectives is 0.875. On analysing the loadings of the indicators, it was found that item "TO5: training seeks to enhance employees' morale" was not important. However, "TO1: adapt to anticipated changes", "TO2: increase job satisfaction", item "TO3: close the soft skills gap" and item "TO4: greater involvement in the organisation" are important indicators of "TO: training objectives" (Table 4.13). This finding supports previous study findings that effective soft skills T&D should have specific goals/ objectives to involve trainees' feelings, emotions and enhance their behaviours, reduce skill gaps and hence improve organisational performance (Elnaga & Imran, 2013; Ibrahim et al., 2017; Kucherov & Manokhina, 2017; Ludwikowska, 2018; Stam & Molleman, 1999).

Amongst the three training variables (TN, TO, & TE), T&D has the strongest relationship with TE (λ= 0.899). This finding contributes to the empirical support of HRM study where training evaluation is an important component of effective T&D (Aragón-Sánchez et al. 2003; Úbeda-García et al., 2014). With regular evaluation in training, firms will increase the efficiency of training, trainees, and firms (Bächmann et al., 2019; Kucherov & Manokhina, 2017; Kunche et al., 2011; Olexová, 2017). All the five indicators used to constitute this construct (TE) namely: "TE1: evaluate the contribution to long-term development of business", "TE2: evaluate the impact of soft skills training on employees' performance", "TE3: evaluate the application of soft skills acquired", "TE4: evaluate the soft skills training offered to employees to see if it meets the organisation's needs", and "TE5: evaluate the impact of soft skills training on the morale of employees" were retained. Of the five items, TE2 (λ= 0.809), an important indicator of TE. Implicitly, the results indicated that in order to get the best outcomes in soft skills T&D, firm needs to evaluate these five criteria and to ensure that firm's T&D has an impact on employees' performance. These findings support the studies of AbuJbara and Worley (2018) and Onisk (2011) that it is essential for firms to benefit from the soft skills acquired by their employees. This means that firms should consider reviewing and creating an effective performance tool to evaluate the quality of the soft skills T&D.

4.8.2 Relationships of Soft Skills T&D, Human Resource Outcomes and Firm Performance

This section presents analysis results for the following research questions and their hypotheses.

The research results show that firms' soft skills T&D clearly and directly affects human resource outcomes and indirectly affects the firm performance through the mediating effect of human resource outcomes.

The research hypothesis under each research question is summarised in Table 4.22. The analysis is discussed in the following sections.

Table 4.22: Research Questions and Results of Hypotheses Testing

	Research Question		Hypothesis	Result
RQ4	"Is there a positive relationship between firms' soft skills T&D and HRO?"	H1	There is a positive relationship between soft skills T&D and HRO	Supported
RQ5	"Is there a positive relationship between firms' soft skills T&D and FP?"	H2	There is a positive relationship between soft skills T&D and FP	Not Supported
RQ6	"Is there a positive relationship between firms' HRO and FP?"	H3	There is a positive relationship between HRO and FP	Supported
RQ7	"Do HRO mediate the relationship between soft skills T&D and FP?"	H4	HRO mediate the relationship between soft skills T&D and FP. .	Supported

4.8.2.1 Relationship between Soft Skills T&D and Human Resource Outcome

The analysis results show that soft skills T&D is empirically supported to have a positive influence on human resource outcomes (ß=0.359, t= 5.370, p<0.001). The finding is aligned with previous theoretical and empirical studies on various types of T&D that are not explicitly focused on soft skills (Ameeq-ul & Hanif, 2013; Balcar, 2016; Bhal, 2015; Fey & Björkman, 2001; Hughey & Mussnug, 1977). The result also suggests that soft skills can be trained and learned (Goodwin et al., 2019; Ibrahim et al., 2017; Jain & Anjuman, 2013). As suggested by Rastogi (2000): HR is an integral part of human capital, firm cannot survive with HR alone, employers need to align HRM /SHRM practice with organisational goals to upgrade employees' skills (Abdullah, 2009; Ameeq-ul & Hanif, 2013; Berge, 2008; Dean, 2017; Nordin et al., 2013; Rahman, & Nas 2013).

Further analysis reveals that soft skills T&D in this study can explain up to 12.90% of the variance in human resource outcomes. Three items: HRO1.1, HRO1.3 and HRO1.5 (employees improve their level of competencies in areas of teamwork, leadership, and language skills) used to measure human resource outcomes under competencies, were removed. This suggests that they are not important to human resource outcomes. The important items perceived by employers with regard to human resource outcomes of the organisation include: items "HRO1.2, HRO1.4, HRO1.6 to HRO5.0: improvement of competencies in communication, critical thinking, creative thinking, and problem-solving,

decision-making skills, emotional intelligence, and moral and ethics"; items"HRO2.0 & HRO3.0: improvement of behaviour in achieving higher employee work satisfaction level & higher employee participation levels"; items"HRO4.0 & HRO5.0: improvement of work attitude, and ability to face challenges". It is worth noting that among all the items of HRO, employers perceived item "HRO4.0: improvement of employees' work attitude" as the most important indicator of HRO (highest loading (λ) of 0.865). These findings support the empirical results of past studies that training enhances employees' competencies which influence firm performance (Hughey & Mussnug, 1997; Kaur & Kaur, 2020; Mahadevan & Yap, 2019; Salah, 2016; WEF 2016 & 2020).

It is worth noting that, according to HRDF (2018) statistics on approved training places, employers spent a significant amount (RM 90,334) on team building or motivation training (10.34%) programmes. In light of the study's results, it is suggested firms should consider their investment in these areas of training and consider conducting more T&D programmes in other areas of soft skills, such as "communication", "critical thinking, creative thinking, and problem-solving skills", "language skills", "decision-making", "emotional intelligence" and "moral and ethics" as analysis has shown that these areas of soft skills are important to human resource outcomes.

Higher education institutions should take note of the HRO items valued by employers and take proactive action to consider re-designing the curriculum, teaching techniques, and facilitators' quality to conduct related programmes for students.

4.8.2.2 Relationship between Soft Skills T&D and Firm Performance

The hypothesised relationship between the soft skills T&D and firm performance was found to be not significant with ß=0.003, p=0.940 where T&D only explains 0.08% of the variance in FP (Table 4.17). Thus, H2 is not supported. The findings of this study are aligned with study of Thang et al. (2010) where training does not necessarily improve firm performance. The possible explanations for such an insignificant effect on the firm's performance include: First, there is a lack of training transfer. Soft skills knowledge and skills acquired are not properly transferred or applied to the job (Abdul Rahman et al., 2013; Barba-Aragón et al., 2013; Dermol & Čater, 2013). According to Laker and Powell (2011), compared to hard skills, soft skills are less likely to be transferred to the workplace. With regard to this, past studies also showed that most training results have underestimated the value of soft skills training as it is difficult to measure "learning transfer" (Jackson et al., 2019; Onisk, 2011; Rao 2014). In addition, according to Jackson et al. (2019) "learning transfer" is difficult to measure, which could be due to lack of an appropriate assessment system. Second, soft skill trainees do not master the knowledge / skills taught in the training as it is

not easy for an adult to acquire soft skills overnight (Hughey & Mussnug 1997; Laker & Powell, 2011). Past studies also highlighted that even though soft skills could be trained and learned, there was a lack of opportunities for soft skills training (Goodwin et al., 2019; Ibrahim et al., 2017; Jain & Anjuman, 2013). In Malaysia, as noted in HRDF's annual report on approved training programmes, there were very limited soft skills programmes attended by employees (HRDF, 2018; HRDF 2019b). Similarly, as pointed out in the past studies, students, entry-level and contract employees lack opportunity for T&D of soft skills (Balcar, 2016; Belderbos, 2020; CEGOS & ASTD, 2011; Steyn, 2020; Suleman, 2016). Third, there is a lack of appropriate time, environment, opportunity, and incentives for soft skill trainees to apply practice and internalise the acquired skills (Botke et al., 2018; Ibrahim et al., 2017). Botke et al. (2018) identified these appropriate environments and incentives including work-related factors (work relevance, task autonomy, and workload), social support factors (supervisors', subordinates, and colleagues' attitudes and actions on acquired skills) and organisational learning-related factors (learning climate). Fourth, training methodology, and design, such as types of training and training activities, may not be effective for trainees to acquire the skills (Aragón-Sánchez et al., 2003). As noted from studies by AbuJbara and Worley (2018) and Mahadevan and Yap (2019), for the development of soft skills, a "one-size-fits-all" strategy will not work. Fifth, at the organisational level, there is a lack of assessment of training efficacy (Jackson et al., 2019; Tharenou et al., 2007). Sixth, the training may be at an early stage, with little direct impact on the firm's performance (Kwon, 2019).

Seventh, trainees may have left the organisation. This highlights the importance of retaining employees to minimise the loss in general training, as suggested by Becker (1993). Eighth, as Sahoo and Mishra (2019) highlighted in their study, trainees lack motivation to transfer the skills they acquired to their workplace. Trainees should be instilled with the proper mindset and given the freedom to select the appropriate soft skills programme.

The analysis results shown in Table 4.17 indicates that 58.9% of the variance is explained by two constructs. Soft skills T&D in this study can only explain 0.08% of the variance in firm's performance while human resource outcomes explain 58.78% of the variance in firm's performance.

The seven items which measure the firm's performance include items "FP1: profitability", "FP2: product quality", "FP3: service quality", "FP4: organisation's competitiveness", "FP5: capacity to meet future opportunities and challenges", "FP6: reduce production costs" and "FP7: innovativeness", are all well loaded which indicates they are important to firm's performance. However, it is worth noting that item "FP1: enhancing the organisation's profitability" has the lowest loading (λ=0.741) while item "FP5: enhancing the organisation's capacity to meet future opportunities and challenges" (λ = 0.887) has the highest and item "FP4: enhancing the organisation's competitiveness" has the second highest loading (λ = 0.880) respectively which indicates the importance of these items

FP4 and FP5. This is in line with RBV has posited firm enhances its internal resources would be able to achieve "sustained firm competitiveness".

4.8.2.3 Relationship between Human Resource Outcomes and Firm Performance

The hypothesised relationship between human resource outcomes and firm performance was found to be significant with ß=0.766, p=0.000. Thus, H3 was supported. The findings were in line with the findings of past studies (Cesário & Chambel, 2017; CIPD, 2017; Ferguson & Reio, 2010; Tummers et al., 2015; Wang et al., 2016; Wuttaphan, 2017). The results indicated that improvements in employees' competencies, attitudes and behaviours will lead to firm performance. The positive relationship between human resource outcomes and firm performance was also an evidence to support human capital theory and RBV in that soft skills can be learned and developed via T&D, which in turn, help firms to increase productivity and competitiveness. As a result, firms should continue to support employees in improving their soft skills.

4.8.2.4 Human Resource Outcomes as a Mediator

The analysis of this possible mediating effect reveals that soft skills T&D outcomes have an indirect influence on firm performance via human resource outcomes, leading to higher firm performance. This finding indicates that soft skills T&D is an important strategy for improving human resource outcomes in

soft skills competencies, behaviour and attitude. It may have an impact on firm's success as a result of this effect. The finding supports the work of past studies (Guan & Frenkel, 2019; Katou, 2011; Thang et al., 2010; Tharenou et al., 2007; Triguero et al., 2012; Úbeda-García et al., 2014)

With regard to the strength of the mediation effect, the results showed that the construct, human resource outcomes fully mediated the relationship between soft skills T&D and firm performance. The findings are in contrast to the past studies' findings of partial mediation (Katou, 2011; Triguero et al., 2012; Úbeda-García et al., 2014). "Full mediation is also called complete mediation" (Ramayah et al., 2018, p. 209). This means that the impact of soft skills T&D on firm performance is completely transmitted with the help of human resource outcomes (Hair et al., 2014). In other words, firm performance fully absorbs the positive effects of soft skills T&D through human resource outcomes.

4.9 Summary of the Results

In summary, this study indicates that employers in the manufacturing industry value soft skills above technical skills and job knowledge in entry-level graduates. The three top areas of soft skills employers currently looking for are: teamwork, emotional intelligence, moral and professional ethics skills. The top three future demands are: emotional intelligence, teamwork and thinking skills. Most employers found skill gaps in their existing entry-level graduate workforce's

competence in various areas of soft skills. Emotional intelligence, thinking, and entrepreneurship skills present the biggest mismatch (gap) between employer's perception of the importance and competence of their existing employees. With regard to language, English is the most important language in demand by employers both currently and in the future. The proficiency gap in English is the greatest among the three languages.

Literature indicates that compared to hard skills, soft skills are more difficult to observe, quantify, and measure than hard skills and they are also less transferable (CEGOS & ASTD, 2011; Grugulis & Vincent, 2009; Ibrahim et al., 2017; Laker & Powell, 2011; Yen et al., 2001). Despite this, the results of Phase II of this study revealed that firms were proactively implementing training activities such as training needs, training objectives and training evaluation to reduce skill gaps and meet current and future demand for soft skills. The study's findings indicated not only a direct relationship between soft skills T&D and human resource outcomes, but also the role of human resource outcomes as a mediator between soft skills T&D and firm performance. These findings are consistent with previous research, which indicate that employees are a valuable resource (asset) of the organisation, employee performance affects the success of the organisation, and that firm performance is mediated by the HRM output of the skills.

CHAPTER 5

CONCLUSIONS, IMPLICATIONS, LIMITATIONS AND RECOMMENDATIONS

5.1 Introduction

Malaysia's economic and social progress has been outstanding over the past few decades (OECD report, 2016). Its natural resources of oil and gas, palm oil and rubber, and electrical and electronics (E&E) manufacturing sector drove the remarkable expansion of the country. As indicated in the World Bank 2019 report, Malaysia was the global leader in E&E (World Bank, 2019). As its second largest contributor and growth engine, Malaysia's manufacturing industry accounted for almost one-quarter of the country's GDP (23.45%) for the past fifty years and 16.2% of total jobs occupied (DOSM, 2019a, World Bank, 2020; statista.com, 2020). The number of people employed in the manufacturing industry rose by 4.64% from 2016 to 2019. The industry has diversified to include sub-sectors such as food and beverages, petroleum, chemicals, plastics, wood, furniture, paper, printing, etc. It is expected to create more job opportunities in the future (ILMIA, 2019, MIDF, 2017).

Malaysia has ventured into the new millennium to embrace IR4.0, to further improve the manufacturing process for growth in productivity, innovation,

and wealth creation (Asian Productivity Organisation, 2019; MITI, 2019). Job descriptions for employees are likely to change, with the increased demand for soft skills replacing previous manual activities. Employees need to manage both machines and people in order to fulfil complex tasks that need a high degree of thinking. According to the literature, some employers favoured soft skills over hard skills, while others preferred a different balance or combination of skills (FICCI & RB, 2016; WEF, 2016 & 2020).

In recent years, Malaysia has experienced a high percentage of graduate unemployment. In 2017, the graduate unemployment was accounted for 40.5% (154,000) of the country's overall unemployment rate. The number of jobless graduates increased to 162,000 in 2018, with one out of every five fresh graduates unemployed for six months after graduation (DOSM, 2019b). Graduates' lack of soft skills and weak command of the English language was cited as one of the causes for unemployment (Jobstreet, 2015, 2018 & 2019; MEF, 2018).

The Malaysian government has prepared to fulfil the need for new skills by upgrading programmes at its vocational and training institutions such as TVET. In addition, in 1993, a Human Resource Development Fund (HRDF) focusing on workplace training, particularly for the manufacturing industry, was set up by the Ministry of Human Resources (MOHR). It is now governed under the Pembangunan Sumber Manusia Bhd Act 2001 (PSBM Act 2001).

For purpose of encouraging young job-seekers, to improve their employability and gain the necessary skills for tasks and employment, the government offered additional support and incentives through the implementation of active labour market policies (ALMPs). Notwithstanding the above, the Self-Employment Social Security Scheme (SESS) and Employment Insurance System (EIS) were established to provide training opportunities for the unemployed to upgrade their skills for jobs, and to reduce the skills gap (OECD, 2019b).

The soft skills demanded by employers are not expected to be met in the new era, if actions are not taken quickly to fill the gaps and shortages (Daud et al., 2010; Horstmeyer, 2020; Ibrahim et al., 2017; Kenayathulla et al., 2019; OECD, 2016; Seetha, 2014; Zainuddin et al., 2019). Data collected from local studies in the past were scattered, while many were from heterogeneous industries in one study. It is difficult to generalise the findings of these studies. Moreover, many were conducted before IR4.0.

Phase I of the study was carried out to address three research objectives. First, it identified a set of soft skills that are now in high demand by employers and likely to be in demand in the future (next five years). Second, the competencies of the entry-level graduate employees were determined. Third, it utilised skills gap analysis to identify areas of skills gap in firms in the manufacturing industry.

Literature indicates that soft skills can be learned and trained (Goodwin et al., 2019; Ibrahim et al., 2017). Employers recognise the long-term benefits of investing in and re-training current employees over recruiting short-term new hires (WEF, 2016). According to the literature study in Chapter 1 (Section 1.4.2), Malaysian employers have sought financial help from HRDF to improve their employees' soft skills. According to Becker (1993), re-training for new skills improve firm and personal performance by increasing workers' productivity. Despite the fact that numerous past studies have provided empirical evidence of training leading to firm performance (Abdul Rahman et al., 2013; Dermol & Čater, 2013; Guan & Frenkel 2019; Hitt et al., 2001; Katou, 2011; Tharenou et al., 2007; Úbeda-García et al., 2014), evaluation that is focused primarily on soft skills' training effectiveness, is lacking especially on the effectiveness of training primarily focused on soft skills.

Given the evolving economic structures and the responses of firms to these developments, it is critical to research and assess the impacts of soft skills T&D to achieve two goals. They are as follows: (i) to prepare employees with new skills for new tasks; and (ii) to determine how it affects employee and firm performance. Furthermore, because most training programmes incur costs, the Phase II of the study was conducted to address four subsequent research objectives, focusing on T&D of soft skills provided by employers, and its effects on performance (human resource and firm). These four objectives are: First, to examine the influence of the soft skills T&D of firms on their human resource

outcomes. Second, to examine the relationship between soft skills T&D and firm performance. Third, to examine the relationship between human resource outcomes and firm performance. Fourth, to examine the indirect influence of soft skills T&D on firm performance through the mediating role of human resource outcomes.

The conceptual framework of this study was developed based on human capital theory and resource-based view. Three constructs have been identified and four hypotheses have been formulated for testing in an attempt to answer research questions for Phase II of the study.

H1 There is a positive relationship between soft skills T&D and human resource outcomes

H2 There is a positive relationship between soft skills T&D and firm performance

H3 There is a positive relationship between human resource outcomes and firm performance

H4 Human resource outcomes mediate the relationship between soft skills T&D and firm performance

A simple random sampling method was used to collect data for two phases of study because it had the least bias as well as provided the most generalisability. The study's target population was manufacturing firms in the industrial regions of

the four states of Selangor, Johor, Penang, and Perak, where most of the manufacturing firms were situated. A total of 199 copies of the 1,790 copies of questionnaires mailed were returned. This represents a response rate of 11.12% with respondents from a variety of manufacturing sub-sectors.

5.2 Summary of Key Findings

This section provides summary of key findings and discussions to answer the seven research questions stated in this study.

5.2.1 Soft Skills Demanded by the Malaysian Manufacturing Industry Currently and in the Future

Human capital theory posits that employees are the most critical factor for producing human capital (knowledge, skill and abilities) (Becker, 1993). To identify the soft skills in demand by firm, Phase I of the study examined the collected data and answered the research questions shown below:

RQ1: "What are the areas of soft skills demanded by the Malaysian manufacturing industry currently and in the future?"

The results show that among all the soft skills identified in this study, employers place high importance on teamwork, emotional intelligence, and moral and professional ethics in terms of current demand. In the context of languages,

employers place a higher demand for English language (both oral and written skills) than Bahasa Malaysia and Chinese language skills.

Some consensus was found across this study on the future growth in demand for all categories of soft skills identified in this study. The top three soft skills in future demand by employers are "emotional intelligence", "teamwork" and "critical thinking, creative thinking, and problem-solving" skills. Employers continue placing a high demand for English language (both oral and written skills). On the other hand, the demand for the Chinese language has risen more compared to Bahasa Malaysia.

These results concur with the report of WEF (2016) where the soft skills in demand fall into the top 10 skills demanded by employers in IR 4.0.

5.2.2 Soft Skills Competencies of the Entry-Level Graduate Employees in the Malaysian Manufacturing Industry

RQ2: "What are the soft skill competencies of entry-level graduate employees in the Malaysian manufacturing industry?"

The findings of this study revealed that out of seven (7) categories of soft skills identified for this study, the entry-level graduate employees were rated poor in five (5) skills. They are: "entrepreneurship"; "leadership"; "critical, creative thinking, and problem solving"; "moral and professional ethics"; and

"communication". The lowest score among these five skills is for "entrepreneurship" (mean score: 2.514). The competencies on "teamwork" and "emotional intelligence" fall under "average" (mean score 3.215 and 3.0 respectively).

The entry-level graduates were rated "poor" in English proficiency (mean score: 2.891) while their Chinese and Bahasa Malaysia proficiency were rated as "average" (mean score: 3.322 and 3.135 respectively).

5.2.3 Soft Skills Gap in the Malaysian Manufacturing Industry

RQ3: "What are the areas of soft skills gaps in the Malaysian manufacturing industry?"

Except for Bahasa Malaysia, the findings indicated skills gaps exist in all areas of soft skills and languages identified in this study. The greatest skills gap was found in "emotional intelligence" followed by "thinking skills" and "entrepreneurship skills". It reveals the quality of soft skills of the graduate workforce does not meet the workplace requirements needed to perform their tasks. Many previous research and economic assessment reports on Malaysia have repeatedly stated that entry-level employed graduates lacked proficiency in the English language (both oral and written skills) (BNM, 2016; Malaysia Economic Report, 2019; OECD, 2016 & 2018; Rusli et al., 2018; Sarudin et al., 2018). This empirical evidence demonstrates that despite the same issues being highlighted

consistently, Malaysian graduates' soft skills and English proficiency continue to fall short of employers' expectations.

As discussed in the literature reviews, the gaps could be due to a lack of emphasis, unequal development or learning opportunities for soft skills and hard skills in higher education institutions, as hard skills are regarded as more productive than soft skills (Balcar, 2016; Belderbos, 2020; Suleman, 2016). They might be guided by inexperienced or unqualified facilitators or teaching staff who taught the soft skills (Udofia et al., 2012). Employees, on the other hand, may not be learning the right skills while pursuing tertiary studies as a result of inadequate coordination among stakeholders (Horstmeyer, 2020; ISE, 2018; Truong et al., 2018). Puad (2018) emphasised the importance of trainees' learning attitude and commitment in acquiring skills. According to the literature, soft skills training opportunities for employees are limited, particularly for entry-level and contract employees (CEGOS & ASTD, 2011; HRDF, 2018; OECD, 2019a & 2019b). As noted in the HRDF 2018 annual report, there are few soft skills training programmes offered by employers. Employers may not commit to the training design, implementation, and evaluation.

5.2.4 The Linkages among Soft Skills T&D, Human Resource Outcomes, and Firm Performance

Human capital theory posits training will increase employee's skill level and be more productive than those with less skill (Becker, 1993). Likewise,

according to RBV, the value of resources also depends on the extent of how the organisation manages the resources. Hence firms need to assist employees to develop specific capabilities to match desired job responsibilities, ensuring and maintaining competitive advantage (Barney, 1991).

Phase II of the study focuses on employing structural modelling to examine the hypothesised relationships. The construct, soft skills T&D, was studied as a higher-order component. It is characterised by three associated variables (lower-order components), which are the training phases of training process, namely training needs, objectives, and evaluation.

The results of the analysis show that among the three associated variables, training evaluation has the strongest relationship with T&D. These findings are consistent with the results of the studies of Aragón-Sanchez et al. (2003) and Úbeda-García et al., (2014) where training evaluation is an important component of effective T&D (Aragón-Sánchez et al., 2003). The implication is that firm should evaluate training on a frequent basis in order to improve its efficiency and effectiveness, particularly the "training impact on employees' performance", as this indicator TE2 has the highest loading ($\lambda = 0.809$). Moreover, as recommended by Jackson et al. (2019) since it is difficult to evaluate soft skills transfer at the workplace, firms should consider developing an appropriate evaluation system to address this issue.

5.2.4.1 Soft Skills T&D and Human Resource Outcomes

In response to the research question RQ4: "Is there a positive relationship between the firms' soft skills T&D and the human resource outcomes?" H1 was examined. The empirical findings of this study confirm soft skills T&D in the Malaysian manufacturing industry was positively related to human resource outcomes and explained 18.90% of the variance in human resource outcomes. This shows that employees in the Malaysian manufacturing industry would be able to enhance their competencies in "communication", "critical thinking, creative thinking, and problem-solving", and "decision-making skills", "emotional intelligence", "moral and ethics", "behaviour", and "attitude" through soft skills T&D conducted by their employers. The results are consistent with past studies (Balcar, 2016; Bapna et al., 2013; Bhal, 2015; CIPD, 2017; Ferguson & Reio, 2010; Fey & Björkman, 2001; Hassan et al., 2019; Hughey & Mussnug, 1977; Kaur & Kaur, 2020; Mahadevan & Yap, 2019; Salah 2016; Tummers et al., 2015) which were not specifically focused on soft skills, in which HRM practices improve employees' competencies, behaviour, attitude, and work performance. The results of this study also support Ameeq-ul and Hanif's (2013) study in which firm cannot survive with HR alone, employers need to align HRM / SHRM practice with organisational goals to upgrade employees' skills. In addition, the empirical studies conducted by Hughey & Mussnug (1997), Kaur & Kaur (2020), Mahadevan and Yap (2019) also confirmed that effective training occurs when the employee's competence levels of measurable skills are enhanced with tangible

outcomes which contribute to firm's financial stability. This findings have not only indicated that soft skills can be trained and learned (Goodwin et al., 2019; Ibrahim et al., 2017; Jain & Anjuman, 2013), it also provided empirical evidence that 'improvement of employees' work attitude is the most important indicator of HRO which employers value as it will influence firm performance (Hughey & Mussnug, 1997; Kaur & Kaur, 2020; Mahadevan & Yap, 2019; Salah, 2016). However, as indicated in Malaysian HRDF's annual report, there are rather limited soft skills training programmes attended by employees in Malaysia (HRDF 2018; HRDF, 2019b). This could be as what was highlighted in the studies of Balcar (2016), Belderbos (2020) and Suleman (2016) unequal development of soft skills and hard skills in schools and work as hard skills are regarded as more productive than soft skills.

5.2.4.2 Soft Skills T&D and Firm Performance

Research hypothesis H2 was evaluated with regards to research question five, RQ5: "Is there a positive relationship between the firms' soft skills T&D and firm performance?"

The results did not provide evidence to support soft skills T&D's direct impact on firm performance. This result contradicts the findings of Niazi (2011) and Katou's (2008) empirical studies where training was found to lead to firm performance. According to previous research, this might be due to adults being

unlikely to learn skills in a short period of time (Hughey & Mussnug, 1977), or training at its early stage was not capable of having an instant impact on firm performance (Kwon, 2019). In addition, the entry-level and contract employees in the country, have limited opportunities for soft skills training (CEGOS & ASTD, 2011, OECD, 2019a; OECD, 2019b). As Ibrahim et al. (2017) suggested in their study on 'time-space learning', it is necessary to let participants simulate their training in real time, as compared to hard skills, soft skills are less transferable and the least quantifiable (Aragón-Sánchez et al., 2003; Hughey & Mussnug, 1977; Laker & Powell, 2011; Thang et al., 2010; Tzafrir, 2005). Moreover, as Sahoo and Mishra (2019) pointed out, motivation is essential in assisting trainees to transfer skills acquired at work. Furthermore, proper training needs assessment should be conducted to ensure trainees are assigned to the appropriate training programme. As noted in Mozael (2015)'s study, employees' acquired knowledge and skills do not match job needs. This hypothesis is not supported. It could be due to the trained employees leaving the organisation. As suggested by Renaud and Morin (2020), employers should consider putting efforts into retaining employees, as soft skills are transferable skills. This implies that employers' investment in soft skills training for employees ends up benefiting other firms. The other possible reason could also be due to firms not having a proper evaluation system for assessing training effectiveness on firm performance (Tharenou et al., 2007). As Jackson et al. (2019) indicated, it is not easy to assess learning transfer in the workplace. For this reason, the value of soft skills training is underestimated (Onisk, 2011; Rao, 2014). Lastly, training could be poorly

conducted due to lack of appropriate training methodology, which includes training materials, content, training activities, and the trainer's quality (Aragón-Sánchez et al., 2003). As supported by the studies of AbuJbara and Worley (2018) and Mahadevan and Yap (2019) in soft skills training, there is no unique training technique that suits all learners.

5.2.4.3 Human Resource Outcomes and Firm Performance

In answering the sixth research question, RQ6:"Is there a positive relationship between the human resource outcomes and firm performance?" H3 was evaluated.

This study provides findings to support the positive relationship between human resource outcomes and firm performance, which also corresponds with past studies that did not focus on soft skills where improvement in employees' performance was found to lead to firm performance (Cesário & Chambel, 2017; Ferguson & Reio, 2010; Kitchot et al., 2021; Rodriguez & Walters, 2017; Salah, 2016; Tummers et al., 2015; Wang et al., 2016). As Wuttaphan (2017) commented, investments in training would enhance employees' performance and create value for firms in the areas of productivity, quality of service and products. The findings demonstrated that the values of training conducted in the Malaysian manufacturing industry are not only expressed in its employees' performance (skills, attitudes and behaviours), which leads to an increase in firms' productivity,

quality of products and services, but also, with the improved resources, firms will be able to address future possibilities and challenges and to maintain competitiveness. This study provides similar findings to the earlier study by Kitchot et al.'s (2021) study that skills and abilities are resources to sustain a firm's competitive advantage. Moreover, as Mahadevan and Yap (2019) indicated, employees' performance is one of the firm's key success factors that are part of firms' assets. The findings also support the value of investment in soft skills T&D, as trainees who have acquired soft skills through training have the desire to utilise them at the workplace (Sahoo & Mishra, 2019).

Notwithstanding the above, in fact, the results which provide evidence that human resource outcomes are significantly and positively related to firm performance is also providing support to human capital theory in which enhancement in human capital leads to firm's performance (Becker, 1993). In addition, as RBV asserts that the competencies of human capital can be perceived as firm's most important asset which can be used to improve business performance (Madhani, 2010).

5.2.4.4 Human Resource Outcomes as a Mediator

The seventh research question, RQ7 of this study was formulated as "Do human resource outcomes mediate the relationship between soft skills T&D and firm performance?" In answering RQ7, H4 was examined.

The present findings provided empirical evidence to support the vital role of human resource outcomes in mediating the relationship between soft skills T&D and firm performance. As argued by Thang et al. (2010) training might impact organisational outcomes even though not directly on firm performance. The finding of this study concurs with past studies where training improves employees' competencies in skills, which may affect a firm's performance if these skills are applied in the workplace (Guan & Frenkel 2019; Katou, 2011; Tharenou et al., 2013; Triguero et al., 2012; Úbeda-García et al., 2014).

The analysis results further indicate that human resource outcomes in the Malaysian manufacturing industry have a complete mediated influence on training and firm performance. This implies that the beneficial influence of soft skills T&D in the Malaysian manufacturing industry on firm performance is entirely absorbed through human resource outcomes. This finding implies that the human capital of employees is Malaysian manufacturing firms' most valuable asset as postulated in the human capital theory. Improvement in employees' skills would lead to enhancement in firm performance (Becker, 1993). Similarly, as RBV posits, firm which is capable of managing its resources can sustain its competitive advantage (Barney, 1991). This indicates the importance of the capability of human resources in Malaysian manufacturing firm.

Phase II of the study provides evidence of the primacy of human resource outcomes in soft skills T&D. It is the performance of human resources that results

in the performance of a company. Despite soft skills being hard to train and assess compared to hard skills (Yen et al., 2001), they bring significant benefits to the firm through human resources.

5.2.5 Conclusion for the Key Findings

In summary, Phase I of the study reveals an emerging trend in the Malaysian manufacturing industry: a preference for knowledgeable employees who are also skilled at soft skills. Additionally, the high demand for the English language is reinforced here. Employers in the Malaysian manufacturing industry have a high demand for "teamwork", "emotional intelligence", "moral and professional ethics", and "critical thinking, creative thinking and problem-solving skills" at present and in the future. However, in general, the competence levels of graduates do not meet these employers' expectations and skills gaps exist in all soft skills and language skills.

Despite the competencies of entry-level graduate employees in the Malaysian manufacturing firms do not meet employers' demand, Phase II of the study provides empirical evidence that employers in the Malaysian manufacturing industry invested in soft skills training and development aiming to help their employees to acquire the required soft skills to adapt to anticipated changes, to increase job satisfaction, close the soft skills gaps and to ensure employees' greater involvement in the organisation. The results of the soft skills training and

development indicated that even though soft skills T&D conducted by these employers in the Malaysian manufacturing industry had no direct influence on firm performance, employers acknowledged that soft skills T&D contributed to improvements in employees' performance. This demonstrates that in the manufacturing industry, firm's T&D is a vital tool for enhancing employee performance, which leads to greater firm performance.

5.3 Implications of the Study

These results of both phases of the study have the following implications:

5.3.1 Implications for Higher Education Institutions (HEIs)

The high demand by employers, and the low-level competence of graduates in soft skills and languages, which have resulted in skills gaps in the manufacturing industry, imply that the supply of graduates has not kept pace with the shifting labour market demand. The growth in demand for soft skills in the future implies that the future graduate workforce will need to be multi-skilled with high levels of competence in soft skills. To actualise the need, HEIs should first disseminate this message to students by emphasising the importance of teamwork, EQ, ethics, and thinking skills, which are all in high demand by firms in the manufacturing industry. Since soft skills cannot be acquired within a short period, action should be taken to engage students at an early juncture to develop

these skills needed by employers in the course of their studies. HEIs should constantly interact with employers in the manufacturing industry to align the contents of their curriculum to meet the demand. More focus should be placed on the study and practice of teamwork, EQ, ethics, and thinking skills.

Second, as the human capital theory suggests, skills can be developed in firms or schools. Training for new industrial skills usually begins on the job, as a firm is more likely to be the one which is aware of its value. However, as skills are in higher demand, some of the T&D will shift to schools (Becker, 1993). Hence, the defined needs of the employers in this study should form the basis for HEIs to formulate courses and training objectives. HEIs need to start by reviewing current approach to soft skills development and paying attention to the curriculum design and evaluation system, to measure the results against the defined objectives. As suggested by Ibrahim et al. (2017), employees should put what they acquire in class into practice on the work. This implies that HEIs should consider a shift in pedagogy to emphasise the practice, method of assessment, and transfer of soft skills to the workplace during the revision of curriculum design and evaluation systems.

Third, as put forward by researchers, HEIs to assess the competence of staff responsible for students' soft skills development, since their efficiency and

effectiveness influence training outcomes (Iqbal et al., 2011; Kucherov & Manokhina, 2017; Tharenou et al., 2007).

Fourth, experienced alumni may be included to support work-based learning programmes for students and employees.

Fifth, as noted, employees' learning opportunities in Malaysia are scarce. Expanding the delivery of educational programs via distance and weekends, part-time and work-based, lifelong learning programmes to alumni, and working with employers to reach their employees, will enable HEIs to address this issue.

It is worth noting the win-win arrangement for HEIs and employers, in conducting soft skills training for employees, teaching staff/facilitators of HEIs are given opportunity to learn about employees' work problems and employers' demands, which they can then share with their students.

5.3.2 Implications for Employers in the Malaysian Manufacturing Industry

The findings of this study also have the following important implications for manufacturing employers:

First, skills gaps which exist in the respective industry signify that the skills demanded are changing faster than those supplied in the labour market –

and thus, they are facing challenges in finding a workforce with the right soft skills and proficiency in languages. As the theory (human capital theory) suggests, employers in this industry should inform and seek help from HEIs.

Second, allocate more funds to conduct on-going studies in soft skills needed by the firm (current and future), and update employees and HEIs on the changes in required skills.

Third, put emphasis on the conduct of three training phases ("training needs", "training objectives", and "training evaluation") in soft skills T&D to help the existing workforce develop soft skills to narrow the skills gap. As noted from the results of the summary of the measurement model, the three training variables have loadings of 0.846, 0.875 and 0.899 (Table 4.13). This indicates that these three training phases are important indicators of T&D of soft skills. Hence, firms in this industry should allocate resources efficiently and effectively to conduct these three training phases.

Fourth, firms should plan their training for a longer period, -as according to Santos and Stuart (2003), for successful application and development of soft skills, a longer term is needed. With regard to this, firms may consider working with experienced, quality teaching staff, facilitators from HEIs, training providers, and existing senior employees to conduct soft skills training for employees. As suggested in item 5.3.1, employers in the manufacturing industry should work

with HEIs, professionals, and policymakers, for instance, Ministry of Education (MOE), Ministry of Human Resources (MOHR), Technical and Vocational Education Training (TVET), Social Security Organisation (SOCSO), Federation of Malaysian Manufacturers (FMM) etc. to conduct flexible soft skills training at affordable costs for employees.

Fifth, post-training evaluation – the main element of the three training phases – should be customised by this industry from its perspective of soft skills T&D. Moreover, soft skills are not easy to measure, quantify and transfer to job performance.

Sixth, according to Becker (1993), investments in specific training in human capital lead to enhanced employee productivity. Firms lose their value when these trained employees leave. If the same implication is applied to general training of soft skills, employers in the manufacturing industry will preserve their value if these trained employees are retained.

Seventh, to consider issues of "transfer motivation" as well as providing appropriate environment and incentives, such as job related factors, social support factors and organisational learning climate, for these soft skills trainees to apply their acquired skills and knowledge through training to the workplace.

Eighth, allocate additional HRDF funds for more areas of soft skills training, especially thinking skills (critical, creative thinking, problem-solving), emotional intelligence, teamwork, and ethics, etc., as they are the future high demand skills. As noted in the HRDF 2019 annual report, training in manufacturing industry that was more on team building or motivation related programmes - accounted for 9.2% out of the total financial assistance funds approved for training by HRDF (see Table 1.7). Approved funds for other types of soft skills related training, such as language, supervisory, public relations and customer service and creative design were in the range from 1 to 2.3%. The results of Phase I of the study show future high demand for various types of soft skills and the English language. Moreover, different sub-sector has different demand for skills. This has an implication that employers in the manufacturing industry should look into other areas of soft skills training and focus further on improving proficiency of the English language.

5.3.3 Implications for Students / Graduates

The results of the study have the following implications for students / graduates in Malaysia.

First, a list of critical soft skills needed by them for job performance in the manufacturing industry in Malaysia is highlighted for IR4.0. Their career in this industry is marked by milestones related to enhanced competence levels, and they

should be responsible for their own learning, training, and career development. Mumford et al. (2000, cited in AbuJbara & Worley, 2018, p. 251) commented that skills development entails an individual's knowledge of the skill gap as well as their desire to learn and use the acquired skills. Hence, undergraduates should take the initiative to find out the knowledge and skills in demand by employers in various industries and the existence of skills gaps in these industries.

Second, they must recognise their weaknesses and continue to enhance their knowledge and skills to stay employable.

Third, merely focusing on competencies is insufficient to remain employable, and they must also be able to demonstrate these attributes, such as developing networks, working as a team with others, thinking critically, creatively, and out-of-the box to solve complex problems, working independently, and under pressure, accepting challenges with a positive attitude, and engaging professionally and ethically in their work. They will need to increasingly enhance their proficiency in languages, especially in the English language (both oral and written) and communicate well with people of diverse cultures and beliefs to explore business opportunities.

Fourth, employers will give priority to training employees on those skills needed for job performance. Skills requested by employees, such as improving morale or self-improvement may not necessarily be entertained. As pointed out by

Hwang et al. (2013), individuals may be reluctant to invest in further learning after graduation. Moreover, not many firms are willing to provide soft skills training for entry-level employees. This shows that training opportunities in the workplace are likely to be limited and unlikely to benefit entry-level graduate employees. In this respect, graduates should take the initiative to seek opportunities to enhance and practise their soft skills. They may consider the HRDF GENERATE programme for graduates, training or educational programmes conducted by vocational and training institutes or work with their employers to apply for financial assistance for HRDF Personal Effectiveness programme.

Fifth, soft skills cannot be acquired in a day. It is also difficult for adults to learn and apply these skills within a short time. The degree of applying the skills acquired is very much determined by the trainee's own attitude to learning and his or her willingness to change (Ibrahim et al., 2017). Hence, graduates should put in diligent effort to adopt lifelong learning approaches not only to learn soft skills and languages, but also to be flexible to change their attitude in the workplace. Soft skills are transferable skills which will continue to benefit them even if they change employers.

5.3.4 Policy Implications

As revealed in this study, EQ is one of the top three soft skills which are in high demand currently and in the future for the manufacturing industry. Practitioners and policy leaders (HEIs & MQA) should consider revising MQF to include the study and evaluation of competencies in EQ in its domain of soft skills learning. The results of this study are also important references for MOE, related colleges, and industries to revise the curriculum design and accreditation award for the work-based learning (WBL) programme which was launched in 2007.

Policymakers should consider organising on-going dialogue sessions or conferences in which students and researchers are encouraged to present empirical evidence related to employability skills. HEIs and policymakers can be co-opted on to the interdisciplinary review and discussions on the available data, implications, and suggestions for improvement. Greater government (MOE, TVET, HRDF) involvement will ensure soft skills programmes offered to students or graduates or employees have quality content and staff responsible for the learning and training.

In addition, it is critical for policymakers, particularly MOHR and SOCSO, to strengthen and reinforce the operations of ALMPs and the coverage of the National Employment Services and Employment Insurance System (EIS), to close the mismatch between demand and supply in the labour market. They should

work with organisations such as the Malaysian Employers Federation, HEIs, trade unions and employers to coordinate, manage and enhance the quality of manpower employees' soft skills T&D, aiming to close the skills gap. Increased soft skills training opportunities can be offered for workers to adapt and enhance their skills for IR4.0. For the unemployed, ALMPs may assist by providing training and guidance to help them find gainful employment.

5.3.5 Implications for Training Providers

The findings indicate that training providers need to work with employers in the manufacturing industry on the training needs, training objectives, and training evaluation of firms. They need to ensure programmes offered are aligned with the firms' objectives and goals.

In addition, an effective trainer should consider putting emphasis on the practical and skills transfer aspects and ensure participants will be able to apply the acquired skills in their workplace. Evaluation of the effectiveness of training and follow up with employers should be an on-going practice.

5.3.6 Theoretical Implications

The results of the study have theoretical implications to human capital theory and resource-based view.

5.3.6.1 Implications for Human Capital Theory

First, this study contributes to the human capital theory that skills, knowledge and abilities can be acquired through education and training. The outcomes of higher education are directly measured in this study by assessing the level of skills acquired by the entry-level graduates, as perceived by their employers (Becker, 1993). One of the roles of higher education institutions and training institutions in Malaysia is to help students to acquire relevant skills and knowledge to support various industries. The findings of the Phase I of the study on skill demands, competencies of Malaysian entry-level graduates and skills gap show that there is lack of evidence that entry-level graduate workforce are able to provide adequate soft skills demanded by employers as soft skill gaps exist in all components of soft skills and language identified for this study except for Bahasa Malaysia. This has an implication that HEIs and training institutions such as TVET should consider revising the contents of curricula / programmes.

Second, the human capital theory posits the importance of investing in education and training, employees to enhance knowledge and skills to become more productive (Becker, 1993). Phase II of the study has provided empirical evidence to enrich human capital theory as the findings indicate that soft skills training and development enhances soft skills competencies of employees (communication, thinking, language, emotional intelligence, moral and ethics), behaviour (achieving higher work satisfaction and participation level), and

attitude (improvement in work attitude and ability to face challenges). These improvements further led to firm performance (productivity, profitability, quality of service, competitiveness, capacity to meet future challenges and organisation's innovativeness).

Third, the theory also posits education and training help in coping with changing technologies and advancing productivity in the manufacturing industry. However, the theory suggests that firms should not invest in general training (soft skills and non-cognitive skills) as general skills are transferable which benefits other firms. As noted in Chapters 1 and 2, Malaysia is in its early stage of adopting IR4.0 which brings about changes in the work environment, duties, and skills demand. Phase I of the study has provided empirical evidence that there is a shift in demand for skills from specific to general skills in the Malaysian manufacturing industry while adopting IR4.0. Employers in various sub-sectors of the manufacturing industry, such as "E&E", "food, beverage and tobacco", "petroleum, chemical, rubber and plastic", "wood products, furniture, paper products, and printing", prefer soft skills than to hard skills. In addition, Phase II of the study not only provides empirical evidence that firms benefit from general training to close the demand-supply gap by influencing development at the individual (employee) level in terms of skills, behaviours and attitudes. These improvements further enhance firm's profitability, product, and service quality, competitiveness, capacity to address future opportunities and challenges, cost reduction and innovativeness.

In summary, this study has provided empirical support that soft skills training and development is helpful in coping with changing technologies and advancing productivity in the manufacturing industry. The study also supports the worth of general training as suggested by research in previous studies that as of today, compared to hard skills, more employers have a preference for general skills such as soft skills (Bishop, 1991; Kessler and Lülfesmann 2006; Mishra & Symth, 2015; O'Connell & Byrne 2012). This implies that firms should indeed be considering investing in general training for general skills and non-cognitive skills which have been ignored in the human capital theory.

5.3.6.2 Implications for Resource-Based View

The current study has the following contributions to RBV:

First, RBV posits that the valuable resources are strategic assets of firms. These are differentiated resources which help firm to reduce cost and enhance firm's performance in the aspects of profits, competitive advantage, efficiency and effectiveness. These resources are not freely available to other firms (Barney, 1993, Madhani, 2010). However, according to Kraaijenbrink (2011) RBV put less emphasis on individual-specific human capital such as soft skills and languages compared to industry-specific and firm-specific human capital. These skills are considered highly mobile across firms and across industries and there is lack of empirical evidence to support their contribution to the competitiveness of the firm.

Phase I of the study has provided empirical evidence that soft skills are highly valued by employers in the Malaysian manufacturing industry. This finding supports the comments of Kraaijenbrink (2011) that individual-specific human capital is valued more by employers compared to industry and firm-specific human capital.

Second, RBV suggests that if market condition changes, firm should be agile in recognising new market demands and take efforts to evaluate their capabilities and resources (Barney et al., 2001). The findings of the Phase II of the study has provided empirical support that firms which understand the importance of the change in demand and are willing to invest in training to enhance the competence of employees' soft skills will enhance their performance in the aspect of profits, reduce cost, quality of service and products, competitiveness and innovativeness. These findings also have implications that soft skills should be considered as firm's valuable resources as they have fulfilled the three criteria of RBV namely: 1) soft skills are inimitable resources which are of heterogeneity in nature (varying capabilities). 2) by enhancing employees' soft skills, will help firm to reduce cost, enhance firms' performance; 3) soft skills are not freely available to other firms as soft skills are not easy to acquire, yet they contribute to firms' competitiveness.

Third, RBV emphasises enhancing resources / capabilities to have a real impact on productivity and firm's performance (Russo, 2017). The findings of

Phase II of the study have provided support that soft skills T&D has positive relationship with HRO, and HRO has positive relationship with FP. This has an implication that in light of economic changes, firm should act fast to react to changes by identifying changes in demand for resources and capabilities of firms and to take the appropriate HRM practice to help employees to develop the competencies or capabilities to develop imitable skills to stay competitive (Altinay & Altinay, 2006; Ferguson & Reio, 2010; Kaur & Kaur, 2020; Lepak & Snell, 1999; Waiganjo et al., 2012; Wernerfelt, 1984; Wright et al., 1994). Hence, the findings of this study also offered significant empirical support for RBV and also serve as a basis for firm to design its strategic human resource management (SHRM), to assist employees to develop distinct inimitable skills to improve business success value for the organisation to accomplish its operational goals and business performance. Moreover, as suggested by Das and Kodwani (2018), focusing solely on soft skills, and considering them as internal resources and competences would not ensure competitiveness of the firm. These skills should be improved for a positive influence on performance.

The relevance of human capital theory and RBV to this study is that firms possess unique resources and capabilities such as soft skills relevant to anticipating and responding to changing firms' needs to sustain their competitive advantage. This indicates that firms possess soft skills as resources and capabilities which are associated with better performance.

5.4 Limitations of the Research

Despite its contributions, one of the limitations of this study is that, the data were obtained from a specific industry, which was manufacturing industry. It would be of great interest to obtain the data from a wider range of industries, notably service industry and compare the results from the manufacturing industry with those from other industries. According to Juhary and Saiyadain (1996, cited in Otuko et al., 2013 p.140), the past evidence has shown that most training conducted for managers was in the service sector. Luo (2015) comments that employees in service industries need stronger interpersonal skills than those in manufacturing industries as they have more contact with customers. Furthermore, the service sector has traditionally been viewed as a heterogeneous sector, encompassing a diverse range of industries such as education, retailing, transportation, banking, and communication where the supply and demand for, and the impact of soft skills T&D on performance may differ.

The second limitation is related to training and development. Though this study has established soft skills T&D enhances human resource outcomes which leads to firm performance at workplace, much remains to be understood about how firms conduct soft skills T&D and provide opportunities for the entry-level graduate workforce to attend. As noted from the study of CEGOS & ASTD (2011) compared to management and supervisory staff, the entry-level and contract employees will have less opportunity to attend soft skill training.

It is not easy to transfer soft skills acquired via training to the workplace. This study only suggested that 'lack of training transfer' affects the impact of soft skills T&D on firm performance, but did not look at the factors related to training and skills transfer as it is beyond the scope of the study. The third limitation is there is lack of exploration and empirical evidence in this aspect.

5.5 Recommendations for Future Research

The above limitation highlights that, for future studies, researchers may consider extending the study by including samples from other industries, particularly the service industry, and conducting a comparative study on the effects of soft skills T&D on competencies, behaviour, and attitude.

There is widespread acknowledgement in the literature that soft skills learned in training are likely to be transferred to the job. If skills learned are not put to use in the job, it is considered a waste of training resources (Botke et al., 2018; Laker & Powell, 2011). According to Onisk (2011) and Rao (2014) there is lack of empirical study on learning transfer. Future research is suggested to explore ways to leverage the soft skills and knowledge T&D at the workplace and factors affecting training transfer.

According to Mahadevan and Yap (2019), there is no "one training" method which is effective to all trainees and all types of soft skills of training. It

would be of great interest for future researchers to explore how soft skills training and development are conducted in firms and to find out the effective way of soft skills learning and training. Study in this area is recommended to include types of training (on the job and off-the-job), training methodology, types of programmes, frequency, opportunities for attending, and feedback of these soft skills training.

As noted from the Malaysian HRDF's annual report, there are very limited soft skills training programmes attended by employees in Malaysia (HRDF 2018; HRDF, 2019b). Studies by Balcar (2016), Belderbos (2020) and Suleman (2016) also found that there was an unequal development of soft skills and hard skills in schools and workplace as hard skills are regarded as more productive than soft skills. Further studies are recommended to explore in this area to address the problems of limited opportunity and programmes for soft skills and non-preference for soft skills training.

As highlighted by Onisk (2011) and Rao (2014) most training results have underestimated the value of soft skills. It is important for firms to evaluate the benefits from soft skills acquired by employees (AbuJbara & Worley, 2018). In view of this, future study is recommended to look into approaches in evaluating the outcome of soft skills training / learning and methods to improve these approaches.

5.6 Conclusion

The key to successfully bridging the skills gap is to first identify the right skills needed for the task. The objective of Phase I of the study, is to identify the current and future demand for soft skills and skill gaps. This is timely, as the manufacturing industry is embracing IR4.0, where a paradigm shift in skills demand is occurring due to changes in technology. Findings from this study have provided empirical evidence of the high demand for, and employers' need for employees to be competent and proficient in an array of soft skills and the English language. The top three soft skills which are currently in high demand are: "teamwork", "emotional intelligence" and "moral and professional ethics". In the future, "emotional intelligence", "teamwork", "critical thinking, creative thinking, and problem solving" skills will be the top three soft skills in high demand. The findings highlighted the existence of a soft skills gap in all categories of soft skills identified for this study. The skill gap in "leadership" is the highest. With regard to languages, other than Bahasa Malaysia, there are gaps in both English and Chinese languages. The English language has the greatest gap.

Despite the fact that employers prioritise technical skills in their workforce (HRDF, 2018), while compared to hard skills, soft skills are not only difficult to assess, it is found less likely to transfer (Laker & Powell, 2011; Rao, 2014), it is evident that employers conduct soft skills T&D which has a significant relationship with employee's performance. However, its relationship with firm

performance is not significant. Analysis shows that employees' performance mediates the effect of soft skills T&D on firm performance. Hence, the improvement in competence of employees after receiving soft skills training will benefit firm performance. Moreover, employers also include the three training phases ("training needs", "training objectives", and "training evaluation") in their soft skills T&D. These findings have valuable lessons for employers about the value of their investment in soft skills training.

In conclusion, this study should be on-going and extended to other industries, as according to FICCI & RB (2016), IR4.0 is still at a nascent stage. Many companies are still in the phase of evaluating the advantages and disadvantages of IR4.0. An industry-wide implementation is only expected before 2025 or 2030.

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APPENDICES

Appendix A: Questionnaire cover letter

[Date]

[HR manager/ Training Manager]

[Company's address]

Dear Sir / Madam,

INVITATION TO PARTICIPATE IN AN ACADEMIC STUDY ON SOFT SKILLS OF EMPLOYEES

I am a Ph.D. student attached to the Faculty of Accountancy and Management at Universiti Tunku Abdul Rahman. I am currently undertaking a research project as a partial fulfilment of my PhD. programme. The main objective of this study is to investigate the relationships between Soft Skills Demand, Training Variables, Human Resource Outcomes and Organisational Performance of a firm in Malaysia.

This questionnaire is sent to all manufacturers in the Penang Industrial Zone in Malaysia. I will be most grateful if you or your official representative (preferably those who are involved in Human Resource and Training) would assist me by completing the attached questionnaire. Your participation is invaluable, and it will greatly contribute to the success of this research.

For your information, Universiti Tunku Abdul Rahman (UTAR) recognises each individual's data privacy rights and is committed to complying with the new **Personal Data Protection Act 2010**. You may view the attached Personal Data Protection Statement at any time to understand the collection and use of your personal information and exercise your rights in respect of the same. I would appreciate your acknowledgement of this notice.

Please be assured that your responses provided in this survey will be kept strictly confidential. Data will only be used for academic purposes. Any data analysed will not identify the specific company concerned."

Thank you in advance for your valuable time and kind participation in this academic research. Should you have any queries regarding this survey, please do not hesitate to contact me at 05-4688888 (ext. 2297) / 012–4513603 or email me at lokbl@utar.edu.my.

I look forward to receiving your reply.

Yours sincerely,

_____

Lok Bee Lan

PhD. Candidate

Universiti Tunku Abdul Rahman

Appendix B: Personal Data Protection Statement

PERSONAL DATA PROTECTION STATEMENT

Please be informed that in accordance with Personal Data Protection Act 2010 ("PDPA") which came into force on 15 November 2013, Universiti Tunku Abdul Rahman ("UTAR") is hereby bound to make notice and require consent in relation to collection, recording, storage, usage and retention of personal information.

Notice:

1. The purposes for which your personal data may be used are inclusive but not limited to: -
   - For assessment of any application to UTAR
   - For processing any benefits and services
   - For communication purposes
   - For advertorial and news
   - For general administration and record purposes
   - For enhancing the value of education
   - For educational and related purposes consequential to UTAR
   - For the purpose of our corporate governance
   - For consideration as a guarantor for UTAR staff/ student applying for his/her scholarship/ study loan

2. Your personal data may be transferred and/or disclosed to third party and/or UTAR collaborative partners including but not limited to the respective and appointed outsourcing agents for purpose of fulfiling our obligations to you in respect of the purposes and all such other purposes that are related to the purposes and also in providing integrated services, maintaining and storing records. Your data may be shared when required by laws and when disclosure is necessary to comply with applicable laws.

3. Any personal information retained by UTAR shall be destroyed and/or deleted in accordance with our retention policy applicable for us in the event such information is no longer required.

4. UTAR is committed in ensuring the confidentiality, protection, security and accuracy of your personal information made available to us and it has been our ongoing strict policy to ensure that your personal information is accurate,

complete, not misleading and updated. UTAR would also ensure that your personal data shall not be used for political and commercial purposes.

Consent:

1. By submitting this form, you hereby authorise and consent to us processing (including disclosing) your personal data and any updates of your information, for the purposes and/or for any other purposes related to the purpose.

2. If you do not consent or subsequently withdraw your consent to the processing and disclosure of your personal data, UTAR will not be able to fulfil our obligations or to contact you or to assist you in respect of the purposes and/or for any other purposes related to the purpose.

3. You may access and update your personal data by writing to us at lokbl@utar.edu.my

Acknowledgment of Notice

[ ] I have been notified by you and that I hereby understood, consented and agreed per UTAR above notice.

[ ] I disagree, my personal data will not be processed.

……

Name:

Date:

Appendix C: Questionnaire

SURVEY ON SOFT SKILLS OF ENTRY-LEVEL GRADUATES

Soft skills are a set of personal qualities, attributes, and talents. They are also known as core skills, people skills, generic skill, and transferable skills. The key components of soft skills are: (1) Communication Skills (2) Critical Thinking, Creative Thinking & Problem Solving Skills (3) Teamwork Skills (4) Entrepreneurship Skills 5) Moral & Professional Ethics (6) Leadership Skills (7) Emotional Intelligence (8) Language skills: Bahasa Malaysia, Chinese and English.

Graduates of the entry-level workforce are employees with less than two-year's working experience in your organisation, irrespective of their position held in your organisation or the number of years they have served in other organisation.

The purposes of this survey are to identify (i) areas of soft skills demanded by employers (ii) soft skills graduates are lacking and (iii) soft skills training and development for employees.

CONFIDENTIALITY

The information you provide will be kept strictly confidential:

The data will be used for statistical purposes only and released in aggregated form. No single name will be disclosed.

Your kind co-operation is much appreciated.

The success of this investigation depends entirely on the data contributed by organisations such as yours.

Section I: Details of the Organisation

Instruction: Please tick (√) the appropriate box

1. Please describe your organisation type**:**

☐ Multinational Corporation (MNCs)

☐ Local

2. How long has your organisation been in existence?

☐ Less than 5 years

☐ 5-15 years

☐ 16-25 years

☐ 26-35 years

☐ More than 35 years

3. Please indicate the total number of employees in your organisation:

☐ Less than 100

☐ 100-400

☐ 401-700

☐ 701-1,000

☐ 1,001-1,300

☐ More than 1,300

Section II: Respondent's Information

Instruction: Please tick (√) the appropriate box

1. Age (years)

☐ less than 25

☐ 25-35

☐ 36-45

☐ 46-55

☐ 56 or older

2. Gender:

☐ Male

☐ Female

3. Position held:

☐ Non-executive

☐ Executive

☐ Manager / senior manager /Director

☐ Deputy General Manager / General Manager / Deputy President

☐ President / CEO

4. Level of education:

☐ Bachelor's degree / Professional qualification ☐ Master Degree ☐ PhD/ Doctorate ☐ Others

5. Number of years working in this organisation.

☐ Less than 5 years ☐ 5-15 years ☐ 16-25 years ☐ More than 25 years

6. Number of years in your present position

☐ Less than 5 years ☐ 5-15 years ☐ 16-25 years ☐ More than 25 years

Section III: Demand for and the Importance of Soft Skills for Work Performance

1. Please indicate the **level of importance** of the following skills for graduates of entry-level workforce, (they are employees with a bachelor degree or equivalent and with less than two years' working experience in your organisation, irrespective of their position held in your organisation or the number of years they have served in other organisation) to perform their job duties in your organisation.

	Score			
1 **Not at all important**	**2** **Not very important**	**3** **Fairly important**	**4** **Very important**	**5** **Extremely important**

	Score
Technical skills	
Job Knowledge	
Soft skills	

2. Please indicate (i) the **level of importance** of the following areas of soft skills for graduates of entry-level workforce (they are employees with a bachelor degree or equivalent and with less than two years' working experience in your organisation, irrespective of their position held in your organisation or the number of years they have served in other organisation) to perform their job duties in your organisation at present (ii) the **level of importance** of the following skills for graduate workforce in your organisation in the next five (5) years and (iii) **the level of competence** of the existing entry level graduates in your organisation:

Score **Score**

Level of Importance					**Level of Competence**				
1 Not at all important	**2** Not very important	**3** Fairly important	**4** Very important	**5** Extremely important	**1** Very poor	**2** Poor	**3** Average	**4** Good	**5** Very good

Score

Soft Skills	**Level of Importance** of soft skills for entry level graduates		**Level of Competence** of existing entry level graduates
	Current	**Future (in the next 5 years)**	
i. Ability to present ideas in writing with confidence.			
ii. Ability to present ideas verbally with confidence.			
iii. Ability to communicate with others from different cultures			
iv. Ability to analyse problems in complex and ambiguous situations			
v. Ability to develop new ideas			
vi. Ability to think-out-of-the box			
vii. Ability to work effectively with others to achieve common objectives			

viii.	Ability to respect the attitudes, behaviours and beliefs of others			
ix.	Ability to contribute to the planning and coordination of group efforts			
x.	Ability to identify business opportunities			
xi.	Ability to frame a business plan			
xii.	Ability to explore business opportunities			
xiii.	Ability to engage in their work professionally			
xiv.	Ability to analyse and make decisions to solve problems related to ethics			
xv.	Ability to practice ethical behaviour in addition to having a responsible attitude towards society			
xvi.	Ability to lead a project			
xvii.	Ability to supervise a team			
xviii.	Ability to be proactive in preparation for a given task			
xix.	Ability to accept challenges with positive attitude			
xx.	Ability to work independently			
xxi.	Ability to work under pressure			
xxii.	Ability to write in English			
xxiii.	Ability to speak fluently in English			
xxiv.	Ability to write in Bahasa Malaysia			
xxv.	Ability to speak fluently in Bahasa Malaysia			
xxvi.	Ability to write in Chinese			
xxvii.	Ability to speak fluently in Chinese			

Section IV –Soft skills training and development

1. With reference to your organisation, please indicate **the extent to which you agree/disagree** that the following statements apply to your organisation over the past 12 months by filling in the appropriate score:

Score				
1	**2**	**3**	**4**	**5**
Strongly disagree	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**

	Statement	Score
i	My organisation performs diagnosis of training needs for training and development of soft skills for employees	
ii	My organisation identifies the different areas of soft skills employees have	
iii	My organisation identifies the different areas of soft skills for future improvement	
iv	My organisation considers training requests expressed by staff to improve their soft skills	
v	My organisation identifies the different areas of soft skills employees will have to develop in order to improve their current job performance.	
vi	My organisation's training seeks to develop staff's soft skills to help them adapt to anticipated changes.	
vii	My organisation's training seeks to develop staff with soft skills to increase their job satisfaction	
viii	My organisation's training seeks to close the gap of soft skills	
ix	My organisation's training seeks to enhance employees' soft skills to ensure greater involvement in the organisation	
x	My organisation's training seeks to enhance employees' morale.	
xi	My organisation evaluates the contribution of soft skills training to the long-term development of its business	
xii	My organisation evaluates the impact of soft skills training on employees' performance	

xiii	My organisation evaluates the application of soft skills acquired during training.	
xiv	My organisation evaluates the soft skills training offered to employees to see if it meets the organisation's needs.	
xv	My organisation evaluates the impact of soft skills training on the morale of employees	

2. Please indicate the **level of contribution** the soft skills training in your organisation has made during the last two years in influencing the following variables:

	Score				
	1 Very low level	**2 Low Level**	**3 Average Level**	**4 High Level**	**5 Very High Level**

		Score
i	Employees improve their level of competence in the following areas of soft skills	
	a. Teamwork	
	b. Communication skills	
	c. Leadership skills	
	d. Critical thinking, creative thinking and problem solving skills	
	e. Language skills	
	f. Decision-making skills	
	g. Emotional Intelligence	
	h. Moral and ethics	
ii	Achieving higher employee work satisfaction level	
iii	Achieving higher employee participation levels	
iv	Improvement of employees' work attitude	
v	Employees' ability to face challenges	
vi	Enhancing the organisation's profitability	
vii	Enhancing the organisation's product quality	
viii	Enhancing the organisation's quality of service	

ix	Enhancing the organisation's competitiveness	
x	Enhancing the organisation's capacity to meet future opportunities and challenges	
xi	Enhancing the organisation's ability to reduce its production costs	
xii	Enhancing the organisation's innovativeness	

Thank you for taking the time to complete this survey.

Appendix D: Recommendation of Sample Size in PLS-SEM for a Statistical Power of 80%

Maximum number of arrows pointing to a construct (Number of independent variables)	Significance level											
	1%				5%				10%			
	Minimum R^2				Minimum R^2				Minimum R^2			
	0.1	0.25	0.50	0.75	0.1	0.25	0.50	0.75	0.1	0.25	0.50	0.75
2	158	75	47	38	110	52	33	26	88	41	26	21
3	176	84	53	42	124	59	38	30	100	48	30	25
4	191	91	58	46	137	65	42	33	111	53	34	27
5	205	98	62	50	147	70	45	36	120	58	37	30
6	217	103	66	53	157	75	48	39	128	62	40	32
7	228	109	69	56	166	80	51	41	136	66	42	35
8	238	114	73	59	174	84	54	44	143	69	45	37
9	247	119	76	62	181	88	57	46	150	73	47	39
10	256	123	79	64	189	91	59	48	156	76	49	41

Source: Cohen, J. A power primer. Psychological Bulletin 112, 155-519

Appendix E: Indices for Reflective Measurement Assessment

No.	Assessment	Index	threshold value	Literature support
1	Indicator reliability /factor loadings (Acceptable reflective indicator in which the construct explains more than 50 % of the indicator's variance)	Loading of indicators	Loading >0.70	Hair et al. (2014)
2	Internal consistency	Composite reliability (CR)	CR≥0.7	Hair et al. (2014)
3	Convergent validity	Average Variance Extracted (AVE)	AVE>0.50	Hair et al. (2014)
1.	Discriminant Validity	Fornell & Larcker's criterion	The square root of AVE of a construct should be higher than the correlations between the construct and other constructs in the model	
		HTMT Criterion	Lower than $HTMT_{.85}$ value of 0.85 or $HTMT_{.90}$, value of 0.90	Henseler, Ringle, and Sarstedt, (2015) and Ramayah et al. (2018), Kline (2011). Gold et al. (2001)

Appendix F: Indices Used for Structural Model Assessment

No.	Assessment	Index	Threshold value	Literature support
1	Lateral collinearity	Variance Inflator Factor (VIF)	Tolerance >0.2 VIF⩽5.0	Hair et al. 2014) Hair et al. (2014)
2	Significance and relevance of structural model relationships	Path coefficient	p value <0.01 t-value>2.57 (two-tailed) t value >2.33 (one-tailed) p value <0.05 t-value>1.96 (two-tailed) t value >1.645 (one-tailed) p value <0.10 t-value>1.65 (two-tailed) t value >1.28 (one-tailed)	
3	R^2	Coefficient of determination	0.75 – Substantial 0.50- Moderate 0.25- Weak	Hair et al. (2014)
4	f^2	Effect size	0.35- substantial effect size 0.15 –medium effect size 0.02 – small effect size	Cohen (1988)
5	Q^2	Stone-Geisser Q^2 Predictive relevance	Value larger than 0 for a specific endogenous construct to indicate predictive accuracy of the structural model for that construct	Hair et al. (2018)
6	(i) Indirect effect (ii) VAF	(i) ß (ii)variance accounted for	(i) 0.074 – lower limit 0.243 – upper limit (ii) >20%-<80% partial mediation >80% full mediation	Preacher and Hayes (2004) & (2008); Hair et al. (2014)

Appendix G: Respondents by Sub-Sectors

Sub-sectors	Frequency	%
1. Electrical & Electronics	58	29.15
2. Food, beverage, & tobacco	19	9.55
3. Non-metallic, mineral products, basic metal, & fabricated metal products	27	13.57
4. Petroleum chemical, rubber, & Plastic	30	15.06
5. Textile, weaving, apparel & leather	8	4.02
6. Transport equipment, & other manufacturers	36	18.09
7. Wood products, furniture, paper products, & printing	21	10.55
Total	**199**	**100.00**

Appendix H: Residuals Statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.13	4.86	3.49	.434	199
Std. Predicted Value	-3.158	3.150	.003	1.001	199
Standard Error of Predicted Value	.028	.116	.046	.015	199
Adjusted Predicted Value	2.07	4.85	3.49	.434	199
Residual	-1.448	1.372	.001	.393	199
Std. Residual	-3.676	3.483	.003	.997	199
Stud. Residual	-3.705	3.498	.003	1.005	199
Deleted Residual	-1.471	1.384	.001	.399	199
Stud. Deleted Residual	-3.833	3.604	.004	1.015	199
Mahal. Distance	.002	15.987	1.961	2.227	199
Cook's Distance	.000	.103	.006	.013	199
Centered Leverage Value	.000	.082	.010	.011	199

Note. Dependent Variable: Total FP