



Malaysian Apprenticeship Implementation: Issues and Challenges Towards Effective Employers Engagement

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DOI: <https://doi.org/10.30880/jtet.2021.13.03.021>

Received 17th June 2021; Accepted 29th August 2021; Available online 30th September 2021

Abstract: While the jobs recovery is underway in many countries, persistently high rates of youth unemployment remain a significant labour market challenge. In response, there has been increasing interest in apprenticeships both as a route into employment and also in raising the skill levels of the workforce. Apprenticeship is one of the methods to promote young people's employment. It is historically prevalent and successful in Europe and is emulated in other countries around the world to promote employment especially amongst youth. Apprenticeships and other work-based training opportunities are valuable training pathways for improving the transition from school-to-work. At the local level, apprenticeship programmes can contribute to regional development objectives and provide local employers with the skilled workforce they require to remain competitive and create jobs. Therefore, this study was carried out to investigate the current issues and challenges faced by Malaysian industrial employers in employer engagement of apprenticeship programmes through action research and descriptive studies. This action-based research as a methodology is to gather the responses of Malaysian local companies' experiences in the manufacturing sector, across Multinational Companies (MNC), Government-Linked Corporations (GLC) and Small and Medium-scale Enterprises (SME) and identify the key issues and solutions that could create a beneficial prospect for TVET graduates and participating companies. Both descriptive quantitative and qualitative data from the survey questionnaires and interviews, respectively, were employed. 71 companies involved in the online survey and 6 manufacturing companies participated in the interviews and discussions as well as brainstorming. From the perspective of industries, this study found that the main key issues and challenges are: scarcity of competent industries instructors and coaches; provision of CPD; availability of apprenticeship bridging programs; teaching capacity; skills to deliver high quality employer focused apprenticeship; and industries and training providers collaboration. These six main issues are fundamentally systemic and highly intertwined in nature and will have to be resolved by all the stakeholders based on an agreeable working framework of apprenticeship in Malaysia. The findings of this study could provide policy makers and social partners with specific learnings to remove barriers to engaging employers in apprenticeship programmes, broaden access to training opportunities and improve the economic development and labour market performance of local areas.

Keywords: Employer engagement, apprenticeship, work-based training, instructors, coaches, CPD, skills

1. Introduction

Apprenticeship is one of the methods to promote young people's employment (Silva et al., 2018; O'Higgins & Pinedo, 2018; Guile & Lahiff, 2017; Fuller, 2016). In recent years, apprenticeship is continuously perceived as an attractive policy option for many countries, to alleviate the increasing youth unemployment rate in the current global crisis. Countries with a solid system of apprenticeship have facilitated a smooth transition and settlement of youth into labour and maintained a low youth unemployment rate. Through a work-based education and training, apprenticeship not only provides youths with practical experiences that are required by companies but also an effective system that connects the industry and education (O'Connor & Bodicoat, 2017). Youths participating in apprenticeships are able to acquire the skill required by firms, and the firm could learn how to actively cope with the current and future demand for manpower.

In Malaysia, apprenticeship has been an instrument of the state's vocational education and training policy since 1957, when the government decided to revitalise apprenticeships (Adam, Rasul & Yassin, 2017). However, the implementation of apprenticeship is not matured yet and is not according to what is defined as an apprenticeship in other developed countries such as in Europe. Since then, successive governments have promoted apprenticeship as a key pathway for young people and as a vehicle for improving adult skills, and apprenticeships have enjoyed all-party support through collaboration. The functions of apprenticeship programs are a general responsibility of the states with guidance and guidelines from the federal level (Eicker, Haseloff, and Lennartz 2017). Meanwhile, apprenticeship also helps fresh graduates acquire the skills and knowledge to succeed in the industry; they earn while they learn on the job; get access to mentors; and gain confidence as well as a career path advantage. They may be hired by the company depending on their performance during their apprenticeship. Most of the apprentice programmes involve working full-time and on a rotational basis, from department to department. Usually in a two-year programme, an apprentice will be deployed to a department based on one's credentials and strength, as revealed by the apprenticeship programme.

Even though the states are given wide latitude in the functions of their programmes, there are inherent similarities in all programmes. The system is organised to operate with the collaboration of independent agencies that are not under the direct control of the state government. When this cooperation fails, the system is crippled (Billett, 2016). For instance, if the management of the industry did not collaborate, there would be no place for the apprentice to learn his skill (Fayol, 2016). Also, passive resistance of those agencies under state governance can be as devastating to the system as outright refusal to cooperate (Heckscher, 2018). Ankrah and Omar (2015) explained that the engagement between the education and training sectors with the industry is one of the forms of collaboration that exists to achieve shared goals for example by sharing knowledge, learning and building consensus through apprenticeship. Usually, the objectives of the collaboration are to strengthen relationships with industry, job placement for the students, identify the need for new courses and increase the added value of a service or product (Minghat et al. 2013). Another aim of the collaboration is to shape the training curriculum to determine the skills required by the industry. According to Minghat et al., (2013), if an institution wants graduates can work and succeed in a career of work, the education curriculum must be fresh and in accordance with the requirements. While Ashari, Rasul, and Azman (2016) stated that the collaboration between training providers and the industry must address the issues of skill requirements, international benchmarking of skill standards and competency assessment, comparability of qualifications and suchlike.

Furthermore, apprenticeships are a powerful workforce development tool that could provide opportunities for students, workers, and job seekers to gain the technical skills needed in growing industries while helping employers build diverse, skilled workforces that meet their talent needs. In response to the need for higher-skilled workers, vocational education and training (VET) amendments were passed by the government. On May 19, 2004, the Malaysian House of Parliament approved the National Dual Training System (NDTS) as a new apprenticeship programme as one of the tools in generating opportunities for youth employment. The NDTS is apprenticeship training programme adapted from the German Dual System where teaching and learning are carried out both in the industry as well as at a public training institute. In Germany, it takes 3 to 3.5 years while in Malaysia it takes about 2 years to complete the apprenticeship scheme. By introducing NDTS, the Malaysian government hopes that the private sector can collaborate with the public sector through sharing resources. In accordance with the NDTS approach, each skill training is to be done at the institute and a company workplace. The Department of Skills Development (DSD), a department under the Ministry of Human Resources of Malaysia, has been appointed as the agency responsible for administering, supervising, evaluating and ensuring the quality of the dual training approach. It is also the curriculum and standards developer and is responsible for testing and final certification. It also monitors, evaluates and conducts research on the implementation of NDTS. Consequently, it plays a prominent role in promoting NDTS to the training institutes and private industry.

2. Background of the Study

2.1 Redefinition of Apprenticeship in the Malaysian Context

UNESCO defines apprenticeship as a system of training in both formal and non-formal education regulated by law or custom which combines on-the-job training and work experience while in paid employment with formal off-the-job training (IBE UNESCO, 2011). The apprentice may enter into a contract of training or training agreement with an employer who imposes mutual obligations on both parties. This is quite aligned to what ILO defines apprenticeships as

“Systematic long-term training for a recognized occupation taking place substantially within an undertaking or under an independent craftsman, should be governed by a written contract of apprenticeship and be subject to established standards (Vocational Training Recommendation (R117, 1962)). However, in 1962 the new amended definition by ILO makes no reference to young people, in contrast to the 1939 definition. A more recent definition in a paper authored by German, Swiss and British academics again adds more attributes to the definition. Thus, the redefinition of apprenticeship in this study incorporates some of the key features of apprenticeship that is stated by the International Labour Organization (ILO), UNESCO, Department of Education UK, Washington State Department of Labor & Industries USA, Australian Apprenticeships; Australian Government, Malaysian Qualification Agency (MQA), Department of Skills Development (DSD), Malaysia and also taking into account several Acts from Laws of Malaysia. Among these acts are;

- Laws of Malaysia, Act 350: Children and Young Persons (Employment Act) 1966
- Laws of Malaysia, Act 265: Employment Act 1955
- Laws of Malaysia, Act 612: Human Resources Development Act 2001
- Laws of Malaysia Act 177: Industrial Relations Act 1967

Additionally, through brainstorming sessions and consultation in this study, apprenticeship in the Malaysian context was redefined as;

“An apprenticeship is a structured system of training that involves both on-the-job training and classroom education/training institutions for competency usually offered to employee/potential employees. It usually results in a certification or qualification or performance report and focuses on specific job or profession”.

2.2 Apprenticeship Status and Access

The apprenticeship programme had long been extant through Malaysian perspectives. Involvement regarding apprenticeship in Malaysia has started in 1957 when the National Apprenticeship Scheme (NAS) is introduced (Human Resources Development Fund, 2019). The Government has set mainstream skills training as key result areas in the 10th Malaysia Plan, which build and maintain world-class human capital to produce a composition of highly skilled workers from 28% to 33% by 2015 and 50% by 2020 (RMK-10, 2010). Various policies and strategies have been introduced to encourage firms in Malaysia to play a bigger role in training their employees, the most prominent of which is the Human Resource Development Fund (HRDF) which became operational in 1993. The HRDF was introduced through the enactment of the Human Resources Development Act in 1992. It provides for the imposition of a levy on employers to be collected into the HRDF, as a central pool of training funds. The Fund aims to enhance the private industry role in the provision of training in Malaysia, complementing the government's effort to increase the supply of trained skilled workforce in the country. It basically promotes retraining and skills upgrading for the workforce in selected industry sectors. The Act also provides for the creation of a Human Resource Development Council (HRDC), with representatives from the private sector and responsible government agencies, and a Secretariat to administer the HRDF schemes. By then, in 2005, the Malaysian Government implements the ‘National Dual Training System (NDTS), which aims to expose apprentices to actual situations in the industry. Apart from technical competencies, the NDTS also emphasises human and social competencies such as teamwork, self-monitoring, shouldering common responsibilities, and the like. Approximately 70-80% of the training is done in the industry, while the remaining 20-30% is carried out in training institutions, utilising a curriculum developed by the National Occupational Core Curriculum (NOCC).

2.3 Employer Engagement in Apprenticeship Implementation

Employer engagement is central to the development of apprenticeship programs. In the apprenticeship model, Wray, et al., (2019) stated that employers recruit and hire workers and partner with education providers to develop curricula, as well as identify the appropriate entity for classroom instruction, the necessary skills to be acquired, and the amount of wages paid. Sponsors develop a formal agreement and ensure their programs meet state and federal requirements. Wilson (2015) mentions that employer engagement might be conceptualised as a ladder, with less intensive forms of engagement (such as advisory boards or contract training) on lower rungs and more intensive engagement (such as developing pathways or partnering for sectoral workforce initiatives) on higher ones. The ladder also suggests how productive relationships with employers might evolve, with activities at one level helping build trust, momentum, and leverage for more intensive activities.

The apprenticeship programme is all about skill training in the workplace. The topic of skill training in the workplace is very timely and appropriate taking into consideration the current labour landscape taking place in the light of increasing globalisation, new technologies and changing patterns of work. However, the scenario in Malaysia indicates that employer engagement across industry in apprenticeship is still less encouraging based on past studies (Adam, Rasul & Yassin, 2017; Teng *et al.*, 2019; NDTS Q-Fact, 2015). In addition, based on Industry Training Participation Report by Human Resources Development Fund HRDF 2018, the registered employers under the HRDF covering sixty-three subsectors were slightly increased from 21,928 in the year 2017 to 26,281 employers in 2018. Even though registered employers increase, the percentage of employers involved in apprenticeships had slightly decreased from 2017 to 2018 (manufacturing sector 25% - 24%; services sector 25% - 22%; mining & quarrying 24% - 23%).

At present, the involvement of the main social partners, particularly in terms of the participation of workers in skills training in the workplace is very much lacking and largely absent. In addition, based on key statistics of the country's labour force of about 16.07 million out of the national population of 32.66 million, there are about 1.5 million documented foreign workers coupled with large numbers of illegal (undocumented) foreign workers (Department of Statistics, 2021). Employers employ these predominantly unskilled foreign workers, making maximum use of them and consequently shy away from providing the necessary skill enhancement for local workers.

2.4 Why Employer Engagement in Apprenticeship is of Importance?

Employer engagement is an essential component of apprenticeships. From the employers' perspective, skill development programmes should be designed to match the needs of government, employers and workers (Scott, 2016). Effective ways to identify training needs should be responsive. Therefore, an apprenticeship programme is the best way and solution to overcome the situation. The employers collaborate with the government through the National Dual Training System (NDTS) which could benefit both employers and the nation. The ultimate goal of the collaboration is to produce a highly competent, skilled and educated workforce relevant to the needs of the industries of Malaysia in particular. It was conceived in the nation that such an apprentice system would produce graduates that are competent, skilled and knowledgeable commensurate with industry standards. However, there must be a certain amount of collaboration between educational institutions, the workplace and its development in TVET arenas. The benefits from apprenticeships are proven and substantial, yet too many employers still see training as a cost rather than as an investment.

Implementing the apprenticeship programme could provide the employer with numerous benefits (Foster et al., 2018; National Apprenticeship Service 2018), including; i) Increased Retention Rates - Training staff is a time consuming and costly process. It, therefore, pays to keep that member of staff for as long as possible, in order to avoid having to start over with a fresh new face; ii) strengthen your employer brand - an employer could boost attraction rates and become an employer of choice for both prospective employees, as well as for those looking for apprenticeship opportunities; iii) save on recruitment costs - the benefits of apprenticeship arrangements are linked to apprenticeship costs and funding arrangements. the main costs of providing apprenticeship are apprentice wages, training in schools and off-the-job settings, and assessment costs; iv) secure the best new talent - the majority of apprentices are young and fresh out of education, they are looking for the career path they will be following on their journey into adulthood and beyond; and v) enhance productivity - as an apprentice learns, they are able to take on larger tasks, meaning that productivity can increase all round.

2.5 Issues and Challenges of Employer Engagement in Apprenticeships Implementation

The implementation of apprenticeship programs requires the coordination of both external factors such as legal, cultural and economic together with internal conditions of government support in policies and financing, institutional cooperation, corporate participation and public recognition for achievement of apprenticeship programs by employers (Fortwengel & Jackson, 2016). Under-developed apprenticeship traditions in Malaysia posed a barrier to a more widespread employers' involvement, due to obstacles in the implementation of these apprenticeship programs (Barr & Attrey, 2017; Chettiari, 2017). Apart from Malaysia, there is also considerable variation across national systems with respect to the degree that employers choose to become engaged in the provision of apprenticeship and training places, varying from estimates below 1% in the United States, 8% of employers in England to 30% in Australia (Chankseliani et al., 2017). While employer participation is affected by many variables, the design of apprenticeship systems has a major influence on the level of employer participation (Hodgson, Spours, & Smith, 2017). Employers within national frameworks also differ in their engagement with the apprenticeship system—typically, enterprises in the trades sector are more likely to offer training places than public sector organisations or enterprises in other sectors. Johnson and Spiker (2018) stated that broadening the range of apprenticeship pathways available across a more significant number of occupations and industry sectors opens more opportunities for employers to participate in an apprenticeship system.

Furthermore, another barrier to employer engagement can include fears of other firms "poaching" newly trained apprentices (Jansen & Pineda-Herrero, 2019). This fear is particularly significant for SMEs, who tend to experience more labour turnover and also may have fewer opportunities for career progression (Sharma, 2020). However, an analysis of German firms that engage in the apprenticeship system found that fewer than 3% of firms that offer apprenticeship places had been affected by poaching, smaller firms tended to retain apprentices more than larger companies, and that it had negligible effects on expected returns to apprenticeship training for firms (Teng et al., 2019). Hellstrand (2019) that only 2% of employers reported the risk of trained employees being "poached" or leaving the company as the main argument against offering training.

In addition, even though employers are aware of the advantages of training workers infused with the employers' culture and matching the needed skill sets, the implementation of apprenticeship faced an issue as the training and apprenticeship programs need to be aligned to the employers' requirements (Gauthier, 2020). In Malaysia, the structured NDTS however only allow recognition on completion of all National Occupational Skills Standard (NOSS) modules while an employer may not require full completion and may view it as extraneous and a waste of resources. Employers may also need additional modules from different NOSS categories to match their job description leading to closed

advancement paths under the Malaysian Qualification Framework (MQF) Vocational and Technical Certificates. Difficulties in finding an accredited training partner within employment locales is also an issue faced by employers (Jabarullah & Hussain, 2019).

3. Problem Statement

Although many strategies have been set up by the Malaysian government to enhance the apprenticeship program, results from previous studies found that the level of employer engagement in the apprenticeship program is still low (DSD, 2017; DSD, 2018; DSD, 2019). Among others, communication is one of the main issues facing employers' engagement in Malaysia (Kayode, 2018; Jamal & Abu Bakar, 2017). Chong (2017) mentions that employers are found to be unaware of what apprenticeship is and what are the existing programs such as the National Dual Training System (NDTS) promoted by the Malaysian Human Resources Ministry (HRM). This lack of communication resulting in lack of knowledge also led employers to be unaware of the apprenticeship program itself and also the financial assistance readily available under the HRM schemes. Furthermore, lack of resources such as coaches, trainers and facilities, outdated policy, organisational changes, and in combination with the limitations of training packages, have led many companies to believe that they lack the capacity to adequately prepare themselves and their apprentices for the program (Clayton et al. 2015). Because of this, companies have struggled to effectively plan and execute the apprenticeship program. Besides that, financial incentives and the distribution of training costs can also boost engagement in the apprenticeship system and also become one of the challenging issues in the implementation of apprenticeship programs. Costs are usually shared between the government, the employer and the apprentice, but the distribution of these costs can vary. Many countries have used subsidies and vouchers to increase the number of training places. Still, these may not necessarily be effective in expanding demand for apprentices in firms that already train them (Barrera-Osorio et al., 2020). Therefore this study was conducted to investigate the current key issues and challenges of employer engagement in the implementation of apprenticeship programmes in Malaysia.

4. Methodology

The Action Research method was used for this study to facilitate change. Action research is a research strategy which combines research with action and participation in the field. For this to succeed, the researchers worked closely with the interested employers and collaborated together to come up with the intended instruments and solutions. Action research is problem-centered, client-centered, and action-oriented. It involves problem identification, action planning, implementation, evaluation and reflection which helps involve the client system in a diagnostic, active-learning, problem-finding, and problem-solving process. Within the study, the researchers act as change agents, a conduit for delegation and feedback, to take on pivotal responsibilities and information to effectively communicate data. The data and information have been discussed with the industry in open sessions, the researchers collaborate in identifying and ranking specific problems, in devising methods to address the issues or barriers in implementing apprenticeships. By using the action research model, the researchers act as facilitators or coaches and counsellors as well as providing skills and knowledge transfer to the employers in data collection, analysis, problem-solving, decision making, team building, culture change, systems thinking, leadership development, and process improvement. This process entails the close observation on the successful industry engagement practice to share solutions and to finally propose the effective employer engagement model.

Within the context of the study, the research also used a mixed methodology that involved both quantitative and qualitative data as the design of the study, employed a survey through online dissemination of structured questionnaire that was developed and performed interview. The survey questionnaire and interview sought to gather information regarding key issues and challenges of industrial employers in employer engagement of apprenticeship programmes. The development of the research instrument is based on the research objectives/question after the brainstorming sessions with the experts in the area from both the industries and the academics. Rigorous and various document analysis and literature reviews were made, together with a review of the TOR and its objectives from the funders. The researchers have developed and validated the questionnaires/items to gauge employers' engagement in apprenticeship offerings in Malaysia by using a standardized procedure that included item development and pilot-testing. Of the personnel who participated in the validation, those who have PhD academic qualification and experience in WBL/apprenticeship/TVET were judged to be experts in this field and were requested to vet through the survey questionnaire to assess its validity and reliability. A well-designed questionnaire survey instrument will not make excessive demands on the time and goodwill of its respondents particularly from busy industry personnel. Therefore, the questionnaires were designed to be as brief, simple, attractive and "user friendly" as possible.

The population chosen for the study was based on the list of the Federation of Malaysian Manufacturing (FMM) and also from the list of companies registered under the Malaysian Investment Development Authority (MIDA) which amounts to a total of 1100 companies in the lists. The main point of interest in our research model is the employer engagement role. Therefore, the questionnaires survey targeted high-ranking managerial positions, such as the President, Vice President, Chief Executive Officer or Human Resource Director. To avoid biases during the study, the simple random sampling technique we adopted. Random surveys were distributed through email, followed by telephone calls.

The online survey was distributed to 212 targeted respondents from manufacturing industries which consist of Multinational Companies (MNC), Government-Linked Corporations (GLC) and Small and Medium-scale Enterprises (SME) in Malaysia, in which a total of 71 usable responses were received.

4. Results and Discussion

4.1 Participants

Table 1 and Table 2 shows the detail of the participants involved and the data analysis for the survey questionnaires:

Table 1 - Number of survey respondents

Company Types	Apprenticeship Programme Status						Total	
	Currently implementing apprenticeship		Has not implemented apprenticeship		Used to implement, but withdrew		Frequency (f)	Percentage (%)
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)		
SMEs	10	27.8	16	57.1	2	28.6	28	39.4
MNC	17	47.2	9	32.2	5	71.4	31	43.7
GLC	9	25.0	3	10.7	0	0.0	12	16.9
Total (N)	36	100.0	28	100.0	7	100.00	71	100.00

Only 71 respondents from manufacturing companies responded ie about 33% of the 212 selected sample and this response rate might limit the generalisation of findings. Based on Table 1 above, the data shows that the highest percentage of respondents are from MNCs at 43.7% followed closely by SMEs at 39.4% and GLCs makes up the rest at 16.9% of the total respondents. Of the total respondents, roughly half do currently implement apprenticeship programs (50.7%) and another half do not (49.3%). Of those that do implement apprenticeship, the majority (47.2%) are MNCs while SMEs and GLC made up the rest almost equally at 27.8% and 25.0% respectively. Respondents from companies that do not implement apprenticeship (current or previous) totaled 35 companies (49.3% of total) of which the majority are SMEs. It is of interest to note only 7 respondents (9.9% of total) are from companies that have previously conducted the apprenticeship program but have withdrawn.

4.2 Key Issues and Challenges Faced by Industrial Employers in Implementing Apprenticeship

Table 2 and Table 3 below shows the survey questionnaire and interview results related to the key issues and challenges faced by industrial employers when engaging in apprenticeship, respectively. The main key issues listed according to ranking from the survey questionnaire are:

- i. An adequate supply of teaching staff/mentors for On-The-Job (OTJ) learning/training
- ii. Provision of Continuing Professional Development (CPD)
- iii. Teaching capacity to deliver high-quality employer-focused apprenticeship
- iv. Bridging or pre-apprenticeship programs are not available yet
- v. Skills of teaching method are not mastered by the instructors
- vi. Close collaboration between employers & training providers

It is interesting to note that the data shows about the same ranking for the three groups of industries samples (MNC, GLC, SME) i.e.:

- i. Currently implementing apprenticeship (Currently Implementing)
- ii. Not implementing apprenticeship (Have not implemented)
- iii. Have withdrawn (Used to implement but withdrew)

It should be highlighted that *adequate supply of teaching staff or mentors for On-The-Job (OTJ) training* are the highest ranked (39.42%) key issues for the implementation of apprenticeship's offering. As part of the apprenticeship's agreement, the companies need to prepare eligible individuals as OTJ trainers or coaches. According to the accredited standard for the apprenticeship programme (DSD, 2019), for every five apprentices offered by the company, there must be at least one coach that will supervise the apprentices. However, the companies have issues adhering to these standards because of the difficulties to find and train eligible coaches for the apprenticeship programme (Fuller & Unwin, 2013). Next, the second-ranked (35.21%) key issues faced by the companies are related to the *provision of Continuing Professional Development (CPD)*. CPD is a career-long obligation for a practising coach or trainer for the apprenticeship program. It should not be underestimated and need to be sure that all the coaches obliged with the mandated requirements. The CPD could enhance the knowledge and skills of the coaches so that, they can supervise and teach high-quality skills and knowledge to the apprenticeship. However, the adequacy of the provision of CPD should be assessed.

Table 2 - Key issues and challenges in implementing apprenticeship according to ranking

No	Item	Currently Implementing (%)	Have Not Implemented (%)	Used to Implement but Withdrew (%)	Overall Percentage (%) *N=71	Overall Ranking
1	Adequate supply of teaching staff/mentors for On-The-Job (OTJ) learning/training.	15.50	18.31	5.63	39.42	1
2	Provision of Continuing Professional Development (CPD).	14.09	18.31	2.82	35.21	2
3	Teaching capacity to deliver high quality employer focused apprenticeship.	11.27	18.31	1.41	30.40	3
4	Bridging or pre-apprenticeship programs are not available yet.	8.457	18.31	2.82	29.58	4
5	Skills of teaching method are not mastered by the instructors.	12.68	16.90	0	29.58	4
6	Close collaboration between employers & training providers.	7.042	16.90	2.82	26.76	5
7	Adequate resources/facilities to deliver high quality training.	12.68	12.68	0	25.35	6
8	Bureaucracy in implementation.	9.86	11.27	1.41	22.54	8
9	No specific Acts to enforce companies to embark on the program.	9.86	9.86	4.23	23.95	7
10	Legal liability for the apprentices when they are on a job site.	8.45	14.09	1.41	23.95	7
11	Approval from parent company to offer apprenticeship program.	12.68	5.63	1.41	19.72	9

*N=Total number of respondents

Table 3 and **Table 4** shows the detail of the participants and the interview analysis summary, respectively. A total of 8 personnel from 7 companies of MNC, GLC and SME where 2 of them was then implementing apprenticeships, 2 have implemented apprenticeships but withdrew and 3 have not implemented yet.

Table 3 - Companies participating in the interview

Name of Company	Type of Companies
Company A (Oil and Gas -GLC)	Currently Implementing Apprenticeships
Company B (Automotive – GLC)	Currently Implementing Apprenticeships
Company C (Automotive – MNC)	Used to Implement Apprenticeships but withdrew
Company D (Engineering and Aerospace-MNC)	Has not Implement Apprenticeships
Company E (Ceramics – MNC)	Has not Implement Apprenticeships
Company F (Food and Beverage– MNC)	Used to Implement Apprenticeships but withdrew
Company G (Wood – SME)	Has not Implemented Apprenticeships

Table 4 - Interview results related to key issues and challenges in implementing apprenticeship

Based on interviews and discussion conducted with selected 7 participating companies during workshops conducted, many issues have been raised and among the various key issues highlighted which are related to the challenges in apprenticeship implementation are;

- i. Companies are not aware of the program that are relevant and relates to their companies' work processes.
- ii. Lack of communication in terms of promotions as not many companies are aware of apprenticeship.
- iii. Companies do not allocate funding for apprenticeship.
- iv. Lack of awareness on available funding for apprenticeship programs.
- v. Lack of coaching/instruction skills among their trainers.
- vi. Unavailability of trainers.
- vii. Lack of manpower and time to run apprenticeship.
- viii. Most of the companies are not clear on what apprenticeship is all about.
- ix. Most of the companies highlighted that they are not well informed on the existing NDTs Apprenticeship program and the various apprenticeship programs that are readily available under DSD (Ministry of Human Resources).
- x. Unsure on how to start an apprenticeship program using grant and/or levy from HRDF.

The result also indicated that the issue of '*teaching capacity to deliver high quality employer focused apprenticeship*' by the training provider that suits the needs of companies, was the third-ranked (30.4%) key issue in engaging apprenticeship. Research done by Rowe et al., (2017) mentions that the companies highlighted their concern on the importance of among others, the high specification of the equipment, facilities, software, systems and resources, that could provide the 'state-of-the-art' of the training. Particularly, Bajgar and Criscuolo (2019) stated that some of the training needs a considerable amount of investment to provide an appropriate and real scenario for the apprentice. Matching between the training needs of the companies and the capacity of the training provider is very crucial and needs a very delicate procedure. Another key issue indicated by the respondents of the survey (ranked fourth) were concerning *unavailability of the bridging or pre-apprenticeship programmes* (29.58%). Pre-Apprenticeship programmes can be considered as a preparatory training program that helps a potential individual who intends to begin an apprenticeship program at a specific industry. Smith and Simmons (2019) mention that the programme will help the candidate to be familiar with the necessary skills and work experience that could prepare them to find employment for their apprenticeship program. As well as Sack and Allen (2019) stated that to match the basic skills needed by the industries, a pre-apprenticeship programme needs to be developed or enhanced. In some way, the apprentices that start their career with the pre-apprenticeship programme will at least be able to handle basic tasks without too extensive supervision by their superior. Sharing the same ranking, *skills of teaching method are not mastered by the instructors are indicated to be among the key issues as well* (29.58%). Skilled coaches spend most of their time training and coaching the apprentices to ensure that the apprenticeship is able to learn what they should have been learned. Research done by Davis, Parker and Fogle (2019) shows that the challenge to the industry in the implementation apprenticeship programme is that many coaches can't master and don't understand how to teach the apprenticeship effectively and efficiently. Plus, some coaches or trainers don't make enough effort to really understand and grasp the ideas on how apprenticeship learns.

Interestingly, close collaboration between employers & training providers was being highlighted to be in the fifth-ranked among the main key issues (26.76%) in apprenticeship implementation. Engagement between the employers and training providers is one of the forms of collaboration that exists to achieve shared goals for example by sharing knowledge, learning and building consensus in the execution of apprenticeship programme. A successful collaboration will depend largely on the strategic and tactical approaches made by the employers and training providers as one of the parties or collaborators (Dawson & Osborne, 2019). Similarly, research was done by Mustapha (2017), Gessler (2017) and Ashari, Rasul & Azman (2016) subsequently points to the same issues regarding the apprenticeship challenges including close collaboration between employers and training providers.

These main key issues found through the survey were also highlighted and explained in the interview to a certain extent. The interview highlighted that there is a lack of manpower to run apprenticeships, hence the unavailability of trainers as well lack of coaching and instructional skills. This could be related to the lack of funding, as highlighted by the respondents in the interview. Added to that, most of the companies are not clear on what apprenticeship is all about and are not well informed on the existing National Dual Training System (NDTS) Apprenticeship program and the various apprenticeship programs that are readily available under DSD (Ministry of Human Resources) of Malaysia. Thus, it is not surprising that many companies are unsure of how to start an apprenticeship program using grants and/or levy from the available Human Resource Development Fund (HRDF). Most Companies lack information on the relevant available programs that relate to their companies' work processes. This may be due to the lack of information and communication with the related agencies like the DSD, HRDF, MIDA, skills institutions and other agencies.

Thus, the key issues raised in this study have opened up a broader range of strategies to stakeholders involved in the execution of apprenticeships from the standpoint of the employer. This is a collaborative effort between industry and

institutions to find the best way to assure the apprenticeship program's success. By examining these challenges, different solutions and interventions might be derived and implemented, benefiting both parties and making the process simpler and more practical.

5. Conclusion

Against this backdrop, this study has highlighted the key issues and challenges faced by the industrial employer in engaging in apprenticeship programmes in Malaysia. The overall concerns of apprenticeship stakeholders, namely from the perspective of industries are about the scarcity of competent industries instructors and coaches, provision of CPD, apprenticeship bridging programs, teaching capacity and skills to deliver high-quality employer-focused apprenticeship, bridging programs and industries and training providers' collaboration. These six main issues are fundamentally systemic and highly intertwined in nature and will have to be resolved by all the stakeholders based on an agreeable working framework of apprenticeship in Malaysia. A new framework of effective employer engagement across companies, training providers and also training institutions would develop a better understanding of the external and internal factors that influence their practices. Over time, this will develop into shared approaches to recruitment, education and support of the apprentices. This concept of mutual development of competent human resources between industries and training providers paves another dimension of Edu-training which will be the most viable methodology of a future workforce that neither education nor training alone could match. Thus, apprenticeship will be a major component in the edu-train system. On the other hand, the list of themes highlighted during interviews, apart from the systemic issues, demonstrate another important theme to be addressed surrounding knowledge, awareness and communication issues. Therefore, a good communication plan needs to be developed among key stakeholders to ensure that ignorance or unawareness will not be the reason for apprenticeship implementation failure.

Furthermore, expanding access to apprenticeship programmes could improve the lives of millions of Malaysian youth and help prevent unemployment issues. Apprenticeships widen the pathways to rewarding careers by upgrading occupational skills, employability skills, traditional academic skills and improving the quality of employer engagement. Moreover, given the effects of these programmes on worker productivity and innovation, companies will have an increased incentive to adopt "high road" strategies with respect to their apprenticeship programmes. Especially in today's tight labour market, apprenticeships represent one of the best mechanism companies can attract and retain skilled workers while increasing employer-employee engagement. While structural barriers to apprenticeship exist in Malaysia, federal investments in marketing and standards development, along with ongoing financial support for the off-job costs of apprenticeship, could overcome these barriers. As more employers adopt apprenticeship strategies successfully, network effects could well take over, with employers learning from each other about the value of apprenticeship. Malaysia undoubtedly has a long way to go before it reaches the apprenticeship levels in Germany, Australia, Canada, and the United Kingdom.

Acknowledgements

This study is part of a project under the I-Works Project: Improving Work Opportunities for Young People in the Commonwealth. The authors would like to thank British Council for funding this research under the I-Works Project in collaboration with Universiti Tun Hussein Onn Malaysia. All the assistance and supports are highly appreciated.

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