



**UNIVERSITI PUTRA MALAYSIA**

***EFFECT OF CAREER DEVELOPMENT INTERVENTION MODULE ON  
UNSKILLED VEHICLE ASSEMBLY WORKERS' CAREER  
COMPETENCIES***

**MONA ADLINA BINTI ADANAN**

**FPP 2021 28**



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UNSKILLED VEHICLE ASSEMBLY WORKERS' CAREER COMPETENCIES**

By

**MONA ADLINA BINTI ADANAN**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra  
Malaysia, in Fulfilment of the Requirements for the Degree of  
Doctor of Philosophy**

**September 2020**

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## DEDICATION

*This thesis is dedicated to:  
My beloved parents; Allahyarham Adanan Jamil, and  
Allahyarhamah Maimon Abd Karim for their unconditional love, prays and  
support.*

*My life partner, Joehan Ahmad and my beloved children,  
Amirah Aqilah Husna, Ahmad Amirul Hazeem, Ahmad Aqil Hisyamudin &  
Ahmad Arif Hafizudin  
Thank you for the support, courage, love, and patience.*

*And finally,  
All my brothers, sisters, friends and loved ones who were  
always with me in my effort to accomplish this thesis.*



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

**EFFECT OF CAREER DEVELOPMENT INTERVENTION MODULE ON UNSKILLED VEHICLE ASSEMBLY WORKERS' CAREER COMPETENCIES**

By

**MONA ADLINA BINTI ADANAN**

**September 2020**

**Chairman : Professor Sidek bin Mohd Noah, PhD**  
**Faculty : Educational Studies**

There is a need for career development intervention for working adults, especially those entering the workforce without post-secondary education. Based on this need, this research aimed to develop a Career Development Intervention Module (CDIM) based on the Intelligent Career Model (ICM), and to examine its effect on the career competencies of unskilled workers in Malaysia.

This research has two parts. The first describes the development of the CDIM, and the second reports a true experimental study to test the effectiveness of the CDIM on the career competencies of unskilled vehicle assembly workers. The CDIM was developed based on the Sidek Module Development Model (SMDM) and, to examine its validation and reliability, a descriptive study was used. The experimental research design was used on randomised pre-test, post-test, follow-up and control groups to determine the effectiveness of the CDIM. The subjects of this study were selected from 328 production workers at a vehicle assembly plant who met the criteria of unskilled workers set for this study. Sixty subjects were selected and assigned to two groups, the Experimental Group (EG) (n= 30) and the Control Group (CG) (n=30). The EG subjects were given treatment using the CDIM over four sessions conducted weekly, with each session taking four hours to complete. In total, 16 hours were needed to complete the CDIM. In this study, career competencies were measured using a questionnaire. Its subscales were knowing-why, knowing-whom and knowing-how. Data were analysed using descriptive statistics, one-way MANOVA and repeated measures MANOVA, at significance level of .05.

The content validity coefficient for the CDIM developed was .90 and its Alpha Cronbach value of reliability from the pilot study was .98. This showed that the CDIM was suitable to be conducted with the unskilled workers to increase their

career competencies. A comparative analysis between the EG and CG indicated that, for unskilled workers, a four-week career development intervention module produced significantly higher levels of career competencies and the sub-scales of knowing-why, knowing-whom and knowing-how, compared to the group who did not receive the intervention.

Furthermore, the results of repeated-measures MANOVA showed that the CDIM was effective in increasing the levels of career competencies and the sub-scales of knowing-why, knowing-whom and knowing-how within the EG during the post-test. The sustainability of the increased career competencies was also proven in the follow-up test.

This study has implications for organisations with unskilled workers and those working on the career development of employees. Furthermore, the career counsellor at an organisation may apply the CDIM in their organisation, especially in developing employee career competencies. This study also contributed to the efforts to expand the ICM application, especially in enhancing career development intervention.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia  
sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**KESAN MODUL INTERVENSI PEMBANGUNAN KERJAYA TERHADAP  
KOMPETENSI KERJAYA PEKERJA PEMASANGAN KENDERAAN  
TIDAK MAHIR**

Oleh

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Terdapat keperluan untuk intervensi pembangunan kerjaya bagi orang dewasa yang bekerja terutamanya mereka yang memasuki tenaga kerja tanpa pendidikan pasca menengah. Berdasarkan keperluan ini, kajian ini bertujuan untuk membina Modul Intervensi Pembangunan Kerjaya (MIPK) berdasarkan *Intelligent Career Model (ICM)* dan untuk menguji kesannya ke atas kompetensi kerjaya pekerja tidak mahir di Malaysia.

Kajian ini mempunyai dua bahagian di mana bahagian pertama ialah pembangunan MIPK dan bahagian kedua ialah kajian eksperimen tulen untuk menguji keberkesanan MIPK ke atas kompetensi kerjaya pekerja tidak mahir. MIPK telah dibangunkan berdasarkan Model Pembangunan Modul Sidek (MPMS) dan bagi menguji kesahan dan kebolehpercayaannya, kajian diskritif telah digunakan. Manakala reka bentuk eksperimen, kumpulan kawalan rawak ujian pra, ujian pasca dan ujian susulan telah digunakan. Subjek kajian ini telah dipilih daripada 328 pekerja pengeluaran sebuah kilang pemasangan kenderaan yang memenuhi kriteria pekerja tidak mahir yang telah ditetapkan di dalam kajian ini. Seramai 60 subjek telah dipilih dan dibahagikan kepada 2 kumpulan iaitu Kumpulan Eksperimen (KE)  $n = 30$  dan Kumpulan Kawalan (KK)  $n = 30$ . Subjek KE diberi rawatan modul selama 4 sesi yang telah dijalankan pada setiap minggu dan mengambil masa 4 jam untuk disiapkan bagi setiap sesi. Jumlah jam yang diperlukan untuk menyempurnakan MIPK ialah 16 jam. Dalam kajian ini, kompetensi kerjaya telah diukur menggunakan satu soalselidik. Sub-skalanya adalah mengetahui-mengapa, mengetahui-siapa dan mengetahui-bagaimana. Data dianalisis dengan menggunakan statistik deskriptif, MANOVA satu hala dan MANOVA pengukuran berulang pada aras signifikan .05.

Kesahan kandungan bagi MIPK yang telah dibangunkan ialah .90 and nilai Alpha Cronbach bagi kebolehpercayaan dari kajian rentas ialah .98. Ini menunjukkan MIPK adalah sesuai untuk dijalankan ke atas pekerja tidak mahir bagi meningkatkan kompetensi kerjaya mereka. Analisis komparatif di antara KE dan KK menunjukkan bagi pekerja tidak mahir, modul intervensi pembangunan kerjaya selama 4 minggu menghasilkan tahap kompetensi kerjaya dan sub-skala mengetahui-mengapa, mengetahui-siapa dan mengetahui-bagaimana yang lebih tinggi dan signifikan berbanding dengan kumpulan yang tidak menerima intervensi.

Manakala keputusan MANOVA pengukuran berulang pula menunjukkan MIPK adalah efektif dalam meningkatkan kompetensi kerjaya dan sub-skala menegetahui-kenapa, mengetahui siapa dan mengetahui bagaimana bagi KE di ujian pasca. Ketekalan peningkatan kemahiran kerjaya juga telah dibuktikan melalui satu ujian susulan.

Kajian ini mempunyai implikasi kepada organisasi yang mempunyai pekerja tidak mahir dan berusaha ke atas perkembangan kerjaya pekerja-pekerja tersebut. Manakala kaunselor kerjaya di organisasi boleh mengaplikasikan MIPK di dalam organisasi mereka terutamanya dalam meningkatkan kompetensi kerjaya pekerja mereka. Kajian ini juga menyumbang kepada usaha untuk mengembangkan aplikasi *ICM* terutamanya di dalam membangunkan intervensi pembangunan kerjaya.



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This thesis was submitted to the Senate of the Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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# CHAPTER 1

## INTRODUCTION

### 1.1 Overview

This chapter covers the background of the study, statement of the problem, general and specific objectives, research questions, and hypotheses. The conceptual and operational definitions of the variables of the study are also explained. Finally, the significance and limitations of the study are described.

### 1.2 Background

In 2017, the workforce composition in Malaysia showed that only 28.1 percent of the total workforce obtained post-secondary education where they entered the workforce using secondary school certificates or lower (Department of Statistics Malaysia, 2018). The statistics showed that the labour proportion in Malaysia is dominated by workers without post-secondary certification. Whereas the skill level required for 30% of Malaysia's occupations by 2020 are at semi-skilled level (Department of Skill Development Malaysia, 2016). Therefore, there was a need to address the career development for unskilled workers to enhance their skills to fulfil their future job requirements.

Prior to the skills development programme and initiatives, it is crucial to ensure that the unskilled workers are aware that it is important for them to take charge of their career development, including improving their skills. This can be done by conducting a career development intervention module on them. The Intelligent Career Model (ICM) can be adopted in developing the career development intervention module for unskilled workers to enhance their career competencies. The career competencies derived from the ICM comprises three ways of knowing, which are knowing-why, knowing-whom and knowing-how, have been considered in developing and testing the Career Development Intervention Module (CDIM) for unskilled workers in this study. The ICM has been proven effective in working with a career as it provides a framework that gives a coherent picture by integrating career data (Parker, 2002).

#### 1.2.1 Background of Unskilled Workers in Malaysia

One of the initiatives is by Economic Transformation Programme (ETP), where the Government aims for Malaysia to become a high-income nation that is both inclusive and sustainable. The government will encourage employment-rich growth that creates 3.3 million new jobs, half of which will require a diploma or

vocational qualifications (Performance Management and Delivery Unit, 2012). Workers who did not attain any post-secondary qualification are classified as unskilled workers since the Malaysian Skills Certificate (MSC) structure starts with Level 1 certification. This is aligned with the Malaysian Qualification that begins with a Level 1 certificate for both Academic and Technical and Vocational Education Training (TVET), (Malaysian Qualification Agency, 2017).

### **1.2.2 Target for Skilled Workforce in Malaysia**

A survey conducted by the Organisation for Economic Co-operation and Development (OECD), in collaboration with the International Labour Office (ILO) and Association of Southeast Asian Nations (ASEAN), from 2008 to 2009 among ministries of Southeast Asia (Brunei Darussalam, Cambodia, Indonesia, Thailand, Laos, Malaysia, Myanmar, the Philippines, Singapore, and Vietnam) indicates that the priorities for labour market policies are:

- reducing unemployment and raising the employment rate;
- reducing poverty;
- training people who are already in employment to improve their productivity and employment sustainability;
- tackling youth unemployment;
- fuelling the growth of SMEs (Small and Medium Entrepreneurs);
- supporting labour market inclusion of people with disabilities;
- and raising the female employment rate (Giguere & Parisotto, 2011).

Training people who are already in employment to improve their productivity and employment sustainability is one of the priorities for labour market policies for Southeast Asia countries. As such, the Malaysian government adopted an integrated human capital and talent development framework. This is important to provide a platform for the nation's ongoing growth efforts towards a high-income economy. Thus, the government will emphasise improving job mobility and upskilling the current workforce, particularly those from the bottom 40% of households (The Economic Planning Unit, 2010).

The Malaysian government has to put a lot of effort and initiatives into achieving the target to increase the skilled workers' proportion in the total workforce. To support the Malaysian Government in achieving this target, employers need to provide career development interventions to promote awareness of skills development among unskilled workers.

One of the initiatives taken by the Malaysian government to increase skilled workers is through Recognition of Prior Achievement (RPA) or formerly known as the Accreditation of Prior Achievement (APA method to give recognition to any individual who can demonstrate skills outlined in the National Occupational

Skills Standards (NOSS) based on prior experience and achievements (Department of Skill Development Malaysia, 2016).

As of 2017, there were 139,713 workers certified through RPA since its implementation (Department of Skill Development, 2017). Since there were 1,819 NOSS for 29 fields in 2017 that can be taken through RPA (Department of Skill Development, 2017), employees should take this opportunity to certify their workers through RPA.

### **1.2.3 Importance of Module Development**

A module is defined as a complete set and independent unit designed in a learning activity to help students achieve a set objective (Goldschmid and Goldschmid, 1972). Russell and Lube (1974) defined a module as 'a teaching package related with a syllabus, and it takes effort to teach them to an individual to help them master the content of a lesson before moving on to the next unit'. According to Creager and Murray (1985), a module is 'a complete and flexible teaching unit with the main focus of achieving some clearly devised objectives'. At the same time, Sidek Mohd Noah and Jamaluddin Ahmad (2005) have defined the module as a teaching and learning unit that discusses a particular topic systematically and sequentially to facilitate students to learn alone to master a learning unit easily and accurately.

To conclude, a module is developed using a set of designed syllabus or units to be conducted on the targeted group through teaching and guidance methods to achieve the module's objectives. Husen and Postlethwaite (1985) simplified the definition of a module as a complete teaching package for a subject. Whiston (2002) used Principles of Empirically Supported Interventions (PESI) in analysing the research done on career counselling and interventions and has concluded that individual career counselling and career classes are the most effective interventions. In comparison, workshops or structured groups and career classes were found to provide the most efficient services for the most significant number of clients. Therefore, it is important to develop a module to conduct career development interventions such as structured groups or career classes intended for a large group.

### **1.2.4 Intelligent Career Model (ICM) and Career Competencies**

Based on the intelligent enterprise by Quinn (1992) and in the context of a boundaryless career, DeFillippi and Arthur (1994) introduced the three ways of knowing or career competencies that consist of knowing-why, knowing-how, and knowing-whom. Arthur, Claman, and DeFillippi (1995) then established the Intelligent Career Model (ICM) from the career competencies identified by DeFillippi and Arthur (1994).



Eby, Butts, & Lockwood (2003) have identified the predictors of knowing-why, knowing-whom, and knowing-how. Eight competencies have been identified for the three ways of knowing where knowing-why, the competencies were proactive personality, openness to experience, and career insight. While for knowing-whom, the competencies were experience with a mentor, internal network, and external network. Finally, for knowing-how, the competencies were career/job-related skills and career identity.

Kuijpers and Scheerens (2006, p.305) defined career competencies as “competencies that are relevant for all employees to develop their career, regardless of the specific job they have”. A study has identified six career competencies: career development ability, reflection on capacities, reflection on motives, work exploration, career control, and networking.

In the Asian context, Kong (2010), based on the eight career competencies under the three ways of knowing, has conducted a study on hotel managers in China and developed a questionnaire that measures career competencies. From previous studies, Wang (2013, p.996) has concluded that career competency is defined as “employees’ adaptability in relation to their career which enables them to fulfil career developmental tasks or satisfy their career development needs”.

Studies have been done on ICM and career competencies since its establishment. The ICM is a contemporary career approach that attracts researchers such as Kuijpers & Scheerens (2006), Haase (2007), Kong (2010), Akkermans et al. (2012), Chen et al. (2012), Francis-Smythe et al. (2013), Wang (2013), Chang & Feng (2014), and Blokker et al. (2019) to explore and apply it in their studies.

### **1.3 Problem Statement**

In Malaysia, 79.1% of total employed persons in 2017 were workers without post-secondary education (Department of Statistics Malaysia, 2018). Failure to provide appropriate skills and/or adequate opportunities for upgrading for this group represents a major barrier to development and growth (Giguere & Parisotto, 2011).

The Malaysian workforce is relatively dominated by workers without post-secondary school where 77% are only educated up to 11 years of basic education at the Malaysian Certificate of Education (SPM) level or equivalent, and only 28% of Malaysian jobs are in the higher skilled bracket (Martinez-Fernandez & Choi, 2012). The context of globalisation and technological progress require a skilled workforce and higher levels of education attainment (Martinez-Fernandez & Choi, 2012).

Therefore, employers need to pay more attention in developing this group of employees, especially in terms of their career development. In addressing the career development of unskilled workers, it will also contribute to the upskilling efforts of unskilled workers. An appropriate career development intervention such as CDIM needs to be developed to help this group of employees manage their career development, including the awareness of their career competencies enhancement. The ICM was deemed appropriate by the researcher to be the foundation in developing the CDIM for unskilled workers.

Furthermore, most career studies focused on white-collar workers compared to blue-collar workers (Hennequin, 2007). In Malaysia, researches done on the development and testing of a module including career development intervention among counsellors such as by Amla Mohd Salleh et al. (1997), Sidek Mohd Noah & Mohd Ali Jaamat (1998), Jamaludin Ahmad (2002), Abdul Hanid Halit (2007), Mohd Ali Jaamat (2010), Lau Poh Li, (2011), Nur Liyana Mohd Ibrahim (2016) and Mohd Izwan Mahmud (2017) were carried out among secondary school and university students. Furthermore, the career theories that have been applied in developing the modules were Trait and Factor, Super's Career Development, Holland's Typology, Social Learning, and Cognitive Information Processing.

In terms of the researches done on career competencies such as Kujipers & Scheerens (2006), Haase (2007), Kong (2010), Akkermans et al. (2012), Chen et al. (2012), Francis-Smythe et al. (2013), Wang (2013), Chang & Feng (2014) and Blokker et al. (2019) the focus was on skilled workers. As the focus of this research was the unskilled workers, it will contribute to studies on career competencies for unskilled workers.

This research may contribute to the wider application of contemporary career theories such as ICM in developing career development intervention. Therefore, this research tried to develop and test the CDIM based on the ICM for unskilled vehicle assembly workers and examine its effect on their career competencies. Moreover, this research may offer empirical data to the research of career development among unskilled workers.

#### **1.4 Research Objectives**

This part highlighted the objectives of the research where the general objective and specific objectives were discussed. This research aimed at developing the CDIM based on ICM, and to test its effectiveness on career competencies of unskilled workers in a vehicle assembly plant.

The specific objectives of this research were:

1. To determine the validity and reliability of CDIM that was developed based on the career intelligent model.
2. To measure the career competencies level of unskilled vehicle assembly workers.
3. To examine the effect of CDIM on career competencies and its sub-scales (knowing-why, knowing-whom, and knowing-how) on the experimental group compared to the control group.
4. To examine the effect of CDIM on career competencies and its sub-scales (knowing-why, knowing-whom, and knowing-how) on the experimental group at post-test and follow-up compared to at pre-test.

### **1.5 Research Questions**

The research questions of this research were as follows:

1. Is the validity and reliability of the Career Development Intervention Module (CDIM) developed enable it to be conducted on unskilled vehicle assembly workers?
2. What is the career competencies level of the unskilled vehicle assembly workers?
3. Are there differences in the career competencies and sub-scales scales (knowing-why, knowing-whom, and knowing-how) for the experimental group at post-test and follow-up compared to the control group?
4. Are there differences in the career competencies and sub-scales scales (knowing-why, knowing-whom, and knowing-how) at post-test and follow-up compared to the pre-test for the experimental group?

### **1.6 Hypothesis**

Based on the questions set for this research, the following hypotheses were tested:

Ha1: There are significant differences in the career competencies scores for the experimental group at post-test and follow-up compared to the control group.

Ha2: There are significant differences in the knowing-why scores for the experimental group at post-test and follow-up compared to the control group.

Ha3: There are significant differences in the knowing-whom scores for the experimental group at post-test and follow-up compared to the control group.

Ha4: There are significant differences in the knowing-how scores for the experimental group at post-test and follow-up compared to the control group.

Ha5: There are significant differences in the career competencies scores at post-test and follow-up compared to the pre-test for the experimental group.

Ha6: There are significant differences in the knowing-why scores at post-test and follow-up compared to pre-test for the experimental group.

Ha7: There are significant differences in the knowing-whom scores at post-test and follow-up compared to pre-test for the experimental group.

Ha8: There are significant differences in the knowing-how scores at post-test and follow-up compared to pre-test for the experimental group.

## **1.7 Significance of the Study**

This part discussed the significance of the study to the career development theories and also its contribution to the application of the career development module in a working setting.

### **1.7.1 Significance of the Study to Theory**

This study has contributed to the research done in ICM application especially through the career development module. Parker (2002) suggested that the application of ICM in career development intervention will be effective as it integrates an individual's career data. Since there are few types of research done on the application of ICM and its career competencies of knowing-why, knowing-whom, and knowing-how in developing career development intervention, this research contributed to this effort. As suggested by Parker and Arthur (2004), career development and leadership development using the three ways of knowing intelligent career models provide an organising framework.

Researches on career competencies such as Kuijpers & Scheerens (2006), Kuijpers et al. (2006), Haase (2007), Kong (2010), Chen et al. (2012), Francis-Smythe et al. (2012), Akkermans et al. (2013), Meijers et al. (2013), Wang (2013), Chang and Feng (2014), Akkermans et al. (2014), Plomp et al. (2016), Kong et al. (2016), Akkermans and Tims (2017) and Blokker et al. (2019) have further studied the relationship and impact of career competencies on the elements of career development. Therefore, this study may contribute to the research done on career competencies, especially in applying the career development intervention module to enhance career competencies.

research done on career competencies, especially in applying the career development intervention module to enhance career competencies.

### **1.7.2 Significance of the Study to Practice**

There is little research done on unskilled workers, especially in terms of their career development. In the Malaysian context, the unskilled workers' population comprises more than 71% of the employed persons in 2017 (Department of Statistics Malaysia, 2018). Moreover, in 2016, the Malaysian government has increased the minimum wages for Peninsula Malaysia to RM1000 per month and RM920 for East Malaysia. With this new government requirement, employers have to pay more to their employees, including the unskilled workers.

For employers, with the increase of pay, it is expected to have a skilled workforce to commensurate the salary given to employees. Therefore, it is crucial to address unskilled workers' career development so that they can become skilled workers. Due to few types of research done on unskilled workers, especially in terms of their career development, this research aimed to develop the CDIM based on career competencies' three knowing under the ICM for unskilled workers. It is expected to contribute to the research area as it is limited information on career development research among this group of employees.

### **1.8 Delimitations of the Study**

This research's scope is on unskilled workers in Malaysia who can develop and certify their skills under the NOSS through RPA, and the career development intervention is based on the career competencies under the ICM only. Productivity factor has been considered in designing and implementing the CDIM as all participants were from production lines, whereby leaving the production lines to participate in the programme may affect the productivity. A proper arrangement with the Management of the plant was needed to ensure the CDIM that was conducted did not affect productivity.

### **1.9 Definition of Terms**

This part discussed the definitions of terms for career development intervention, module, career competencies, and unskilled workers.

### **1.9.1 Career Development Intervention**

The definition of a career development intervention, according to Spokane (1991) is any activity designed to improve an individual's ability to make improved career decisions. Spokane (1991), on the other hand, suggests several types of career interventions, including individual career counseling, assessment, career decision-making, and group interaction. Career programmes encompass elements of the academic or educational world and their relevance to the world of work (Halasz and Kempton, 2000). Whiston (2002) concluded that individual career counselling and career classes are the most effective interventions.

In an organisation, normally, activities implemented to assist employees dealing with their career concerns can be considered career development intervention initiatives. These initiatives should also cater to unskilled workers to ensure they are equipped with the required skills and knowledge and certify them through an available certification programme.

Career development intervention in this research refers to a career development intervention module that was developed based on the career intelligent model that is knowing-why, knowing-how, and knowing whom. The module has 7 sub-modules that address the 3 dimensions of career competencies. The sub-modules under knowing-why are Career Interest, Self-Personality and Career Values. For knowing-how the sub-modules are Career Path and Career Development Opportunities, and Career Planning. Finally, for knowing-whom, the sub-module is Sharing and Who?

### **1.9.2 Module**

Russell (1974) defined a module as "an instructional package dealing with a single conceptual unit of subject matter". At the same time, the definition of a module by Sidek Mohd Noah and Jamaludin Ahmad (2005) is a teaching and learning unit that discusses a specific topic systematically and sequentially to enable students to learn on their own so that they can master a unit of learning easily and accurately.

This research module refers to the career development intervention module (CDIM) developed based on the Intelligent Career Model (ICM). This module has 7 sub-modules and took 16 hours to complete. It was conducted weekly and took 4 hours to be completed for each session.



### **1.9.3 Career Competencies**

The intelligent enterprise model presented by Quinn (1992), Arthur, Claman, & DeFillippi (1995) introduced the intelligent career model (ICM) that integrates the 3 ways of knowing. Earlier, DeFillippi and Arthur (1994) have introduced this competency-based view of careers that consists of three career competencies: knowing-why, knowing-how, and knowing-whom.

The predictors of these three ways of knowing are knowing-why, knowing-whom, and knowing-how; then have been examined by Eby et al. (2003), and eight competencies have been identified. For knowing-why, the competencies were proactive personality, openness to experience, and career insight. While for knowing-whom, the competencies were experience with a mentor, internal network, and external network. For knowing-how, the competencies were career/job-related skills and career identity.

Kong (2010) has elaborated further the work of Eby et al. (2003) on the eighth competencies under the ICM's three ways of knowing and tested it on Asian context. Wang (2013) has concluded from previous studies that career competency is defined as 'employees adaptability in relation to their career, which enables them to fulfil career developmental tasks or satisfy their career development needs'.

The career competencies in this research were measured using a questionnaire developed and tested by Kong (2010) that consists of 40 items. It has 3 sub-scales, namely knowing-why, knowing-whom, and knowing-how, that measure career competencies. For knowing-why, there were three sub-scales which were proactive personality, openness to experience, and career insight. The sub-scales for knowing-whom were experience with a mentor, internal networks, and external networks. Knowing-how sub-scales were career/job-related skills and career identity.

### **1.9.4 Unskilled workers**

Merriam-Webster dictionary defined an unskilled worker as 'not skilled in a branch of work, lacking technical training' (Merriam-Webster, Merriam-Webster Dictionary, 2017). While Merriam-Webster Learner's dictionary defined unskilled as 'not having special skills, without training or education' (Merriam-Webster, Merriam-Webster Learner's Dictionary, 2017).

In Malaysia, the Department of Skills Development certification starts with Skills Certificate Level 1, and workers without any certification of skills are classified as unskilled workers.

Unskilled workers in this research are vehicle assembly workers of a Malaysian automotive company who have not attained any post-secondary school qualification, including skills certificate, and have served the company not more than three years. The criterion of the subjects is as such because the minimum experience required for certification through the RPA for skilled workers set by the Company is 3 years.

#### **1.10 Conclusion**

This study has applied the ICM in developing the CDIM that had proved its validity and reliability to be conducted on unskilled vehicle assembly workers with the objective to increase their career competencies. The CDIM that has been developed addressed the three ways of knowing that is also known as career competencies: knowing-why, knowing-how, and knowing-whom. In this research, the CDIM was also conducted on unskilled vehicle assembly workers to examine the effect of the CDIM on participants' career competencies.



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