



UNIVERSITI PUTRA MALAYSIA

***EFFECTIVENESS OF MOBILE CAREER COMPETENCIES
INTERVENTION FOR MALAYSIAN PUBLIC MANAGERS***

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**EFFECTIVENESS OF MOBILE CAREER COMPETENCIES INTERVENTION
FOR MALAYSIAN PUBLIC MANAGERS**

By

HO HSIN HUNG

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

June 2021

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

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June 2021

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Career competencies are competencies central to career development. Employees who master career competencies bring information, knowledge, and experience (working and learning) to the workplace, thus shaping their values and attitudes that contribute towards career success. However, there is a lack of career competencies practices in Malaysian public services. The study attempted to examine and support the Social Cognitive Career Theory (SCCT) in developing and delivering career intervention where lacking of evidence was significant. The study further extended SCCT in supporting career intervention delivery through mobile application. Therefore the study objective was to develop an efficient culture-specific mobile career competencies intervention in enhancing career competency among public servants in Malaysia, and subsequently to evaluate its effectiveness.

This study is a sequential exploratory mixed-method design. Phase 1 (qualitative) developed a career competencies intervention protocol and explored the mobile application's features preferred by the public manager. Phase 2 (quantitative) to validate and evaluate the Mobile Career Competencies Intervention (MCCI).

In Phase 1- The career competencies intervention protocol was developed by combining and modifying features from CareerSKILLS Intervention, EPortfolio and Career Construction Intervention. The career competencies intervention protocol was then improvised through various consultations with an expert group in the career field and validated by senior career intervention experts by using Sidek's Module Development Model and obtained an overall total of 86%. The protocol is suitable for the target group and meets the intervention module's targeted objective outcome. In the part 2 of the Phase 1, ten informants recruited

to understand the reason using a mobile application, factor motivating, factor demotivating, and gamification elements are the themes to develop the MCCI. The outcomes from Phase 1 were transformed into mobile applications such as paper prototyping, personas, essential uses cases, and storyboard techniques. The mobile career competencies intervention was then developed using Android Studio 4.0 with Java Language

Phase 2 - The MCCI obtained 82.87% on the usability score. The score showed that the MCCI perceived acceptable usability. Sixty-four participants (31 from intervention and 34 from the control group) out of 70 participants were included in the analysis for evaluation the MCCI purposes. The MCCI was effective in enhancing the overall career competencies with a mean difference of 0.283. The interaction effect is $F(2,95)=6.574$, $p=0.005$, $\eta^2=0.096$. For the six sub career competencies, only four sub career competencies (reflection on motivation, reflection on qualities, work exploration, and career control) showed significant improvement. There is no significant difference on networking and self-profiling between the intervention and control group.

The study concluded that the culture-specific mobile career competencies intervention effectively enhances career competency among public servants (manager) in Malaysia. Public managers can reflect on their motivation and qualities and proactively take action in their careers' learning and work processes.

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

**KEBERKESANAN PROGRAM INTERVENSI KERJAYA MELALUI APLIKASI
TELEFON UNTUK PENGURUS AWAM DI MALAYSIA**

Oleh

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Kompetensi kerjaya adalah penting dalam pembangunan kerjaya. Pegawai yang mengamalkan kompetensi kerjaya tinggi akan proaktif dalam menguruskan kerjaya diri sendiri dan menyumbang kepada kecemerlangan kerjaya mereka. Walau bagaimanapun, Perkhidmatan Awam Malaysia tidak menitik berat dalam pembangunan kompetensi kerjaya di kalangan penjawat awam. Sehubungan itu, kajian ini mengaplikasikan Teori Kerjaya Sosial Kognitif (SCCT) untuk membangunkan dan menyampaikan aplikasi telefon berhubung dengan program intervensi kompetensi kerjaya. Objektif utama kajian ini adalah membangunkan dan menilaikan keberkesanan satu aplikasi telefon berhubung program intervensi kerjaya dalam meningkatkan tahap kompetensi kerjaya di kalangan penjawat awam di Malaysia.

Kajian ini menggunakan kajian kaedah berbentuk campuran (eksploratif berurutan) di mana Fasa 1 (kualitatif) dalam membangunkan protokol modul untuk program intervensi serta meneroka ciri-ciri yang diutamakan oleh pegawai-pegawai semasa menggunakan aplikasi telefon. Fasa 2 (pendekatan kuantitatif) adalah untuk mengesahkan dan menilai aplikasi telefon berhubung program intervensi kompetensi kerjaya.

Dalam Fasa 1- modul program intervensi kerjaya telah dibangunkan dengan mengambilkira modul-modul daripada program CareerSKILLS, EPortfolio dan Intervensi Pembinaan Kerjaya. Modul program intervensi berkenaan kemudiannya ditambahbaik melalui pelbagai rundingan bersama sekumpulan pakar dalam bidang kerjaya dan disahkan dengan menggunakan Model Pembangunan Modul Sidek. Modul program intervensi berkenaan telah mencapai tahap 86% menunjukkan bahawa modul ini adalah sesuai untuk kumpulan sasaran dan berupaya mencapai objektif sasaran. Dalam Bahagian 2

Fasa 1, sepuluh orang informan telah dijemput untuk menghadiri sesi temu bual berhubung pandangan mereka berkaitan ciri-ciri aplikasi telefon yang diutamakan oleh penjawat awam apabila menggunakan aplikasi/teknologi Kerajaan. Hasil daripada Fasa 1 seterusnya digunakan untuk membangunkan aplikasi telefon berhubung program intervensi kompetensi kerjaya dengan menggunakan Android Studio 4.0.

Bahagian 1 Fasa 2 telah menunjukkan aplikasi telefon berkenaan mencapai tahap 82.87% pada skor kebolegunaan. Skor menunjukkan bahawa aplikasi telefon tersebut adalah pada tahap kebolegunaan yang baik. Manakala untuk Bahagian 2 Fasa 2, hanya 64 (31 dari intervensi dan 34 dari kumpulan kawalan) daripada 70 yang hadir sepenuhnya program intervensi berkenaan dan digunakan untuk penganalisan. Intervensi berkenaan telah meningkatkan keseluruhan kompetensi kerjaya sebanyak 0.283 dengan kesan interaksi ialah $F(2,95) = 6,574$, $p = 0,005$, $\eta^2 = 0,096$. Manakala untuk enam sub kompetensi kerjaya berkenaan, hanya empat sub kompetensi kerjaya (refleksi motivasi, refleksi kualiti, penerokaan kerja, dan kawalan kerjaya) menunjukkan peningkatan yang signifikan. Intervensi berkenaan menunjukkan tiada peningkatan dalam jaringan dan profil diri.

Kajian ini telah membuktikan bahawa aplikasi telefon berhubung program intervensi kompetensi kerjaya dapat meningkatkan kompetensi kerjaya di kalangan penjawat awam di Malaysia. Penjawat awam boleh sentiasa memantaukan tahap motivasi dan kualiti mereka dan proaktif dalam pembangunan kerjaya diri dan mencapai kecemerlangan dalam kerjaya mereka.

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This thesis was submitted to the Senate of 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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LIST OF ABBREVIATIONS

ADO	Administrative and Diplomatic Officer
AVE	Average Variance Extracted
CCQ	Career Competencies Questionnaire
CIP	Cognitive Information Processing
COLA	Cost of Living Allowance
CON	Career Control
DGCR	Digital Government Competency and Capability Readiness
EXPL	Work Exploration
JPA	Public Service Department
MCCI	Mobile Career Competencies Intervention
NET	Networking
OECD	Organisation for Economic Co-operation and Development
PRO	Self-profiling
RIASEC	Realistic, Investigative, Artistic, Social, Enterprising, Conventional
ROM	Reflection on Motivation
ROQ	Reflection on Qualities
SCCT	Social Cognitive Career Theory
SCT	Social Cognitive Theory
TAM	Technology Acceptance Model

CHAPTER 1

INTRODUCTION

The present chapter describes the overall concept of the study being undertaken. The chapter begins with a background which consists of the understanding and perception on career competencies, career intervention and mobile career intervention. This is followed by the roles of mobile career competencies intervention in human resource development, statement of problems and research questions. Included in the chapter are discussions on the study's objectives, scope, significance, limitations, constraints and adversities, assumption of the study and definition of terms used. The scope of the study described in the chapter discusses the sequential exploratory-mixed method and the operational definitions on career competencies adapted and used respectively in the study.

1.1 Background of Study

In an establishment, be it a private business organization or public institution, it has been widely accepted that career development is the primary function of human resource development (Hite & McDonald, 2008). Within this context, career competencies, referring to skills and knowledge required to successfully perform a job, are central to career development (Chen et al., 2014). Generally, individuals manage their career competencies personally and individually. They bring forth information, knowledge, and experiences (working and learning environment) to workplaces, thus shaping their values, attitudes and perception that contribute much towards their career success (Arthur et al., 1995; Defillippi & Arthur, 1994; Kuijpers et al., 2006). In many programs and policies of private educational institutions and labour organizations, career competencies have been widely discussed and implemented (Arthur et al., 1995; Latif et al., 2019). High career competencies generally increases one's efficiency in career-related functions and has been seen to be essential for effective managing of one's career (Akkermans, Brenninkmeijer, et al., 2013).

Career competency is generally referred to the skills which are required to perform a job or an assignment successfully. Unlike job or work competencies, career competencies are related to an individual's career as a whole. It is one's ability to put into practice knowledge and skills in successfully performing a function. A number of researchers cited that one's career competency develops through one or all the following: (i) self-reflection on motivation and values, (ii) awareness of the importance of networking and communication, and (iii) taking proactive action on career-related processes (Akkermans, Brenninkmeijer, et al., 2013; Beheshtifar & Zare, 2013; Kuijpers et al., 2006; Wesarat et al., 2014). Job

competency, on the other hand, is one's ability and skills to undertake a specific job such as human resource competency and knowledge of business for human resource manager (Kwakye et al., 2015; OECD, 2017b; Ulrich et al., 1995).

In countries such as the United Kingdom, Canada, Australia, New Zealand, and Ireland, human resource practices are set in career competencies within the public services' competency framework (OECD, 2017a; Valickas & Gražulis, 2014). Public servants in these countries are proactive in their career development enabling their public servants to equip with career competencies in attempts to improve job performance (Chen et al., 2014; Ebba, 2015; Ho et al., 2020; Kathryn et al., 2018). Chen et al., (2014) reiterated that career competencies in an organization, significantly enhance employees' "motivation, identity, necessary knowledge, and skills and enable them to establish inter- and intra-organizational networks with other workers in the organization". Kathryn et al., (2018) considered career competency as necessary in enhancing public servants' performance at the individual level. Persons of high competency are equipped with more effective and proactive behaviours and are expected to be promoted to higher ranks earlier than their peers.

The World Bank Group (2019) commented that public services in Malaysia are an over-centralized system whereby most issues related to human resources including career development, are handled centrally by Public Service Commission (PSC) (or *Jabatan Perkhidmatan Awam (JPA)* in Bahasa Malaysia) perceived to limit career development. Hofstede Insights (2019) published issues on the hierarchical and authoritative distance of the system. Each public servant or individual has his or her own defined role to perform without question and justify the decisions or policies made by their superiors. They are expected to be told what to do, following their respective job specifications (Hofstede Insights, 2019). The Malaysian Human Capital Index (HCI) (2019) assigned a score of 0.62 in 2019 and ranked 55th globally and 11th in East Asia. According to Ananthan et al., (2019), the indices reflected the country's capability to grow and nurture a healthy and educated workforce. The ranking was considerably lower than Malaysia's aspirational comparators (World Bank Group, 2019).

The government has taken initiatives and concerted efforts to improve the effectiveness and efficiency of Malaysian public services. Policies and budget allocated in the 11th Malaysia Plan 2016-2020 and the Shared Prosperity Vision 2030 were aimed at accelerating public human capital development to obtain the highest level of employees' performance. For example, the government introduced a new promotion Grade 56 for public servants in Grade 54 who had reached the grade ceiling. The perks included salary increment, readjustment in the cost of living allowance (COLA), bonus and increasing career intervention (training) for job and leadership competencies (Azmi, 2010) such as in writing official letters, financial management, human resource policies, audit, sustainable development goals, disposable policies, as well as a masterclass on public service collaboration, and other leadership training offered by National Institute of Public Administration (INTAN, 2019). These initiatives implemented by the government were based on traditional approaches which focussed on

career outcomes as the main objective. Nevertheless, positive outcomes in job performances could not be sustained (OECD, 2017b). Career success could no longer be viewed in terms of just objectives career success, but due consideration should be given to actual personal career success including subjective career success (Briscoe & Hall, 2006).

The public services should recognized user centricity as the main ingredient of public sector's innovation, as the most basic that involves public servants designing policies and services with a specific end users in mind and actively working to understand how career intervention will positively impact their lives (Nik Hashim et al., 2020; United Nations Economic Commission for Europe, 2017). Human-centered design principles emphasise how people interact with systems and processes, while behavioural science helps analyse how people think and respond to different situations. The Organization for Economic Cooperation and Development (OECD) has compiled more than 100 case studies of behavioural insights from around the world. A survey conducted showed that only 45 percent of institutions involved in behavioural insights employed behavioural scientists and/or experts. Malaysia's public services has equipped with innovative skill in the competencies management framework, which provided public servants with career competencies to incorporate new skills and to manage future potential competencies needed in their career (OECD, 2017b). This is in contrast with the country's traditional practices.

Career development competencies has been conceptualized as career competencies by some researchers (Akkermans, Brenninkmeijer, et al., 2013). In this regards, the public servants had prioritized career development competencies to manage their careers and renew their skills and knowledge to remain relevant in their service schemes (Seman, 2019).

Career competencies can be trained and enhanced by career intervention (Akkermans, Brenninkmeijer et al., 2013). In line with the 2018 Industrial Revolution 4.0 (IR4.0) budget, the Government of Malaysia hoped would help transform the nation's workforce into tech-savvy and the current trend. Therefore career intervention has been strongly encouraging to be delivered through mobile platforms to enhance the effectiveness (Heber et al., 2013; Oprescu et al., 2014) and meet the trend of Malaysians' behavior towards mobile.

According to the Department of Statistics Malaysia, the percentage of individuals using mobile phones in 2019 was 97.9 percent, increasing 0.4 percent compared to 2015 (Department of Statistics Malaysia, 2016, 2020). The Malaysian Communications and Multimedia Commission (MCMC)'s internet users survey in 2020 found that 98.7 percent of smartphone users access internet activities daily (Malaysia Communication and Multimedia Commission, 2017, (Malaysian Communications and Multimedia Commission, 2020). The survey also indicated that 45.0 percent of internet usage was for work-related activities, 74.3 percent was to get information online, and 68.2 percent read documents online (Malaysian Communications and Multimedia Commission, 2020).

1.2 The Role of Mobile Career Competencies Intervention in Human Resource Development

Human resource development aims to improve organizational performance by harnessing and developing employees (Wooten, 2008). Human resource development activities include providing career-relevant training, implementing mentoring programs, and assisting with succession planning and employees' career development (Gilbreath, 2008).

Human resource development merges employees' and employers' career needs and encourages individuals and organizations to create partnerships. It can enhance employees' knowledge, skills, attitudes, and competencies central to career development (career competencies) required for their current and future job assignments (Hite & McDonald, 2008). Incorporating technology in human resource development, such as managing talent, career, and human resource services are also called digital human resource development (Thite, 2020).

Digital human resource development is transforming learning and development through digital technologies such as mobile. It is placed where individuals are at the wheel in managing their work and careers; bureaucratize organizational boundaries to facilitate the free flow of knowledge and ideas. Hence in the present study, mobile intervention in enhancing career competencies for public managers in managing their careers was developed, and effectiveness evaluated, adding to the pool knowledge to existing digital human resource development literature and practices.

1.3 Statement of Problem

It is not surprising that there is a lack of research on career competencies in Malaysia, especially public servants. Public managers' standard training routines focus merely on benchmarking career outcomes to enhance job competencies based on current job scope (Azmi, 2010; Abdul & Azmi, 2010) and leadership competencies (Ananthan et al., 2019). Since there is hardly any training on career competencies or no readymade career competencies intervention can be adopted and tested on Malaysian public servants (Ho et al., 2019; Shaikh Ibrahim et al., 2018) to guide public servants in managing their careers, they have to rely solely on the Human Resource Department to help plan their career paths (World Bank Group, 2019). Career competencies intervention has been considered to be very important to equip the public servants with career competencies through career intervention program in order to help the public servants in managing their career (Ali & Marwan, 2019).

Most of Malaysia's current career interventions (training) on public services have been conducted in traditional classroom settings (Ho et al., 2019; Bujang, 2015).

This approach might be less effective due to trainees' ever-changing characteristics (Ho et al., 2019; Bujang, 2015). Training could go beyond classroom setting (OECD, 2019); considering the new generations tend to prefer new methods (Furió et al., 2015). Presently, the majority of public servants who attend training are from Generation Y, who forms 45% of Malaysian public servants (Jabatan Perkhidmatan Awam Malaysia, 2019). Generation Y is the connected generation who prefers to communicate and receive training via mobile phones or internet (Kong et al., 2015; Nimon, 2007).

There have been relatively few studies on mobile phone applications for training public servants, although a number of mobile interventions have been conducted in various other areas such as health, marketing, and e-learning (Danbjørg et al., 2018; Patwardhan, 2016; Noorhidawati et al., 2015; Uyanik, 2014; El-Gayar et al., 2013). Patwardhan (2016) reported that mHealth application had significant outcomes from early prevention of anxiety in middle school students. Mobile exercise applications also have helped patients with osteoarthritis to increase their exercising activities (Danbjørg et al., 2018). Usage of mobile application for diabetes self-management was reported to significantly improved attitudes towards diabetes self-management by increasing knowledge in handling diabetes (El-Gayar et al., 2013). Ease of use via mobile payment also successfully improved business marketing (Abrahão et al., 2016). Nevertheless, studies on mobile career interventions are still lacking. Studies on effectiveness of mobile career interventions in enhancing career-related outcomes (Sampson et al., 2020), and technology application on human resource matters is still minimal (Strohmeier, 2020). Presently, there is only one government-issued mobile application on managing careers, that is "MyHRMIS". However, only 30 percent of Malaysian public servants use MyHRMIS Cuti for applying and approving leave, less than 5 percent use MyHRMIS eGL, MyHRMIS Profil, and other MyHRMIS applications. While MyHRMIS mobile application aims at facilitating human resource management, it is not explicitly meant for developing career competencies or providing career intervention. There is a need to overhaul human resource functions, such as incorporating digital systems in human resource development (Thite, 2020).

Many mobile applications, including mobile phone intervention applications, were designed based on the existing intervention module constructs (Schnall et al., 2017). However, the design had poor emotional interfaces, making users to easily get bored; the flow of the application was complicated or not user-friendly as commented by Stanzola et al., (2015). The present study applies a user-centric design philosophy to develop a culture-specific mobile intervention through a mixed-method approach to achieve optimal use and effectiveness of mobile application. The culture-specific mobile intervention incorporates users' culture and insights into the design decisions, which are biased to their own cultural beliefs, thoughts, and interface preferences (Abildgaard & Christensen, 2017; Tolman & Reedy, 1998).

Against these backgrounds, there is a need to develop a culture-specific mobile career competencies intervention to enhance public servants' competency.

During Phase 1 of the development, feedbacks from users regarding their desires and needs and its limitations to produce a mobile application that is attractive to them were considered (Aleš & Heri, 2013). In Phase 2, usability and effectiveness tests were conducted to validate the mobile career intervention applications.

Such a culture-specific mobile career competencies interventions were aimed at enhancing public servants' competency, aligning with the government's goal to have high-performing public servants in the country. The current study presents a detailed processes in developing a mobile career competencies intervention and its evaluation on its effectiveness through an experimental study design.

1.4 Research Questions

The primary research question being addressed in the present study is: Is a culture-specific mobile career competencies intervention effective in enhancing career competency among public servants in Malaysia?

1.4.1 Specific Research Questions

Specific research questions of the study included:

- i) What are the elements in module of career competencies intervention for public servants in Malaysia to learn and manage their career?
- ii) What are the major mobile application's features preferred by the public servants when using Government-issued application/technology?
- iii) How does the component in mobile career competencies be integrated in career intervention in the mobile application?
- iii) How effective does mobile career competencies intervention in enhancing career competency among public servants in Malaysia?

1.5 General Objective

The general objective of the present study was to develop an efficient culture-specific mobile career competencies intervention in enhancing career competency among public servants in Malaysia, and subsequently to evaluate its effectiveness.

1.5.1 Specific Objectives

The specific objectives of the study included the following:

- i) To develop a module of career competencies intervention for the public servants (managers) in Malaysia;
- ii) To explore mobile application's features preferred by the public servants (managers) when using Government-issued application/ technology;
- iii) To develop and implement a mobile career competencies intervention for the public servants (managers) in Malaysia;
- iv) To validate the mobile career competencies intervention for public servants (managers); and
- v) To evaluate efficiency of mobile career competencies intervention in enhancing career competencies at Week 4 and Week 12 interventions among public servants (managers).

1.6 Scope of Study

The study was to develop a culture specific career competencies intervention and, subsequently, to determine its efficiency of a mobile career competencies intervention to enhance career competencies among managers in the public sector in Malaysia.

The study presents detailed the development of a module to facilitate a culture-specific mobile career competencies intervention. It adopted the principles of mixed-method in intervention research proposed by Nastasi (2007) on sequential exploration applicable to intervention research (Creswell & Clark, 2018; Nastasi et al., 2007).

The research process involved two phases:

- Phase 1: A review of literatures and face-to-face interviews with public managers from PSD were conducted. This was to qualitatively establish (i) the elements needed in the module of mobile career competencies intervention and (ii) the major mobile phone features preferred by public servants when using the proposed Government-issued application/ technology. The outcomes of Phase 1 were used to generate formative data to guide the module development to understand the specific culture and context. The assumption for Phase 1 was that culture-specific mobile career competencies intervention would effectively train public servants to learn the successful management of their careers.

Phase 2: Evaluating the effectiveness of the mobile career competencies intervention based on data collected in Phase 1 through randomized controlled trials. Two groups of participants were randomly assigned to an intervention and control groups. While the Intervention group received intervention program, the control group with no intervention program followed standard routine work.

The following hypotheses were developed and tested:

- H1: The perceived usability of mobile career competencies intervention benefits public servants (managers) in Malaysia;
- H2: The mobile career competencies intervention is effective in increasing the career competencies among public servants (manager) in Malaysia in managing their career between baselines and follow-ups at Week 4 and Week 12 of the study.

The mixed-methods sequential research approach that effectively integrated qualitative and quantitative methods were the natural methodological framework for the present study. The sequential nature of the methodology and its flexibility was to allow a pragmatic approach to follow the development of a story were well-suited to the present exploratory work.

1.7 Significance of Study

The study attempted to examine and support the Social Cognitive Career Theory (SCCT) in developing and delivering career intervention where lacking of evidence was significant (Brown & Lent, 2019). The study further extended SCCT in supporting career intervention delivery through mobile application. This study also proved that career competencies are applicable in Malaysia in the public service context even though initially conceptualized in the western context and seldom applicable to public services. To date, mobile career intervention is lacking in Malaysia's public services in enhancing career competencies (Seman, 2019). Therefore, the present study was the first to develop and validate a tailor-made mobile phone career intervention based on career competencies. Hence, the study contributes to the body of knowledge related to career competencies intervention studies.

The findings obtained in this study could help the Malaysia's Public Services Department to better plan career intervention strategies in attempts to enhance public servants' career competencies in managing their careers. When the Malaysian Public Services Department transforms and strengthens its workforce, more highly motivated public servants can expect better public services. Woo (2009) stressed that the public sector plays a critical role in developing a country.

For Malaysia to achieve a developed nation status, effective and efficient public servants are needed to implement policies drawn up to develop the economy. Public servants, especially those in management positions and who have high career competencies, can forge ahead in their careers as they act proactively or take the initiative to solve problems that beset the public services.

1.8 Limitations of Study

There are a few limitations to the study. Firstly, there are no standardized guidelines for developing a mobile career intervention based on career competencies for public servants. Therefore, the career competencies intervention module has to be adapted and amended according to the needs of the interviewees. Therefore, the module, based on data collected from the interview sessions, is applicable only to Malaysia's qualitatively establish public servants.

Another limitation to the study is that it was limited to a sample of public managers (Administrative and Diplomatic Officers) who may not be representatives of all scheme in the public service. The module was tested on managers with target population comprising of middle and junior management officers. Since the module was tailor-made and tested only on these officers, the results could not be generalised to all Malaysian public servants. The career intervention module needs to be modified and tested before it can be used for other groups.

There are various types of competencies among the set of public servants namely, hard competencies, soft competencies, desk competencies, career competencies, and others. The present study focused solely on enhancing career competencies that led to career development and were managed by public managers. Public managers were expected to be proactive in performing career-related duties such as navigating and making up their suite job competencies. The effectiveness of an evaluation measured the difference in career competencies levels before and after the mobile career intervention. The present study did not measure organizations' competencies, generic competencies, or leadership competencies.

1.9 Assumption of Study

Before initiating the study, there were several assumptions made to justify testing the study hypotheses. The key assumption was that developing a validated module for a mobile career competencies intervention would enhance public managers' career competencies. It was assumed that career intervention delivered through a mobile phone application would improve performance of Malaysia's public managers in managing their careers more successfully (Ho et al., 2020; Kathryn et al., 2018; Chen et al., 2014). Public managers are more

proactive in performing career-related behaviour than just relying on human resource department to send them for training.

It was also assumed that public servants would fully utilize mobile career competencies intervention as scheduled except when they were suddenly caught off-guard by unforeseen circumstances, such as sudden work overload or unavoidable commitments or circumstances. Another assumption was that the participants understood the purpose of the study and that after using the mobile application dutifully, they would respond to the questionnaires carefully and accurately without bias and fear.

1.10 Definition of Terms

The following are definitions of terms used in the study:

- i) Mobile career competencies intervention – an intervention that integrating the career competencies elements and embedded into mobile application. It is used to stimulate career competency development for the user;
- ii) Career competencies – behavioural central to career development initiated by own self. People need to be proactive in performing career-related behaviour such as navigating and making up their suite job competencies with the understanding and confidence on their strength, interest, and social relations at work;
- iii) Reflection on motivation – refers to reflection on values, passions, and motivations concerning the personal career;
- iv) Reflection on qualities – relates to reflection on strengths, shortcomings, and skills concerning one's career;
- v) Communicative – pertains to awareness of one's network's presence and professional values and the ability to expand network for career-related purposes;
- vi) Self-profiling – refers to presenting and communicating personal knowledge, abilities, and skills to the internal and external stakeholders;
- vii) Work exploration – relates to actively exploring and searching for work-related and career-related opportunities on the internal and external stakeholders; and
- viii) Career control – relates to actively influencing learning and work processes related to one's career by setting goals and planning how to reach them.

1.11 Summary of Chapter

Career competencies are competencies central to career development. Employees who master career competencies bring information, knowledge, and experience (working and learning) to the workplace, thus shaping their values and attitudes that contribute towards career success. The mastery of career competencies increases one's sense of career-related self-efficacy and is essential for effectively managing one's career. Unfortunately, hardly any training on career competencies or ready-made. Career competencies intervention can be adopted and trained on Malaysian public servants. Thus, the present study employed sequential exploratory-mixed method in developing a culture-specific mobile career competencies intervention to enhance public officers' competency. In Phase 1, the development considered feedback from users regarding their desires and needs and its limitations, to produce a mobile application that is attractive to users. In Phase 2, usability and effectiveness tests was conducted to validate the mobile career intervention application. The culture-specific mobile career competencies intervention was aimed at enhancing public servants' competency, aligning with the government's goal to have high performing public servants in Malaysia.

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