DETERMINANTS OF BEHAVIOURAL INTENTION AND USAGE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY-ENHANCED STUDENT CENTERED TEACHING METHODS AMONG ACCOUNTING LECTURERS IN MALAYSIAN PUBLIC UNIVERSITIES

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UNIVERSITI SAINS MALAYSIA

2018

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by

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Thesis submitted in fulfillment of the requirements
for the degree of
Doctor of Philosophy

September 2018

ACKNOWLEDGEMENT

First of foremost, I would like to thank my main supervisor, Dr. Phua Lian Kee and my co-supervisor, Dr. Teh Sin Yin for their relentless assistance and constructive feedback during the course of my study. Special appreciation also goes to Dr. Adeline Lau, my former supervisor for her initial guidance. Their unwavering support and constant encouragement have enabled the successful completion of this thesis.

I am also very grateful to the assistance of many kind individuals who have helped me in one way or another. Among them are, to mention a few, Dr. Sharifah Norzehan Syed Yusof (UiTM), Dr. Raman Nordin (UMS), Ms. Sharon Cheuk (UNIMAS), Soliha Sanusi (UiTM), Dr. Noriah Che Adam (UUM), Dr. Zubir Azhar (USM), Puan Esmie Nichol Obrin (UMS), Dr. Julia Mohd Said (IIUM), Lt. Kol. Dr. Mohd Noor Azli bin Hj. Ali Khan (UTM) and Dr. Sumaiyah (USIM). I am also thankful to the School of Management for holding numerous academic workshops, learning opportunities and strong support.

Last but not least, I would like to express my appreciation to my family members for their patience and tolerance during the course of this study. This includes my father and my siblings for their moral support. I am grateful to my husband, Ng Choon Chuan for his continuous encouragement and my daughter, Alice Ng Chia Yen for her love and understanding in the duration of study.

Last but not least, I dedicate this thesis to the loving memories of the two strong women in my life, namely my late grandmother, Loh Siew Hong and my mother, Ng Pick Yong who had passed away unexpectedly during the pursuit of this study. Without them, I would not be able to achieve what I have today.

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BI	Behavioural Intention
CP	Coercive Pressures
EE	Effort Expectancy
FC	Facilitating Conditions
HEI	Higher Education Institutions
ICT	Information and Communications Technology
IIUM	International Islamic University Malaysia
KPI	Key Performance Indicator
MIA	Malaysian Institute of Accountants
MOHE	Ministry of Higher Education
MOOC	Massive Open Online Courses
MP	Mimetic Pressures
NP	Normative Pressures
PE	Performance Expectancy
PSPTN	Problem-Based Learning
SCL	Student Centered Learning
UiTM	Universiti Teknologi MARA
UKM	Universiti Kebangsaan Malaysia
UM	Universiti Malaya
UMS	Universiti Sabah Malaysia
UMT	Universiti Malaysia Terengganu
UNIMAS	Universiti Malaysia Sarawak
UniSZA	Universiti Sultan Zainal Abidin
UPM	Universiti Putra Malaysia
USIM	Universiti Sains Islam Malaysia
USM	Universiti Sains Malaysia

UTAUT	Unified Theory of Acceptance and Use of Technology
UTM	Universiti Teknologi Malaysia
UUM	Universiti Utara Malaysia

FAKTOR-FAKTOR PENENTU NIAT KELAKUAN DAN PENGGUNAAN KAEDAH PENGAJARAN BERPUSATKAN PELAJAR YANG BERDASARKAN TEKNOLOGI MAKLUMAT DAN TELEKOMUNIKASI DI KALANGAN PENSYARAH PERAKAUNAN DI UNIVERSITI AWAM MALAYSIA

ABSTRAK

Kajian in menerokai faktor-faktor yang mempengaruhi niat kelakuan dan penggunaan kaedah pengajaran berpusatkan pelajar yang berdasarkan teknologi maklumat dan komunikasi (ICT) di kalangan pensyarah perakaunan di universiti awam Malaysia. Kesusasteraan yang sedia ada dalam inovasi pengajaran telah mengenal pasti persepsi dan tindak balas tenaga pengajar sebagai penghalang utama dalam kejayaan rekabentuk dan pelaksanaan sesuatu inovasi pengajaran, tetapi maklumat mengenai anteseden ini agak terhad kerana kebanyakan kajian sedia ada lebih menumpukan perhatian terhadap penyiasatan hasil pembelajaran. Berdasarkan Teori Kesatuan Penerimaan dan Penggunaan Teknologi, kajian ini bertujuan untuk mengetahui kesan jangkaan prestasi dan jangkaan usaha ke atas niat kelakuan pensyarah perakaunan untuk meningkatkan penggunaan kaedah pengajaran berpusatkan pelajar yang berdasarkan ICT, serta niat kelakuan dan keadaan kemudahan terhadap penggunaan dalam seting voluntari. Ia melanjutkan faktor pengaruh sosial dalam model asal UTAUT menjadi tiga faktor tekanan sosial, iaitu tekanan paksaan, normatif dan mimetik dalam konteks pendidikan perakaunan negara yang unik. Ia juga bertujuan untuk mengesahkan kewujudan hubungan langsung di antara ciri-ciri peribadi (iaitu kelayakan tertinggi, pengalaman pengajaran dan pengalaman industri) dan penggunaan berdasarkan panggilan laporan Hala Tuju. Kajian ini menggunakan kaedah tinjauan kuantitatif untuk

tujuan pengumpulan data. Sebanyak 114 borang soal selidik yang boleh diguna telah diterima. Berdasarkan analisis "Partial Least Squares Structural Equation Modelling", hasil kajian menunjukkan bahawa niat kelakuan pensyarah perakaunan untuk meningkatkan penggunaan kaedah pengajaran berpusatkan pelajar yang berdasarkan ICT dipengaruhi secara signifikan oleh jangkaan prestasi dan tekanan normatif. Di samping itu, penggunaannya just dipengaruhi secara signifikan oleh keadaan kemudahan dan niat kelakuan. Hasil di luar andaian berlaku yang mana jangkaan usaha didapati mempunyai hubungan yang signifikan tetapi negatif terhadap niat kelakuan. Ini merupakan tanda bahawa pihak pensyarah perakaunan mendapati kaedah pengajaran SCL yang berdasarkan ICT tidak mudah digunakan. Di samping itu, tekanan dan tekanan mimetik juga didapati tidak memainkan peranan yang penting dalam mempengaruhi niat kelakuan. Ini menunjukkan satu keperluan untuk penguatkuasaan mandatori dan merombak kriteria promosi dan ganjaran yang sedia ada untuk menjadikan inovasi mengajar diiktiraft setaraf dengan kecemerlangan penyelidikan. Ciri-ciri peribadi pensyarah perakaunan juga tidak mempunyai kesan signifikan ke atas penggunaan, menghantar mesej bahawa pengambilan pensyarah dengan ciri-ciri tersebut tidak akan menghasilkan peningkatan automatik. Sebaliknya, usaha lebih intensif perlu ditempatkan pada latihan untuk membolehkan para pensyarah melihat bagaimana mereka boleh mengaplikasikan kaedah itu di dalam bilik darjah. Hasil kajian ini akan berguna kepada pihak akademik dan pengamal dalam industri sebagai asas tindakan selanjutnya untuk menyingkirkan halangan utama dalam usaha mempromosikan penggunaan kaedah pengajaran berpusatkan pelajar berdasarkan ICT dalam pendidikan perakaunan negara.

DETERMINANTS OF BEHAVIOURAL INTENTION AND USAGE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY-ENHANCED STUDENT CENTERED TEACHING METHODS AMONG ACCOUNTING LECTURERS IN MALAYSIAN PUBLIC UNIVERSITIES

ABSTRACT

The study explores the factors influencing behavioural intention and usage of Information and Communications Technology (ICT)-enhanced student centered teaching acceptance and usage among Malaysian public universities' accounting lectures. Existing literature in teaching innovation has identified teachers' perceptions and reactions as the key barriers in its design and implementation success, but not much information is available on these antecedents as most existing studies prefer to focus on investigating the outcomes. Underpinned by the Unified Theory of Acceptance and Use of Technology (UTAUT) model, this study examines the effects of performance expectancy and effort expectancy on accounting lecturers' behavioural intention to increase the usage of ICT-enhanced student centered teaching methods in voluntary setting. It also investigates the effects of facilitating conditions and the resulting behavioural intention on the usage of ICT-enhanced SCL teaching methods. Additionally, this study extends the UTAUT model by substituting the social influence factor in the original model into more comprehensive coercive, normative and mimetic pressures based on the unique contexts of Malaysia's accounting education. Following the calls of Hala Tuju reports, it also seeks to verify the existence of a direct relationship between personal characteristics (namely highest academic qualification, teaching experience and industry experience) and usage in the UTAUT model. This research

employed a quantitative survey method for data collection purpose. A total of 114 usable questionnaires were received. Using Partial Least Squares Structural Equation Modeling analysis, the results indicated that the accounting lecturers' behavioural intention to increase ICT-enhanced student centered teaching method usage is significantly influenced by performance expectancy and normative pressures. Additionally, its usage is significantly influenced by facilitating conditions and the corresponding behavioural intention to increase its usage. Surprisingly, effort expectancy relationship was found to have a significant but negative relationship on behavioural intention, indicating that lecturers found ICT-enhanced SCL teaching methods not easy to use. On top of that, coercive pressures and mimetic pressures were found not to play a significant role in influencing behavioural intention, suggesting a need for a mandatory enforcement and revamp of existing promotion and reward criteria to make teaching innovation on par with research excellence. Similarly, the personal characteristics of the accounting lecturers also had an insignificant direct effect on usage, sending a message that hiring lecturers with such characteristics might not result in an automatic increase but instead intensified efforts need to be placed on training efforts in order to let the lecturers see how they can translate the methods into the classroom. The findings of this study will be useful to academicians and practitioners in the industry as further action base to remove key barriers in further promoting the usage of ICT-enhanced student centered teaching methods in accounting education.

CHAPTER 1

INTRODUCTION

1.0 Introduction

This study addresses the calls to use information and communication technology (ICT)-enhanced student-centered learning (SCL) teaching methods by various concerned stakeholders in the accounting education. Student-centered teaching has been advocated as a more effective teaching method than the teacher-centered approach, in order to initiate a change in the students' way of thinking, inculcate higher order skills and instill critical learning. This approach shifts the focus of the teaching and learning process to the students with the teachers acting as facilitators (Baeten, Struyven, & Dochy, 2013; Bozan, Davey, & Parker, 2015) to assist students using techniques such as discussion, problem solving and questioning (Trigwell & Prosser, 2003). With the students playing a more active role in the teaching and learning process and constructing knowledge for themselves, this will lead to the promotion of continuous learning and critical thinking skills in the graduates.

At the same time, in today's digital age, the rapid expansion of information and knowledge brings us to another question, namely how teachers manage and lead information for a more effective delivery. Today's education platform has become infused with technology; with ICT becoming an integral tool in the daily classrooms where teaching and learning takes places. In order to keep up with the pace in today's dynamic external environment, higher education institutions (HEIs) find a need to reinvent themselves, technology-wise, in order to stay up-to-date. Lecturers use various technology tools such as online learning platforms and cloud services to support their

teaching delivery. As teachers stand at the frontline of education reforms, their acceptance and usage of technology to support SCL teaching will determine its eventual failure or success (Chen, 2010).

Compared to other fields, the accounting education has long recognized the importance of ICT-based SCL teaching and learning as an important means towards attaining more marketable graduates in terms of required skill set. In Malaysia, the same vision is shared. Local authorities, such as the Ministry of Higher Education Malaysia (MOHE), are aware of the importance of soft skills such as communication, analytical thinking and critical thinking for a better marketability of the accounting graduates (Ministry of Higher Education Malaysia, 2015b). This has led to active calls to integrate ICT in SCL teaching and learning methods especially in the public universities' accounting programmes as recommended in Hala Tuju 2 and Hala Tuju 3 assessment reports on Malaysia's accounting degree programmes. Hence, ICT-enhanced SCL teaching methods act as crucial tools to promote the needed digital and soft skill competencies in accounting students in line with various stakeholders' aims to attain a better future state of the accounting education.

Nonetheless, the same Hala Tuju 2 and Hala Tuju 3 reports also highlighted that notwithstanding the various efforts by the authorities to promote SCL teaching methods, the implementation aspects are still slow and leave much to be desired in practice (Ministry of Higher Education Malaysia, 2015b). This study seeks to provide a clearer picture of the state of ICT-enhanced SCL teaching acceptance and usage in Malaysia's public universities. More specifically, it aims to find out the determinants of lecturers' behavioural intention and usage of ICT-enhanced SCL teaching methods in the

accounting education field in Malaysia's public universities so as to identify and then remove the main barriers preventing its acceptance and usage.

1.1 Background of the Study

In the accounting education, student-centered teaching is seen as a means towards achieving the desired attributes in its graduates. Today's accounting graduates are expected to possess not only technical competency, but a myriad of soft competencies such as communication, problem solving and critical thinking skills as well as digital competency. HEIs shoulder this important responsibility of developing work-ready graduates who act as change agents for a better future society (Sin & McGuigan, 2013).

These calls for the emphasis on the students' skill development are not something new. The accounting profession worldwide has long recognized that there is a prevalent problem with the state of the education system, discovering that the accounting graduates produced are not sufficiently prepared for the working world (Albrecht & Sack, 2000; American Accounting Association, 1986, 1989; Siegel, Sorensen, Klammer, & Richtermeyer, 2010). Today, a gap still lies between what accountants do and what accounting teachers teach. In this era of globalization where fast paced changes are the norm, the accounting profession is facing numerous challenges such as fiercer competition, increasing product choice and automated processes. This put an even greater pressure on today's accounting graduates to perform up to the workplace expectations (The Committee to Strengthen the Accounting Profession, 2014).

Albrecht and Sack (2000) stated that a contributing factor to this state of problem lies with the pedagogy used in accountancy education. The existing education model

was overly fixated on the goal of passing examinations, students' ability to memorise facts and content-based examination; resulting in further calls for innovations in the teaching processes, on the part of the teachers to promote active student learning and the development of lifelong learning skills (Siegel et al., 2010). This has created a pressing need to move toward ICT enhancement to support student-centered education system in line with the changing times where ICT, instead of textbooks, has become the main method for knowledge acquisition; and effective teaching delivery system is equated with using ICT such as e-learning, virtual classrooms and blended learning (Grapragasem, Krishnan, & Mansor, 2014). According to the Committee to Strengthen the Accounting Profession (2014), today's employers want not only accounting graduates who are professionally qualified with broad knowledge and practical market knowledge, but those who are technologically-savvy and can communicate well both orally and in writing. Hence, ICT-enhanced student-centered teaching and learning may be a two-pronged approach towards achieving these aims.

1.1.1 State of Accounting Education in Malaysia

Malaysia has been very proactive in its efforts to improve the quality of teaching and learning in order to elevate the country's status as an international education hub by year 2020 (Ministry of Higher Education Malaysia, 2011). As outlined in its National Higher Education Strategic Plan, teaching and learning quality improvement in the public HEIs is the second out of seven strategic thrusts towards this goal attainment. It intends to produce confident students who are proficient in soft skills such as communication, leadership analytical and lifelong learning. The private sector HEIs' involvement, on the other hand, is outlined under the Private-Public Partnership in the

10th Malaysia Plan. It is hoped that both sectors will strive for productivity and excellence towards an economically and socially prosperous Malaysia (Ministry of Education Malaysia, 2015b).

The MOHE through the Implementation Plan for Development of Innovative Human Capital and National Higher Education Strategic Plan (known as "Pelan Strategik Pengajian Tinggi Negara" (PSPTN) in Bahasa Malaysia), aims to hone tertiary level students into world class graduates capable of meeting the nation's needs (Ministry of Higher Education Malaysia, 2007b, 2011). One of its strategic goals is to improve the education system to produce graduates who are knowledgeable, competent and innovative. The most recent Hala Tuju 3 report on the accounting undergraduate degree programmes in Malaysian public universities has espoused the SCL teaching approach as an important means to achieve work-ready graduates (Ministry of Higher Education Malaysia, 2015b). The report calls for a move towards framework-based accounting (Jacobs, 2014) by using techniques such as case studies and computer-assisted learning to invoke application. These are also echoed in the Malaysia Education Blueprint 2015 – 2025 in line with Malaysia's desire to achieve holistic and lifelong learning in its graduates (Ministry of Education Malaysia, 2015). The blueprint also addresses the need to actively pursue new technologies and innovations such as Massive Open Online Courses (MOOCs) and blended learning to enable greater personalization of the students' learning.

The public HEIs are charged with the important role of propelling Malaysia towards achieving its vision of knowledge economy as outlined in PSTPN. In its Phase 2, the focus is to transform Malaysia into an innovation-based economy driven by the development of human capital as its main lever (Ministry of Higher Education Malaysia,

2011), with public universities continuing to play a main role in this transformation effort. They have remained a popular choice among students, with the student enrolment number continued to grow from 133,100 in year 2008 to 540,638 in year 2015 followed by a corresponding increase in public HEI graduates from 94,622 in year 2008 to 122,912 in year 2015 (Ministry of Education Malaysia, 2014, 2016b; Ministry of Higher Education, 2013). Accounting remains a sought-after programme. The national education statistics in year 2013 indicates that the accounting student enrolment totaled 24,996, an increase of 5,740 students from the previous year, while the accounting graduates numbered 6,629 in year 2012, an increase of 4.27% compared to the preceding year (Ministry of Education Malaysia, 2014).

The Hala Tuju assessment reports were initiated as the Malaysian government's initiative to have a common accounting degree curriculum in its public universities. Hala Tuju 1 (2001 – 2005) successfully introduced a standardized new accounting curriculum for accounting programme. However, although a common framework exists, some issues need to be addressed such as the absence of a common baseline standard (for instance, questions and marking standards differ according to the university) and different universities have different teaching capacities and number of lecturers who are professionally qualified (The Committee to Strengthen the Accountancy Profession, 2014). Hala Tuju 1 also recommended the implementation of interactive teaching and learning methodologies but this was not fully executed due to space constraint to carry out small size classes and lack of teaching staff. The follow-up Hala Tuju 2 (2006 – 2013) identified the lack of emphasis on student centered learning (SCL) and further called for a more active use of SCL and problem-based learning as teaching pedagogies in accounting programmes to inculcate good communication and analytical thinking

skills, promote teamwork and lifelong learning (Ministry of Higher Education Malaysia, 2007a). Simultaneously, Hala Tuju 2 also made clear of the need to develop technology-savvy graduates who are able to cope with potential employers' demands. Still, the same concerns are resonated in the latest Hala Tuju 3 report, implying not much significant improvements have taken place in terms of ICT-enhanced SCL teaching methods (Ministry of Higher Education Malaysia, 2015b).

The Committee to Strengthen the Accounting Profession in Malaysia (2014) was formed to tackle the strategic challenges facing the accounting profession in Malaysia as highlighted in the Report of the Observation of Standards and Codes in Accounting and Auditing published by the World Bank in 2012. The Committee came up with 15 recommendations, one of which is the revise promotion and reward structure for accounting lecturers so that teaching excellence would be rewarded in an equal manner as research publications. This signals the recognition of the importance of continuous teaching innovation to achieve higher quality accounting education.

The ongoing advances in information and communications technology (ICT) have continued to create more demands for its usage in today's modern society. Technologies such as the Internet, computers and digital tools have permeated our daily lives (Becker et al., 2017; Kassim & Ali, 2007). Many schools are restructuring their education to incorporate ICT into their curricula and classroom facilities (for example, projectors, blended learning) to bridge the gap between technology and teaching (Buabeng-Andoh, 2012). There are huge ICT investments in higher education by the governments worldwide and Malaysia is of no exception. ICT has emerged as an important tool in facilitating the use of SCL teaching methods among HEI lecturers in the 21st century. Using ICT tools will supplement the delivery of student-centered

teaching well by enhancing the teacher's abilities and organization as well as strengthen the university's overall competitiveness.

1.1.2 Attributes of Bachelor of Accounting Programmes in Malaysian Public Universities

In Malaysia, periodic reviews are conducted on the local accounting bachelor degree programmes offered in public HEIs as reported in its official government direction reports (called "Hala Tuju" in Bahasa Malaysia). Now into its third version, Hala Tuju 3 is prepared by the Re-evaluation Roadmap Committee of Accounting Program commissioned by the Ministry of Higher Education Malaysia (2015). It puts a special emphasis on SCL in order to achieve its espoused goals of quality accounting education.

The Hala Tuju 3 report serves four purposes (Ministry of Higher Education Malaysia, 2015b). First, it is to assess the implementation of Hala Tuju 2 report by HEIs. Second, it is to identify competency issues, including technical and human skills for HEI accounting graduands, for further action and improvement. Third, it is to review the existing curriculum of Bachelor of Accounting programme to elevate the quality of graduands in line with the policy of MOHE and current needs. Finally, it is to rebuild the framework of Bachelor of Accounting programme to be used as a recognition benchmark that our country's accounting programmes are equivalent to the international standards of accounting programmes.

Of noteworthy interest is the role of institutional pressures on the accounting programmes in Malaysia. The accounting programmes in Malaysia are subject to various types of regulations and monitoring to meet various bodies' requirements such as the professional needs according to International *Education Standards* (IES), *International*

Federation of Accountants (IFAC); the needs of the Malaysian Qualifications Framework (MQF) and Code of Practice for Quality Assurance created by Quality Assurance Division, Ministry of Education Malaysia; as well as the needs of the industry and professional accountancy in line with the current internal and external economy development (Ministry of Higher Education Malaysia, 2015b). Additionally, the report identifies the current internal and external educational and professional accounting issues as follows:

i. The current challenge of developing accounting education in line with our government policy outlined in Pelan Strategik Pengajian Tinggi Negara (PSPTN).
ii. Employer's expectation gap of local universities' graduates.
iii. Lack of continuous monitoring standards to ensure the assurance of professionalism level and programme quality in line with the Report of Observance of Standards and Codes by World Bank in February 2012.
iv. Industry experts and practitioners' lack of involvement in the teaching and learning process in local universities' teaching and learning process.
v. The need to strengthen quality of continuous teaching and learning by increasing the professionalism of accounting teaching staff.
vi. The need to increase the effective implementation of SCL.
vii. The need to support Malaysia Education Development Plan (2015-2025).

In this context, the objective of local public universities is to produce accounting graduates based on the Bachelor of Accounting guidelines created by the Ministry of Education Malaysia. HEIs are responsible to ensure that their graduates, who act as the

main inputs to the accounting professions, are equipped with the relevant knowledge and technical skills. To become a chartered accountant, accounting graduates need to achieve a certain competency level. Accounting practitioners and industry are in turn responsible towards developing the professional competency level of accounting graduates via relevant practical training in the agreed time period of at least 3 years.

Various challenges lie in converting these plans into reality. The Hala Tuju 3 report identifies several weaknesses from the implementation of the action plans highlighted in the previous Hala Tuju 2 reports. Take for one; the accounting students possess unsatisfactory human and technical skills from the aspects of communication skills, interaction ability, application of technical knowledge, proactive attitude, critical thinking and problem solving skills, and mastery of higher order topics (Ministry of Higher Education Malaysia, 2015b). The lack of these desirable qualities are also shared by a number of researchers such as Bui and Porter (2010), Siegel et al. (2010) and professional accounting bodies such as White Paper Skills for the 21st century Taskforce of the Institute of Chartered Accountants in Australia (1994).

Another noteworthy weakness highlighted in the report is that the teaching and learning process has less emphasis on skill development, less exposure to practical and industry, lack of SCL of student-centered learning and too much emphasis on research (Ministry of Higher Education Malaysia, 2015b). Additionally, there is a lack of strong and holistic monitoring of the achievement of future accountants' competencies. This shows that there is need for enhancement in the teaching process and the use of ICT-enhanced SCL teaching methods could be one of the solutions to mend this.

From the academic manpower perspective, improvements can still be done on the teaching staff's competencies as it was found that there is little recognition of

professional qualifications as well as lack of emphasis on lecturers' competencies, technical and industry exposure and working experience in the industry. Thus, a way to strengthen the accounting programmes in Malaysia is to incorporate these hiring criteria of teaching staff.

When it comes to the implementation of SCL in public HEIs, it is found that SCL has been carried out in the teaching delivery via the use of case studies and problem based learning (IES6) but there is still a need to increase the effectiveness of its implementation. Information technology application has been reported to have a wide usage in teaching and learning activities, for example, accounting application programmes such as UBS, BizTrak, Audit Express, Peach3; office applications such as Microsoft Access, Excel, Word, Visual basic and statistics application programmes such as SPSS (IES2 & IES3) (Ministry of Higher Education Malaysia, 2015b). In spite of this, the employers' feedback on the accounting students undergoing industrial training with them shows that the accounting students still lack the ability to use technology at the workplace (Ministry of Higher Education Malaysia, 2015b). While the students had high scores on self-discipline, ability to receive instructions, commitment level and ability to work in teams, they scored low in communication skills (oral or written) especially in English and handling stress.

1.2 Problem Statement

ICT-enhanced student centered teaching and learning is the way forward to quality teaching and learning. As opposed to the traditional teacher-centered learning, student-centered teaching places the students at the heart of the teaching and learning process,

who are expected to actively take the lead in developing and constructing knowledge for themselves. This will bring the students a step closer towards deep learning, cultivation of higher order skills such as analytical, creative, problem solving, communication and collaboration skills which are vital to prepare the students for the future (Ministry of Higher Education Malaysia, 2015b; P21 Partnership for 21st Century Learning, 2015). At the same time, integrating technology into SCL will act as a two-pronged strategy to develop the students' required ICT or digital competencies with the ability to solve problem in order to succeed in today's workplace (Gomes, 2013; Loogma, Kruusvall, & Ümarik, 2012; P21 Partnership for 21st Century Learning, 2015; The Committee to Strengthen the Accountancy Profession, 2014). The growing research interest in the extent to which teachers use technology in accounting education can be attributed to interests vested in ICT-enhanced SCL teaching methods by various stakeholders (Meyer & Xu, 2009), for instance students, potential employers and HEI leaders.

Despite the various calls for accounting education to implement ICT-enhanced SCL teaching, the progress has been slow. Yap (2016) stated while there are various discussions on various SCL learning activities, there are inadequate clear guidelines and lack of attention given to what the teachers can do to attain SCL, particularly for HEIs which have just started the initiative to move towards SCL environment. Research has also been a first priority in public universities in order to increase their ranking, resulting in teaching innovation being sidelined (Ministry of Higher Education Malaysia, 2015; The Committee to Strengthen the Accountancy Profession, 2014). The Committee to Strengthen the Accountancy Profession (2014) has called for a reform in the accounting education so that teaching is respected and rewarded a critical component for curriculum innovation and promote student-centeredness. Additionally, digital competency among

accounting students remains below expectations as Hala Tuju 3 reported that potential employers expressed that accounting graduates are weak in information technology skills (Ministry of Higher Education Malaysia, 2015b).

Another major concern which needs to be addressed is the relatively high number of unemployed graduates in Malaysia. Unemployment rate of fresh graduates in year 2016 was nearly 4%, higher than the national average of 3.5% (Azahar, 2016). The latest national graduate tracer studies in year 2015 show that public university graduates made up 23.9% out of 54,852 unemployed graduates (Ministry of Higher Education Malaysia, 2015a). Bachelor Degree holders formed the biggest group of unemployed graduates at 27.9% in year 2015 (Ibrahim & Mahyuddin, 2017). Kalra (2015) reported that 70% of Malaysian employers were disappointed with the quality of fresh graduates, citing poor communication skills as one of the reasons. Hence, the use of ICT-enhanced SCL teaching methods may be able to bridge this unemployment gap, in order to produce creative and marketable graduates as identified in Malaysian Education Blueprint (2015-2025), to move from a content-based to competency-based education (Grapragasem et al., 2014).

Thus, in the 21st century today, the teaching-learning process and ICT have to work hand-in-hand to achieve the goals of effective teaching in higher education. However, it is important to bear in mind that no matter how beneficial ICT is to a HEI, it must first and foremost be accepted and used by its employees (Kocaleva, Stojanovic, & Zdravev, 2014b). Otherwise, HEIs will not be able to achieve the desired educational reforms. Ertmer and Ottenbreit-Leftwich (2010) echoed that the biggest challenge lies in getting the lecturers to use technology to facilitate deep learning in students, as this requires the lecturers themselves to embrace changes in the teaching and learning

content and context by adopting new but better approaches to teaching. Past studies have found that ICT usage remains low and HEI investments in ICT may not automatically lead to education reforms (Loogma et al., 2012; Yap, 2016).

The accounting education also faces numerous regulatory pressures from various stakeholders. Hala Tuju reports which provided recommendations for technology integration and SCL to develop accounting students' competencies to be up to par to international standards were formed based on inputs from representatives from public universities, Ministry of Higher Education (MOHE), Malaysia Institute of Accountants (MIA) and the industry. However, since its progress has been slow (Ministry of Higher Education Malaysia, 2015b); it may be worth investigating why these institutional pressures have not translated to effective ground level implementation as desired.

The influence of lecturers' personal characteristics in SCL implementation is another area of interest, as the Hala Tuju reports pointed out that our lecturers' competencies are lacking in terms of technical and industry exposure; professional qualifications and industry experience (Ministry of Higher Education Malaysia, 2015b). Past studies have found that academic background could have some bearing on the lecturers' SCL usage (Meyer & Xu, 2009), and that teachers who have taught longer in terms of number of years tended to use SCL more (Isikoglu, Basturk & Karaca, 2009). However, there remains inconclusive evidence on the influence of these personal factors on lecturers' ICT-enhanced SCL teaching methods usage.

Thus, this research aims to find out the determinants of behavioural intention and usage of ICT-enhanced SCL teaching methods among accounting lecturers unique to Malaysia's accounting education context under volitional usage, where the system usage is encouraged rather than mandatory as compared to typical business settings. Some

researchers have cautioned that the SCL movement, with its cultural roots from the West, may not be totally transferred or absorbed into the Asian context. Hopefully, this research's findings will lead to a better understanding of the factors encouraging or impeding ICT-enhanced SCL teaching method implementation and subsequently, be used to speed up its implementation in Malaysian's accounting education scene.

1.3 Research Objectives

This study seeks to achieve the following objectives to answer the research questions:

1. To investigate the relationship between performance expectancy and behavioural intention to increase the usage of ICT- enhanced SCL teaching methods.
2. To investigate the relationship between effort expectancy and behavioural intention to increase the usage of ICT- enhanced SCL teaching methods.
3. To investigate the relationship between coercive pressures and behavioural intention to increase the usage of ICT- enhanced SCL teaching methods.
4. To investigate the relationship between normative pressures and behavioural intention to increase the usage of ICT- enhanced SCL teaching methods.
5. To investigate the relationship between mimetic pressures and behavioural intention to increase the usage of ICT- enhanced SCL teaching methods.
6. To investigate the relationship between behavioural intention and usage of ICT-enhanced SCL teaching methods.
7. To investigate the relationship between facilitating conditions and usage of ICT-enhanced SCL teaching methods.

8. To investigate the relationship between lecturers' personal characteristics (highest academic qualification, teaching experience and industry experience) and usage of ICT- enhanced SCL teaching methods.

1.4 Research Questions

This research aims to answer the following questions:

1. What is the relationship between performance expectancy and behavioural intention to increase the usage of ICT-enhanced SCL teaching methods?
2. What is the relationship between effort expectancy and behavioural intention to increase the usage of ICT- enhanced SCL teaching methods?
3. What is the relationship between coercive pressures and behavioural intention to increase the usage of ICT- enhanced SCL teaching methods?
4. What is the relationship between normative pressures and behavioural intention to increase the usage of ICT- enhanced SCL teaching methods?
5. What is the relationship between mimetic pressures and behavioural intention to increase the usage of ICT- enhanced SCL teaching methods?
6. What is the relationship between behavioural intention and usage of ICT-enhanced SCL teaching methods?
7. What is the relationship between facilitating conditions and usage of ICT-enhanced SCL teaching methods?
8. What is the relationship between lecturers' personal characteristics (highest academic qualification, teaching experience and industry experience) and usage of ICT-enhanced SCL teaching methods?

1.5 Significance of the Study

A review of extant literature reveals that student-centered teaching originated from the Western context and has gradually gained popularity in the Asian countries. It has been touted as the modern, flexible teaching method to promote a deeper skill set beyond technical knowledge in the students, which is crucial to encourage continuous learning. Despite the positive attention paid on student-centered teaching's benefits, limited evidence remains to be seen about its success in the Asian context. One arising question is whether SCL with its roots from Western culture, will work well in the Asian culture where the people may hold a different set of values.

Although there are numerous studies examining student-centered teaching and learning, the general focus is more a specific pedagogy such as case studies or problem-based learning. Even so, existing studies providing a general view of SCL usage in Malaysian higher education context targeted multiple disciplines (see for example Osman, Jamaludin, & Iranmanesh, 2015; Yusoff, Abdul Karim, Othman, Mohin, & Abdull Rahman, 2013) with limited information available pertaining to accounting education. Extant studies pertaining to ICT integration in student-centered teaching and learning are also typically concentrated on a particular online application limited to a specific academic discipline in a specific education institution (Kassim & Ali, 2007; Leow & Neo, 2014). Another noteworthy issue is that while great efforts are put into design and implementation issues, little attention is paid to learners' perceptions and reactions which often are main barriers to a system acceptance and usage (Cheng, Wang, Yang, & Peng, 2011) Hence, this research provides an overall generalized view of ICT-enhanced SCL teaching methods usage and its behavioural intention, as well as their

determinants among accounting lecturers in Malaysian public universities to identify possible impediments.

The current research will apply the Unified Theory of Acceptance and Use of Technology (UTAUT) model in the higher education academic setting. Although there are a number of studies investigating the acceptance level of various types of technologies used in teaching delivery such as electronic learning (Masrom, 2007), most of these studies again tend to be restricted to a certain application type in a specific organisation. The UTAUT model has been applied more in business settings where the ICT application in question is studied under mandatory usage setting, whereas such usage in the education setting is often under voluntary setting. To the best knowledge of the researcher, this study could be one of the few studies on the acceptance and usage of ICT-enhanced SCL teaching focused on accounting education in Malaysia's public higher education scene based on the UTAUT model. It aims to shed a better light on how lecturers' perceptions of a set of contextual and personal factors will influence their subsequent intention and usage of ICT-enhanced SCL teaching methods under volitional setting.

What is unique about the encouragement of student-centered teaching in the accounting education are the formal forces driving it, partly attributed to the strong presence of various stakeholders in monitoring the teaching and learning process of accounting programmes to meet the desired quality standards. In Malaysia, the MIA holds a pivotal role in ensuring that the proper standards of accounting education are met and this is clearly outlined in the Hala Tuju reports. These social pressures will form the explicit and implied rules on the way things work (Jan, Lu, & Chou, 2012). In the current research, this social influence factor is delineated into coercive, mimetic and

normative pressures to better understand the role of social norms. There are contextual differences between business and accounting education setting. In a business setting, the coercive pressures often are generated from the suppliers and customers (Teo, Wei, & Benbasat, 2003), as well as regulatory agencies and industry association (Liang, Saraf, Hu, & Xue, 2007). Meanwhile, in accounting education, these tend to originate from regulatory bodies such as the Ministry of Higher Education (MOHE) Malaysia, regulatory bodies such as MIA and professional accountancy bodies. Meanwhile, mimetic pressures in a business setting tend to come from mimicking the competitors, while in accounting education, it may come from actions of higher status employees such as supervisors or managers (Jan, Lu, & Chou, 2012). Furthermore, normative pressures in business settings originate collectively from channel members such as suppliers, customers, consultants and governments (Liang), but in accounting education, it comes from one's colleagues in the workplace (Jan et al., 2012). This study incorporates the Institutional Theory in seeking to better understand how institutional pressures will influence the behavioural intention of public universities' accounting lecturers under volitional setting.

Additionally, this research also extends the UTAUT model by investigating the accounting lecturers' personal characteristics on their usage of ICT-enhanced SCL teaching method, following Hala Tuju 3's recommendation to hire lecturers who are professionally qualified and with industry experience. The original UTAUT model studies users' personal characteristics as moderating variables, but there are inconsistent findings and continuous efforts to improvise UTAUT model by positioning them as direct variables on behavioural intention or usage (Barnett, Pearson, Pearson, & Kellermanns, 2015; Wang & Yang, 2005). According to the Social Cognitive Theory,

personal factors such as demographic characteristic can impede or facilitate a person's behavior (Bandura, 1999). In the current research, the accounting lecturers' personal factors are narrowed down to the elements unique to accounting education, namely highest academic qualifications, teaching experience and industry experience following Hala Tuju reports. This study will investigate whether hiring such candidates will contribute to a higher success rate of ICT-based SCL teaching method implementation. This has important implications on the public universities' hiring and selection process in the future.

1.6 Operational Definition of Key Terms

1.6.1 Performance Expectancy

Performance expectancy is defined as the extent to which an individual believes that the system is going to help him or her attain benefits in job performance (Venkatesh, Morris, Davis, & Davis, 2003).

1.6.2 Effort Expectancy

Effort expectancy refers to the degree of ease associated with using a particular technological system (Venkatesh et al., 2003).

1.6.3 Facilitating Conditions

Facilitating conditions refer to the extent to which existing facilities in an institution will facilitate the use of a particular technology (Venkatesh et al., 2003). This encompasses

not only institutional resources such as technical resources to support the use of a system, but whether the user believes that he or she has the personal knowledge to use a particular system (Oye, Iahad, & Rahim, 2014; Venkatesh et al., 2003).

1.6.4 Coercive Pressures

Coercive pressures mean both formal and informal pressures placed on an individual (social actor) by a more powerful individual to use the same practices, behaviours or attitudes (DiMaggio & Powell, 1983).

1.6.5 Nformative Pressures

Normative pressures refer to the tendency for a group of people to copy an action, behaviour or belief, producing a collective group norm (DiMaggio & Powell, 1983). They are a result of professionalization resulting from sharing the same formal qualification and membership of professional networks (DiMaggio & Powell, 1983).

1.6.6 Mimetic Pressures

Mimetic pressures are a phenomenon in which individuals consciously and voluntarily copy the behaviours of more successful and higher status people, believing that such imitations will result in higher success (DiMaggio & Powell, 1983).

1.6.7 Personal Characteristics

These are narrowed down in this research to the lecturers' highest academic qualifications, teaching experience and industry experience following Hala Tuju 2 and 3 reports' recommendations (Ministry of Higher Education Malaysia, 2007, 2015).

1.6.8 Behavioural Intention

Behavioural intention is defined as the degree to which a person has formulated conscious plans to perform or not perform some specified future behavior (Bagozzi, Davis, & Warshaw, 1992). In this research, the term "behavioural intention to increase usage" is used to refer to Malaysian public universities accounting lecturers' behavioural intention to increase the usage of ICT-enhanced SCL teaching methods to reflect the fact that ICT-enhanced SCL teaching methods' implementation is already under way as per Hala Tuju reports.

1.6.9 Usage of ICT-Enhanced SCL Teaching Methods

In the context of this research, usage refers to the use of ICT-enhanced SCL teaching methods. ICT encompasses various forms of technologies including hardware, software and Internet connectivity used to support and facilitate a student-centered teaching process (Llyod, 2005, Oye et al., 2014). SCL teaching methods include a variety of student-centered means such as electronic learning, problem-based learning and collaborative learning (Yusoff et al. 2013).

1.6.10 Accounting Lecturers

Accounting lecturers in this study refer to academic staff specialising in accounting who teach in Malaysian public universities offering undergraduate accounting degree programmes (Ministry of Higher Education Malaysia, 2015b).

1.8 Organisation of the Thesis

Chapter 1 presents an overview of the study by highlighting the motivation which leads to the underlying thesis in the current research. Chapter 2 reviews the previous literature leading to the conceptualisation of the various constructs relevant to behavioural intention and usage of ICT-enhanced SCL teaching methods. Chapter 3 dwells on the theoretical framework and development of hypotheses for this study. Chapter 4 presents the research methodology employed in the current research while Chapter 5 discusses the data analysis and research findings. Last but not least, the study is wrapped up with an overall research discussion and conclusion in Chapter 6.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This chapter discusses why student-centered education is crucial to achieve the desired education reforms and the importance attached to student-centered learning (SCL) by the accounting education, with a special focus in our local context. It then presents an overview of the past literature when it comes to the factors determining the behavioural intention and the usage of ICT-enhanced SCL teaching methods among lecturers based on the Unified Theory of Acceptance and Use of Technology (UTAUT) model, Social Cognitive Theory and Institutional Theory.

2.1 Constructivism Theory

Constructivism theory is one of the important theories in modern education, acting as the base for inquiry based learning (Hartle et al., 2012). According to Hartle et al. (2012), it is the main theory underlying the American Association Advancement for Science's call for reforms in education. In the constructivist teaching and learning environment, the teacher's main role is to facilitate the teaching and learning processes, placing the students at the heart of the learning process (Sin & McGuigan, 2013). This means that students are expected to participate actively in the teaching and learning process, deriving their knowledge socially from interaction, negotiation and collaboration amongst the students themselves or between the teachers and the students. These social processes help to generate the students' ability to think critically about knowledge.

Hartle et al. (2012) stated that there are four essential criteria to constructivist teaching and learning as follows:

a) *Prior knowledge*: Learners modify and construct knowledge to contribute towards their existing knowledge base.
b) *Cognitive dissonance*: Learners need to be aware of the gap in their existing knowledge to be motivated to undertake learning.
c) *Application of feedback*: Feedback is essential to ensure that the students' new constructs meet the goals of the teachers.
d) *Metacognition*: Learners need to reflect about their own thinking in terms of what and how they learn for a more efficient learning to take place in the future.

Porcaro (2010) argued that constructivism serves as a new method of learning and teaching in a move towards a progressing society and developed economy. Constructivism's student-centered forms of instruction are in tune with the calls of education reforms for the students to assume a more active role in learning and to question, disagree and solve problems on their own while the teachers assume more of a facilitative role.

In contrast, instructivism is well structured, teacher-led didactic learning with a focus on communicating and transferring knowledge to students as efficiently as possible (Porcaro, 2011). Instructivism or direct teaching is akin to teacher-centered teaching, where the students' main role is to merely process discrete facts. It assumes that learners are passive and learn through memorization and recall, which is not effective in creating a knowledge society. It focuses on the transfer of knowledge from the teacher to the students. In this type of teaching, the teacher will play an active role and maintain control of the lesson's pace, sequence and content (Palinscar, 1998;