ICEB 2011 Proceedings

International Conference on Electronic Business (ICEB)

Winter 12-2-2011

Information Technology Based Competencies For Professional Accountants In Malaysian Small Medium Sized Enterprises (SMES)

Ku Maisurah Ku Bahador

Abrar Haider

Ku Maisurah and Abrar Haider

INFORMATION TECHNOLOGY BASED COMPETENCIES FOR PROFESSIONAL ACCOUNTANTS IN MALAYSIAN SMALL MEDIUM SIZED ENTERPRISES (SMEs)

Ku Maisurah Ku Bahador, University of South Australia,
kuykb001@mymail.unisa.edu.au
Abrar Haider, University of South Australia, abrar.haider@unisa.edu.au

ABSTRACT

Nowadays, professional accountants have to deal with a range of information technologies in a variety of ways throughout their professional lives. An all emphasising skills based competency for accountants is, therefore, required, which not only caters for technical skills, but also requires organisational, human, and conceptual skills to take optimum advantage of IT for the benefit of the entire organisation. This research seeks to investigate IT competencies among professional accountants in Malaysian SMEs. This study takes a comprehensive view of IT competence for professional accountants, and investigates the issue at hand in technical, organisational, human, and conceptual dimensions. In doing so, it employs a qualitative interpretive research methodology with exploratory case study method. It uses diverse data collection strategies including, and relies on triangulation of evidence to resolve the research questions in this study. This research, thus, makes significant contribution to academic and professional bodies and provide theoretical base for developing IT related competencies for knowledge workers in general and professional accountants in particular.

Keywords: information technology, competencies, technical skills, organisational skills, people skill, conceptual skills, professional accountants.

INTRODUCTION

Information technologies (IT) have changed the way businesses are organised as well as the way they executed [42]. IT has become an integral part of routine business, as these technologies assist employees to not only execute business processes but also helps them in making informed decision based on quality information. The International Federation of Accountants (IFAC) [20], states that IT is pervasive in the business world and ascertain level of competence is imperative for professional accountants to perform their tasks. The traditional role of accountants has been transformed from manual to computerised accounting [24] and IT is increasingly being embedded in accounting tasks,

for example management reporting [41]. In fact, IT has transformed the way data is collected, processed, stored, and aggregated for preparation for accounting and finance related information required by the management to control and manage the business activities.

IT competencies are imperative for accountants to perform their tasks [40]. These competencies constitute IT skills, IT experience, management skills (in particular project management) and interpersonal skills. These skills on one hand aid the routine business activities related to an accountants' work, and on the other hand help them create an environment where these technologies operate at their optimum level for the strategic internal and external advantage of the business. This also signifies the changing phase of accounting work and corresponding IT skills. For example IT has reduced the massive amount of work involved in double entry systems and maintenance of various ledgers; and the same time the role of accountant has changed from simply bookkeeping to a decision maker [36].

Recent trends indicate that business organisations have become customer oriented, information driven, project based, flatter in structure, and consisting of a number of functional and cross functional teams [4]. An all emphasising skills set for accountants is, therefore, required, which not only caters for IT skills but also accounts for organisational, human, and interpersonal skills. Such a skills set equips individuals with the requisite skills and knowledge to produce quality outcomes for the benefit of the entire organisation.

Therefore, there is a complex set of competencies required by accountants to offer better quality service to customers. Knowledge of IT and experience in IT, of course, is at the core of these skills. However, there are certain organisations, human and interpersonal skills required by the accountants to make appropriate use of IT skills in organisational settings. For example, for an accountant, skills and competencies in use of spread sheet or taxation software or accounting software is required. However, these softwares are process dependent and take input from various other areas of

the organisations and at the same time provide output to various other areas of the organisations. In these circumstances, an individual needs to have complementary teamwork, interpersonal, and analytical skills to understand the information needs of the process, comprehend process hand offs and interfaces, and process information to produce useful outputs.

There are several studies have been conducted to analyse the views of accountants with regards to IT competencies. Chang and Hwang [9], for example, questioned whether accountants are competent in the use of IT and have voiced concerns over whether college education and personal training effectively and efficiently prepare accountants to meet these challenges. Similarly, Mgaya and Kitindi [26] argue that the widespread use of IT has forced accountants to become more competent in the use of IT in order to survive in their profession. This issue has also concerned Greenstein-Prosch and McKee [15] who conducted a study on this issue looking at accounting educators and audit practitioners. Their results indicate that accountants possess a low level of knowledge of critical business technologies, such as wireless communications, software security tools, network configurations, and workflow technology. In addition, Rai, Vatanasakdakul & Aoun [32] support the findings of Greenstein-Prosch and McKee [15] in a study conducted in Australia which revealed that the overall IT knowledge levels among Australian accountants are lower than the perception towards the importance of these technologies [32].

Currently, IT competencies for professional accountants, particularly in Malaysian SMEs context is an area that has not been fully explored. Although many studies have been conducted in Malaysian context focusing on the identification and analysis of technical skills and knowledge of accounting students, accounting practitioners such as auditors, and to analyse the integration of IT into accounting curriculums [22, 23, 37], yet, there have not been any study into the nature and type of IT related skills required for professional accountants to perform their duties efficiently. Even in the studies where IT skills were investigated, those skills were investigated in a uni dimensional manner. This means that only the skills related to the use of IT skills has been investigated.

It is essential to explore the skills set required by professional accountants in Malaysia to perform the tasks efficiently. Malaysian context is particularly different because SMEs in Malaysia rely on government assistance and incentives to accelerate the use of IT [35, 18]. It will, however, be interesting to study the competencies develop the use of IT in different culture settings.

LITERATURE REVIEW

Boritz and Carnaghan [5] posit that competency is the ability to 'do' rather than the 'know how' to do an activity. The authors further assert that knowledge on its own is not sufficient to represent competence. This statement is supported by Palmer [29] who argues that competence is outcome-based in terms of the ability to perform professional responsibilities including knowledge and skills. IFAC [21] defines competencies as the ability to perform professional tasks and roles expected of an accountant, whether fresh graduate or experienced, to the standard expected by employers and the general public.

Oxford Dictionary [28] defines competence as the state of quality of being adequately or well qualified or a specific range of skills, knowledge and abilities. Competence, therefore, is the link between skills of employee and the job requirements. Basselier, Reich & Benbasat [3] define IT competencies as the set of IT-related knowledge and experience that a business manager knowledge worker possesses. The authors suggest two dimensions; IT related knowledge and IT experience. IT knowledge refers to specialised knowledge possessed by individuals i.e., how well they understand fundamental IT concepts, how well informed they are about the use of IT in their organisation. IT experience, however, is referring to the activities taking place in the particular organisational context relating the individual's work. IT experience represents the technical knowledge of the individual that he/she has gain from previous interaction with technology. So that, increased interaction has resulted in an increased the competency level of the individual.

In the accounting context, Carnaghan [8] views IT competencies as what would be demonstrated by activities, like being able to create a spread sheet or database for a particular purpose, or the ability to use software. Table 1 illustrates a compilation of IT competencies definition from various authors. According to IFAC [21], professional accountants are expected to possess necessary IT competencies and the credibility of the accountancy profession depends on their success in fulfilling this obligation. Thus, every professional accountant is expected to act as a user, designer, manager, planner or evaluator of information systems; or a combination of these roles [40]. It has to be acknowledged that these roles require technical skills, organisation skills, interpersonal skills, and other social skills. In contemporary context, interpersonal skills are extremely important as these skills in an IT context are essential ingredient of the skill required to support the professional accountants [21].

Ku Maisurah and Abrar Haider

Table 1: Definition of IT Competencies

Author(s)	Definition of IT Competencies
Gold, Malhotra & Segard [14]	*"the shared IT capability that enables the flow of knowledge in organization to be supported"*
Tippin & Sohi [39]	*"consist of three important component, namely IT knowledge, IT operation, and IT object"*
Basselier, Reich & Benbasat et al. [3]	*"the set of IT-related knowledge and experience that a business manager possesses"*
Carnaghan [8]	*"what would be demonstrated by activities, like being able to create a spread sheet or database for a particular purpose, or the ability to use tax planning software"*
Croteau & Raymond [10]	*"to support the effective use and management of IT"*

Source: Compiled from various authors

In considering the definition for IT competencies of professional accountants, it is important to emphasise the need for both IT skills and relevant knowledge such as management skills, interpersonal skills and experience of IT [21]. Thus, integrating the abovementioned definitions and discussion, IT competencies are defined as;

"the set of IT skills, management skills, IT experience and interpersonal skills that professional accountants must possess to use IT effectively".

IT Competencies for Professional Accountants in Malaysian Paradigm

In Malaysia, IFAC guidelines have been used by accounting educators and accounting practitioners as a guide to improve professionalism of accountants. Although professional accountants' IT competencies are required by the professional standards set by IFAC, very little is known about professional accountants IT competencies levels, especially in developing economies such as Malaysia [22]. There are very few studies available that have investigated IT competencies for professional accountants in developing economies. These studies, however only use one dimension that is i.e. IT skills to measure accounting practitioners' competence in using IT. Ismail and Abidin's study found a relatively low level use of technology by participants, especially in advanced technologies such as EDI, CASE tools, agent technologies, database design and application service provider, even though these technologies are considered as important [22]. On the other hand, Lai and Nawawi [23] study reveal that the usage of e-tax applications is still not pervasive in tax practice among accounting practitioners. However, the findings of these studies indicate that only a few technologies such as word-processer, electronic spread sheet, email, electronic search and retrieval and small accounting software are considered as adequate by the participants in the attempts to identify the critical IT skills among them.

In conclusion, both studies suggest that the participants may not yet understand the relevance of some technologies relating to accounting work. Moreover, these studies only focused on the accountant as an auditor and tax practitioner, thus, the scope of this study need to be extended to professional accountants in general. It makes this research highly appropriate to Malaysian context, because this research not only takes some multidimensional perspective but also looks as the IT competencies required for professional accounting in general.

What Constitutes IT Competencies for Professional Accountants?

IFAC through IEG 11 encourages professional accountants to have competencies in IT. However, the standard required of IT competencies is not specified and does not give a specific approach on how to develop the IT skills and competence. Therefore, the information systems literature has been reviewed to identify what dimensions or elements have been employed in previous studies. Most of the outcomes of these studies have been a list of IT skills such as the ability to use spread sheets, word processer, accounting packages and web browser that accountants must be proficient with [15, 26, and 23].

Information systems literature indicates that IT related competencies dependent upon a number of other dimensions or skills [8]. Modern or contemporary professional accountants are required to provide leadership and management support in addition to their routine jobs. It is therefore, essential that professional accountants must have requisite organisational, management, behavioural, and people skills. These skills provide necessary support to IT skills so that professional accountants can perform their jobs effectively. It is, however also important to note that experience of

accountants, the culture of organisations, and the formal training of accountants will always have significant influence on the level of competence in accountant possesses in operating, designing and using IT [3, 21,19].

The literature suggests four different set of skills that are required by a knowledge worker in the contemporary paradigm [1]. These skills are technical, organisational, people and conceptual or TOPC skills framework. Technical skills involved specialised knowledge about methods, processes, and techniques designed to carry out specialised activity. Organisational skills are skills enable employees or workers to plan and carry on activities effectively. People skills deal with human behaviour and interpersonal process and conceptual skills include analytical ability, creativity, efficiency in problem solving and ability to recognise opportunities and potential problems.

Professional accountants' skills for success are highly required to react quickly and effectively in organisations. Thus, to be an effective accountant, the right mix of skills has to be developed to sustain the implementation of TOPC skills framework. This TOPC framework (see Figure 1) support accountants in everything they do during the accounting processes such as, auditing, recording daily financial transactions, preparing financial statements and making decisions. For that reason, the American Institute of Certified Public Accountants (AICPA) through Core Competency Framework asserted the values of professional accountants as competitive by identifying key TOPC framework elements such as communication and leadership skills, negotiation, strategic, problem solving and critical thinking and personal improvement as well as project management cited by Institute of Management Accountants [1]. In fact, good TOPC framework is critical to the prosperity and even the survival of organisations [1]
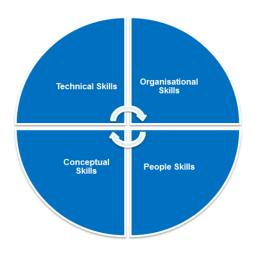
Technical skills

The rate of automation in contemporary businesses requires that knowledge workers possess a variety of technical skills. El-Sabaa [12] and Peterson & Van-Fleet [31] define technical skills as the one which provide an individual with understanding of specific knowledge, particularly involving methods, processes, procedures, or techniques to perform specific tasks. Specialised knowledge, analytical ability and the ability to use tools and techniques relating to the specific discipline are important indicators of developing technical skills [12, 30].

Technical skills, however, are extremely important for entry-level employees and fresh accounting graduates. El-Sabaa [12] denotes that the need for technical competencies decreases when an individual move to the higher level in an organisation. In fact, at the top or organisations' structure, the technical skills required a minimal.

In the accounting context, fresh graduates or junior accountants are required for performing such jobs like bookkeeping, maintaining financial management, and generating of taxation statement. However, when the chief of financial officer (CFO) of organisation is more concerned about decision making, management and control of organisation is not directly involved with the preparation of accounting reports and financial statements. The point being highlighted here is that the level of competencies changes as an individual progress in his or her career.

In response to changes in technology and the way businesses have been transformed, universities and other institutions imparting formal educations in accounting are also changing their curriculum to match these changes and equip their graduates to perform their tasks effectively [17, 37].

Byrd and Turner [6] argue that IT related technical skills should be related to programming, use of software packages, model building, model applications, data management, database development and data communication areas. In another study, Byrd and Turner [7] conclude that technical skills are the most important skill set in establishing information systems infrastructure, it used and maintenance. The authors emphasise technical skills such as programming languages, expert systems, decision support systems, managing a life cycle of projects, distributed processing, network management, maintenance, and developing web-based applications, CASE methods or tools and data warehousing, mining, or data marts.

Figure 1: The TOPC Framework
Source: Developed by the Author

Ku Maisurah and Abrar Haider

IT Skills

IT skills are the ability of individual to use information technologies and tools such as Microsoft Office, databases and Electronic Resource Planning (ERP), electronic network and the other software and hardware used in execution of IT the business. IT skills are important for professional accountants since it enables them to use information effectively and efficiently [15, 26, and 40]. The following section listed some of the most commonly used software in Malaysian paradigm.

- Word processer software

- Spread sheet software

- Business accounting software

- Communication software

- Electronic search and retrieval

- Tax return preparation software

Organisational skills

Organisational skills are the skills which help employees to make their organisation better and successful [2]. These skills are defined as skills for organisations' smooth running processes, including intra-organisation, communication and incentives for employees to actively contribute to job efficiency [33]. In the accounting context, organisational skills assist accountants in organising and classifying accounting transactions into logical form, organising accounting work space, preparing financial budget, time management and prioritising certain accounting activities. Similarly, organisational skills are essential for successful accountants who need to balance a host of different duties. Several studies have identified time management and project management as organisational critical skills (See Table 2) [1, 25, 13, and 2].

Table 2: Organisational Critical Skills

Organisational Skills	
▪ Time Management	▪ Project Management

Source: Developed from various authors

People Skills

People skills can be described as human understanding of themselves, talking effectively, relationship of trust, respect and productive interactions [34]. In other words, these skills reflect the ability of employees to interact with stakeholders or clients in ways that develop respect, mutual understanding and productive working relations. Leadership, delegation, communication skills, teambuilding abilities, negotiation, teamwork, motivation and collaboration skills are the examples of people skills. People skills are necessary in accounting practices to communicate and negotiate effectively, not only to clients but also the stakeholders to gain a proper view of the information and business performance.

Conceptual Skills

Conceptual skills are the skills to analyse and diagnose a problem. These skills are skills that utilise the ability of a human to form concepts, such skills include creative thinking, abstractions, analysing complex situations, and problem solving [27]. These skills help a person to form concept about phenomena. Conceptual skills in the accounting context are imperative in analysing complex situations, processes and interpreting information for decision making [21].Conceptual skills also include analysing complex systems, logical thinking, structured thinking, strategic thinking, system thinking, effective execution thinking, analytic skills and decision making.

Table 3: The Basic Skills Employees Need

People Skills	Conceptual Skills
▪ Motivational Goal Setting ▪ Negotiation ▪ Teamwork ▪ Communication Skills ▪ Collaboration Abilities ▪ Delegation ▪ Leadership ▪ Teambuilding Abilities	▪ Abstraction ▪ Problem Solving ▪ Creative Thinking ▪ Analyzing Complex Systems ▪ Logical ▪ Strategic Thinking ▪ Effective Execution ▪ Thinking and Analytic Skills ▪ Decision Making ▪ System Thinking

Source: Aldag & Kuzuhara [1]

Ku Maisurah and Abrar Haider

PROPOSED RESEARCH FRAMEWORK

This research seeks to investigate IT competencies among professional accountants in Malaysian small to medium sized enterprises. This study takes a comprehensive view of IT competence for professional accountants, and investigates the issue at hand in technical, organisational, human, and conceptual dimensions.

The main research question is "*How competent professional accountants working in Malaysian SMEs are in terms of using IT?*" followed by three sub-questions:

- What are the necessary IT skills set required for professional accountants?

- What are the IT related competencies that help professional accountants to perform their job better?

- What is an appropriate framework for developing IT related competencies for professional accountants in Malaysian SMEs?

The research framework illustrated in figure 2 shows foundation for this research which demonstrated the multi-layered and multi-tied framework of IT related competencies for professional accountants.
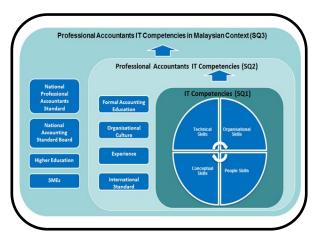

Figure 2: Conceptual Framework of the Research
Source: Developed for this research

The inner layer of the framework represents the first sub-question of the research which deals with the generic skill set of IT competencies. It takes a comprehensive view of IT competence for professional accountants, and investigates the issue at hand in technical, organisational, people, and conceptual dimensions. The second layer of the framework seeks to the IT related competencies that help professional accountants to perform their job properly. The aim is to employ the abovementioned

skill set in the perspective of experience, organisational culture, formal accounting education and the international standard for accounting practices. The third layer of the framework recognises the actual competencies of professional accountants in using IT for jurisdiction specific. For the purpose of this research, it will be focused to Malaysian jurisdiction specifically within Malaysian SMEs.

In order to answer the research question, this research will employ a qualitative interpretive research methodology with exploratory case study method. Qualitative research methodology approach is represented by distinctive techniques and tools [38]. It involves non-numeric data to provide a deeper understanding of phenomena within its context and creates a strong relationship between the phenomena under study and the researcher [16].

This research fits into the qualitative research genre because it focuses on individual interpretations and lived experience as described by Daly *et al*. [11]. In addition, the employment of this methodological approach enables a study of professional accountants IT competencies experiences and case study methodology is the best approach to answer the research question posed in this study.

CONCLUSION

This paper discussed issues about investigating of IT related competencies among professional accountants within Malaysian SMEs. The investigation is based on the integration of IT in every aspect of accounting works and the needs of professional accountants to acquire appropriate competencies to stay relevant in their careers. In addition, increasing professional accountants' IT competencies will help organisation to facilitate the full utilisation of IT infrastructure and generate efficiency in business activities.

REFERENCES

[1] Aldag, R.J., & Kuzuhara, L.W. 2002, 'Organizational Behavior & Management: An Integrated Skills Approach' *Thomson Learning*.

[2] Anderson, A. 2011 'Examples of Organizational Skills' Demand Media, available:http://smallbusiness.chron.com/examples-organizational-skills-2886.html

[3] Bassellier, G. and Benbasat, I. 2004, 'Business Competence of Information Technology Professionals: Conceptual Development and Influence on IT-Business Partnerships', *MIS Quarterly*, Vol. 28, No.4, pg. 673-694.

[4] Bharadwaj, A. S. 2000, 'A Resource-Based Perspective on Information Technology

Capability and Firm Performance: An Empirical Investigation', *MIS Quarterly*, Vol. 24, No. 1, pg. 169-196.

[5] Boritz, J.E. & Carnaghan, C.A. 2003, 'Competency-based Education and Assessment for The Accounting Profession: A Critical Review', *Canadian Accounting Perspectives, Accounting & Tax Periodicals*, Vol. 2, No. 1, pg. 7-42.

[6] Byrd, T.A. & Turner, D.E. 2000, 'Measuring the Flexibility of Information Technology Infrastructure: Exploratory Analysis of a Construct', *Journal of Management Information Systems*, Vol. 17, No. 1, pg. 167.

[7] Byrd, T.A. & Turner, D.E. 2001, 'An Exploratory Analysis of the Value of the Skills of IT Personnel: Their Relationship to IS Infrastructure and Competitive Advantage', *Decision Sciences*; Vol. 32, No. 1, pg. 21-54.

[8] Carnaghan, C. 2004, 'Discussion of IT Assurance Competencies', *International Journal of Accounting Information Systems*, Vol. 5, pg. 267-273.

[9] Chang, C. & Hwang, N. 2003. 'Accounting Education, Firm Training and Information Technology: A Research Note', *Accounting Education*, Vol.12, No. 4, pg. 441-450.

[10] Croteau, A.M. & Raymond, L. 2004, 'Performance Outcomes of Strategic and IT Competencies Alignment' *Journal of Information Technology*, Vol.19, pg. 178–190.

[11] Daly J, Willis K, Small R, Green J, Welch N, Kealy M, Hughes E. 2007, 'A hierarchy of evidence for assessing qualitative research', *Journal of Clinical Epidemiology*, Vol. 6, pg. 43–49.

[12] El-Sabaa, S. 2001, 'The Skills and Career Path of an Effective Project Manager', International Journal of Project Management 19, pg. 1-7.\

[13] Fioravanti, F. 2006 'Skills for managing Rapidly Changing IT Projects', *IRM Press.*

[14] Gold, A. H., Malhotra, H. A., and Segard, A, H. 2001,'Knowledge Management: An Organizational Capability Perspective', *Journal of Management Information Systems,* Vol. 18, No. 11, pg.185-214.

[15] Greenstein-Prosch, M. & McKee, T.E. 2004, 'Assurance Practitioners' and Educators' Self Perceived IT Knowledge Level: An Empirical Assessment', *International Journal Accounting Information Systems*, Vol. 5, pg. 213-243.

[16] Hair, J.F., Babin, B., Mooney, A.H., Samouel, P. 2003, 'Essentials of Business Research Methods', *Wiley*, New York, NY.

[17] Hall, M., Ramsay, A. & Raven, J. 2004, 'Changing the Learning Environment to Promote Deep Learning Approaches in First-Year Accounting Students', Accounting Education 13 (4), Pg. 489–505.

[18] Hashim, M. K., & Wafa, S. A. 2002, 'Small & Medium-Sized Enterprises in Malaysia: Development Issues' Prentice Hall, Pearson Malaysia Sdn Bhd., Kuala Lumpur, Malaysia.

[19] Havelka, D. & Merhout, J.W. 2009, 'Towards a Theory of Information Technology Professional Competence', The Journal of Computer Systems, 50(2), pg. 106-116.

[20] International Federation of Accountants (IFAC) 2001, 'Information Technology in the Accounting Curriculum', IFAC *Education Committee Guideline 11*, available at www.ifac.org/store/Details.tmpl?SID=303859 141967 (accessed 1 March 2007).

[21] International Federation of Accountants Education Committee (IFAC) (2003), 'Information Technology for Professional Accountants', available at https://www.imanet.org/pdf/ITPA.pdf (accessed 30 December 2010).

[22] Ismail, N., & Abidin, Z. (2009). 'Perception towards the importance and knowledge of information technology among auditors in Malaysia'. *Journal of Accounting and Taxation* 1(4), 061-069.

[23] Lai, M.L. & Nawawi, N.H.A. 2010, 'Integrating ICT Skills and Tax Software in Tax Education: A Survey of Malaysian Tax Practitioners' Perspectives'*, Campus-Wide Information Systems*, Vol. 27, No. 5, p. 303.

[24] Lamberton, B., Fedorowicz, J & Roohani, S. 2005, 'Tolerance for Ambiguity and IT Competency among Accountants', *Journal of Information Systems*, Vol.19, p.75.\

[25] Lee, S., Koh, S.,Yena, D. & Tang, H.L. 2002, 'Perception Gaps between IS Academics and IS Practitioners: An Exploratory Study', *Information & Management*, Vol. 40, pg. 51–61.

[26] Mgaya, K.V. & Kitindi, E.G. 2008, 'IT Skills of Academics and Practising Accountants in Botswana', *World Review of Entrepreneurship, Management and Sustainable Development*, Vol. 4, No. 4, pg. 366-379.

[27] Nickels, G.W., McHugh, J.M., & McHugh, S.M. 2001, 'Understanding Business, 6/e' Online Learning Center, McGraw Hill 2001, available: http://www.mhhe.com/business/busadmin/nickels_6_ub/student/olc/glossary.mhtml

[28] Oxford Dictionary, competence definition [online]: http://www.answers.com/topic/competence

[29] Palmer, K.N. 2004, 'International Knowledge, Skills, and Abilities of Auditors/Accountants: Evidence from Recent Competency Studies', *Managerial Auditing Journal*, Vol. 19, No. 7, pg. 889-896.

[30] Pant, I., and Baroudi, B. 2008, 'Project Management Education: The Human Skills

Imperative', *International Journal of Project Management*, Vol. 26, No. 2, pg. 124-128.

[31] Peterson, T.O. & Van-Fleet, D.D. 2004, 'The Ongoing Legacy of R.L. Katz: An Updated Typology of Managements Skills', *Management Decision*, Vol. 42, No. 10, pg. 1297-1308.

[32] Rai, P., Vatanasakdakul, S. & Aoun, C. 2010, 'Exploring Perception of IT skills among Australian Accountants : An Alignment between Importance and Knowledge', *Proceedings of the Sixteenth Americas Conference on Information Systems* ,12 - 15 August 2010 : Lima, Peru, pg.1-10.

[33] Rammer, C., Czarnitzki, D. & Spielkamp, A. 2009, Innovation Success of Non-R&D-Performers: Substituting Technology by Management in SMEs, *Small Business Economics* Vol. 33, pg. 35-58.

[34] Rifkin, H. 2011, 'Invest in People Skills to Boost Bottom Line', Portland Business Journal, Business Journal News Service, available at http://www.bizjournals.com/portland/stories/2002/06/03/focus6.html (accessed 23 July 2011)

[35] Salleh, A.S & Dnubisi, N.O. 2006, 'An Evaluation of SME Development in Malaysia', *International Review of Business Research Papers*, Vol.2. No.1, pg.1-14.

[36] Scapens, R.W. & Jazayeri, M. 2003, 'ERP Systems and Management Accounting Change: Opportunities or Impacts? A Research Note', *European Accounting Review*, Vol. 12, No. 1, pg. 201-233.

[37] Selamat, H. Ku-Bahador, K.M., Ali, A., Ahmad, W.N. & Mohamad, R. 2010, 'Integrating Information Technology in the Teaching of Accounting Courses – An Experience of Faculty Of Accountancy, Universiti Utara Malaysia'*, Unpublished Research, University Grant*, Universiti Utara Malaysia.

[38] Sekaran, U. 2003, 'Research Methods for Business: A Skill Building Approach' Wiley & Sons Australia.

[39] Tippin, M. J., & Sohi, R. S. 2003, 'IT Competency and Firm Performance: Is Organizational Learning a Missing Link?', *Strategic Management Journal*, Vol. 21, pg. 745-761.

[40] Wessels, P.J. 2008, 'The Identification and Discussion of Strategies for Implementing an IT Skills Framework in the Education of Professional Accountants', *South African Journal of Accounting Researh,* Vol. 22, No. 1, pg.147-181.

[41] Winograd, B.N., Gerson, J.S., Berlin, B.L. 2000, 'Audit Practices of Pricewaterhouse Coopers', *Auditing: Journal of Practitioner Theory*, Vol.19, No 2, pg. 175-182.

[42] Wu, J.H., Chen, Y.C. & Chang, J. 2007, 'Critical IS Professional Activities and Skills/Knowledge: A Perspective of IS Managers', *Computer in Human Behavior*, Vol. 23, pg. 2945-2965.