

Information Technology Knowledge and Skills for Accounting Graduates: An Insight from Public Accounting Firms

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Abstract

This research seeks to discover the IT knowledge and skills for accounting graduates which are essential for them to work competently in the industry at the early stage after graduation. In line with the evolvement in technology, it is crucial for accounting graduates to acquire and master accounting-related skills and topics associated with technological innovations, including hardware and software, for them to be resourceful, starting from their first day in the profession. Hence, this study is proposed to provide insight on the expected IT knowledge and skills among accounting graduates from the perspective of industry, specifically public accounting firms in Malaysia. Our descriptive findings reveal that knowledge and skills in accounting software, accounting system, database concept and analysis, project management and business process are essential for accounting graduates. This finding may be used as a basic guideline to enhance IT knowledge and skills for accounting graduates, by incorporating these IT elements into specific accounting degree program course, which is accounting information system. With this, it is hoped that the supply of future accountants by educational institutions are of high quality as expected by the industry.

Keywords: Accounting Graduates, Accounting Information System, Information Technology, Public Accounting Firms

1. Introduction

Rapid development in Information Technology (IT) has posed many challenges and opportunities to accounting profession. Indeed, it expands the role of accountants and the way they deliver services is now more than their conventional boundary that limited to updating records and files through computer programs. IT enables them to enhance their services to perform added values activities such as analysis and design, evaluation and use of information systems (IS)¹. More importantly IT enhances more quality and timely report that enable better decision making process.

Furthermore, IT enables accountants to deliver services that usually performed by others in the profession, such as those of auditors and management accountants, which require an understanding of how their companies' computer systems work². This scenario consistent

with the notion that accounting as a profession is not functioning in isolation and stand alone, rather influential and subject to the influence of other discipline³⁻⁶ such as IT. Therefore, it is advocated that continuous effort must be put to equip future accountants with sufficient IT knowledge and skill as the interconnectedness between IT and accounting functional areas in an organization is invariably important. This effort must be done as early as at the formal level of accounting education. For instance, Ahmad⁷ has emphasized the importance of increasing IT competency among accounting graduates. In a more specific tone Cory and Peruske⁸ emphasized that, for accounting graduates to be able to perform productively as early in their first day of employment, it is essential for them to have a solid foundation in understanding and mastering the accounting-related skills and topics associated with technological innovations, including but not limited to hardware and software.

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However, as IT has been progressing dynamically and constantly updated, the field of IT is diverse and wide. Thus, it is notable that not all IT knowledge and skills are related to accountants' specific role, and consequently not all either are applicable to accountant's functional area⁹. While existing literature have provided vast discussion on the skills and knowledges pertinent to accounting graduates, insofar report on Malaysian case is rather limited due to limited attention given to specific IT knowledge and skills for accounting students inspite the fact that accounting and IT are interrelated in practice. Thus, this study is conducted to provide insight on the relevant IT knowledge and skills that are seemingly important for accounting graduates, from the perspective of industrial players in the context of public accounting firms in Malaysia. The main inspiration of this research is the need to highlight the expected relevant IT knowledge and skills for accounting graduates so that educational institutions can equip their accounting graduates with skills and knowledge parallel with the expectation from the industry. In respect to that motivation this paper adopts the definition of 'relevant' IT knowledge proposed by Tam⁹:

"All IT concepts, knowledge, skills, tools, use of standard office software and specialized software applications to allow accounting graduates to perform competently in their first five years of practice after graduating from an accounting major degree programme".

It is argued that the findings of this study are useful as a reference or basic guideline in aligning accounting courses or syllabus to be offered at the higher level of accounting education, particularly courses pertinent to Accounting Information System (AIS).

AIS is an interdisciplinary in nature and seems to integrate the fields of accounting and information system (IS)¹⁰. This opinion is supported by Bagranoff¹¹ who claimed that AIS courses stand at the intersection of two disciplines which are accounting and Information Technology (IT). Hence, through this AIS courses accounting graduates' competency in IT knowledge and skill can be improved.

2. Literature Review

Information technology (IT) is crucial for the professional accountants due to its pervasive use in the business world¹². Today, almost every aspect of the accounting

profession is being ubiquitously affected by advances in IT¹³. However, the dissatisfaction with the quality of accounting graduates and their skills has been widely evidenced¹⁴⁻¹⁵.

Albrecht and Sack¹⁶ suggest that the business environment is speedily changing due to globalization and evolving technology. As a result, accounting faculty must continuously evaluate their program to ensure that they are preparing graduates with the skills and content knowledge needed by today's accounting professional. Cory and Pruske⁸ stated that, in the case of specific accounting courses; it will not be easy to provide courses that cover all accounting-related skills and topic to satisfy the both public and non-public sectors in the accounting profession. Therefore, following Cory and Peruske, and Tam⁸⁻⁹ this study covers the specific accounting related skills and IT knowledge based on prior literature in the setting of within Malaysian context.

3. Human Capital Theory and Stakeholder Theory

Human capital theory contends that earnings are determined by workers' productivity which is determined in turn by their education and experience¹⁷. It also postulates that increases in the supply of education are responses to increased demand for skilled labour¹⁸. As such education is recognized as an investment in human capital. Employers require graduates of higher education institutions to possess abilities and skills that coincide with those required by their organisations¹⁹.

Since the intention of this research is to identify the perceived necessary IT knowledge and skills required for accounting graduates from the industry, therefore students/graduates and employers are the stakeholder groups that are closest to the workplace and are the groups that can best articulate on the IT knowledge. It is essential for education institutions to be able to provide necessary skills and knowledges parallel with the industry's expectation for promising future job career.

4. Methodology

This research applies the quantitative methods by using primary data directly obtained through questionnaires. The questionnaire was adapted from Cory & Pruske⁸ and

Tam⁹. A total number of 185 questionnaires distributed to firms, but only 55 questionnaires were returned. The respondents were selected from small and medium companies holding a position ranging from executive, senior executive, manager and senior manager. The measurement of necessary IT knowledge and skills for accounting graduates consisted of 14 items of questions which are assessed using a six-point Likert scale ranging from 1 to 6, of which 1 meaning 'not needed', 2 meaning 'not important', 3 meaning 'neutral', 4 meaning 'fairly important', 5 meaning 'important' and 6 meaning 'very important'.

5. Results

The survey examined 55 respondents on necessary IT knowledge and skills for accounting graduates covering period of first to five years of employment in an accounting capacity. Table 1 presents that majority of the respondents, 92.7 percent, working in a public accounting/audit firm, with only 1 respondent or 1.8 percent work in a manufacturing industry. The remaining of 3.3 percent comes from the financial services.

Table 1. Respondent distribution Based on the industry

Firm	Frequency	Percent
Manufacturing	1	1.8
Public Accounting / Audit firm	51	92.7
Financial services / Banking / Insurance	3	5.5
Total	55	100.0

Source: Data Processed

Table 2 describes the responses of the 55 respondents surveyed in the current study. In general, respondents are aware and acknowledge the importance of IT knowledge and skill set requirement during their employment.

When they were asked about the use of accounting software in their daily task such as MYOB, Great Plains, SAP, Oracle, Tax return software, etc., more than 40 percent agreed that the knowledge in using these accounting software is important, and only a small number of which 6 percent claimed it is rather neutral for them. The practice of using accounting software by the audit firm is now common to the large and even small and medium size firms. Besides, the knowledge in running and using this accounting software is crucial to ensure the efficiency in completing the audit/accounting task.

Similar feedbacks were drawn where 40 percent of the respondents also agreed the importance of understanding and knowing the accounting systems. These include for example the understanding of the business system, ERP, CRM, GL reporting cycle, Revenue cycle, purchasing cycle and HR/payroll cycle. Yet 28 percent of them considered this to be very important, contrary to 4 percent as not important.

Most respondents, at 38.8 percent, reported that an understanding of data analysis and the ability to use Audit Command Language (ACL) in their employment is subject to a degree of being important, while only 24.4 percent report that it is very important. Marginally, only 6.1 percent of them responded this dimension as neutral. The motivation to use ACL into their comprehensive risk assessment, audit management, work papers, etc. is also related to the individual's perception. If the user perceived the ACL to be useful and easy, he/she will have a high interest to use this technology.

In terms of the understanding of database concepts and the use of database software for the purpose of database searching, database retrieval and access, 26.5 percent of respondents indicate that it is very important, 38.8 percent considered this as important, while only 8.2 percent reported neutral for them to understand how database works. When it comes to the use of this database, more than 30 percent of them respectively claimed it is fairly important, important and very important.

On the question whether the respondents placed a relatively high importance on understanding the system flowcharts, Document flowcharts and Data flow diagrams, 22.4 percent of the respondent stated this as very important, 30.6 percent agreed to be important and 38.8 percent of the 55 respondents reflected this to be fairly important.

In addition, the statistic shows that general knowledge in IT skills is essential at the workplace and other areas of life. Nowadays people need IT knowledge to browse the web, produce report using spreadsheet and even manipulate data stored in a database. This computer skill also assists people to have better understanding of the features and functions of computer software and hardware. Hence to address this dimension of an understanding transaction processing system, and end-user computing, 44 percent reported as fairly important and relatively a small number of 4 percent reported as very important. A plausible explanation is that people perceive that an

advance IT skill set is not necessarily required in an audit firm particularly small and medium size firm, unless the firm is heavily applied in IT work task.

Furthermore, an understanding of The Accounting and Information Systems Audit and Control in the IT infrastructure to establish quality audit placed, the respondents to agree statistically of 38 percent as fairly important, 30 percent to be important and 20 percent very important. Meanwhile, only 12 percent out of 55 respondents gave neutral feedback.

On the use of IT audit software and CAAT, the respondents deemed considered this to be important as well with the response rate of 34 percent. Nevertheless, a small number percentage of 2 percent responded that it is not important for them. Today's environment require's IT auditing to be the integral part of audit function since it supports the auditor's judgment on the information processed by computer systems. Besides, audit staff will look forward to use the IT auditing in their job especially for technical assistance since the auditor's role has greatly evolved in order to provide assurance in their audit report.

With regard to IT control which address issues of internal control, computer fraud, IT audit and controls to personal computers, 34 percent of respondents agreed the importance of IT control to be well establish in a firm, while 14 percent of the respondent reported neutral.

Further, for common and basic computer presentation software such as Power Point / Prezi, results indicate that 36 percent of the respondents claim this to be fairly important, while another 2 percent not important. This is because respondents notified that this software and skills have been exposed to accounting graduates since they were studying in the tertiary level.

Another interesting finding is on the ability to understand business process and operation, as well as ability to analyse the critical element of running a business for example how to reduce cost, methods in improving business performance and business process management system. This element of dimension has been ranked by respondents to be important by 40 percent, 34 percent fairly important, 14 percent very important and 12 percent neutral.

Table 2. Descriptive of 14 dimension on IT knowledge and skills requirement for accounting graduates

Dimensions	Details	NN	NI	N	FI	I	VI
Accounting Software	Application/Use of MYOB, Great Plains, SAP, Oracle, Accounting software Tax return software, Electronic working papers, Time management and billing Systems, etc			6	22	44	28
Accounting System	Understanding business systems, ERP, CRM, GL reporting cycle, Revenue cycle, Purchasing cycle, HR/payroll cycle		4	6	22	40	28
Data analysis/ Use of Audit Command Language	Understanding of data analysis and ability to use Audit Command Language			6.1	32.7	38.8	22.4
Database concepts	Understanding database concepts			8.2	26.5	38.8	26.5
Database software	Use of database software, database search and retrieval (e.g. Access)			6.1	32.7	30.6	30.6
Documentation tools	Understanding System flowcharts, Document flowcharts, Data flow diagrams			8.2	38.8	30.6	22.4
General systems knowledge	Understanding transaction processing system, end-user computing	2	10	24	44	16	4
Information system auditing	Understanding The Accounting and Information Systems Audit and Control			12	38	30	20
IT audit software	Use of IT audit software, CAAT		2	22	14	34	28
IT controls	Internal control, computer fraud, IT audit, controls to personal computers			14	26	26	34
Presentation software	Use of presentation software (e.g. Power Point / Prezi)		2	14	36	28	20
Process/Operational Improvement	Ability to analyze Reduce cost, improve performance and business process management systems)			12	34	40	14
Project Management	Understanding and able to use project management software such as Microsoft project	2	2	6.1	36.7	38.8	14.3
Cloud Computing	Understanding and able to use cloud computing in daily task	38.8	37	14.2	6	2	2

NN= Not Needed, NI= Not Important, N= Neutral, FI=Fairly Important, I=Important, VI=Very Important

Next, is to access the importance of understanding and the ability to use project management software such as Microsoft project. On average, the statistic revealed this as 36.7 percent to be fairly important and 38.8 percent to be important. Finally, pertaining to cloud computing the result reveals that, most of the respondent considered this as not needed, presented by 38.8 and 37 % not important, 14.2% fairly important, while only 2% respectively considered this to be important and very important. The reason might be due to cloud computing is a new technology and not widely used by the respondents of which most of them are from public accounting/audit firms.

6. Discussion

Based on the overall results and findings of the study, out of fourteen IT listed knowledge and skills there are six those can be considered as significant to be mastered by accounting graduates. Knowledge in accounting software such as MYOB, UBS, Great Plains, SAP, Oracle, Accounting software Tax return software, Electronic working papers, Time management and billing Systems, etc. is of important due to most of the businesses are using it on daily basis for recording economic data/transactions. Accounting graduates are also expected to have good understanding in accounting systems such as ERP, customer relationship management (CRM), general ledger (GL) reporting cycle, revenue cycle, purchasing cycle, human resources (HR)/payroll cycle as it is claimed to be a pre-requisite for being an accountant even at a junior level.

Additionally, the accounting graduates are expected to understand the relationship between journal entries and the various sub-systems such as the accounts receivable, accounts payable, general ledger, etc. Besides that, competency in database analysis and concepts are also one of the IT knowledge and skills that must be possessed by accounting graduates. The reason may be due to fact that all accounting software have a database in the background. Thus it demands accounting graduates not only to have an understanding of what a database is, but also know how to retrieve data from databases, thus enable them to become system designers as well as creating database.

Apart from that, IT knowledge and skills in business

process and operation and ability to analyze that may result in reducing cost, improve performance and business process management systems through usage of technology such as ERP, MRP, JIT, etc, are also deemed to be crucial for accounting graduates. Last but not least, knowledge and skill in project management is not of less important as the industry also perceived it to be important as it relates to implementing a new system.

7. Conclusion

The paper mainly focuses on providing insight on the specific necessary IT knowledge and skills for accounting graduates from the perspective of industry, specifically from the public accounting firms in Malaysia. It deliberates how IT has affected and influence the accounting profession which consequently demands accountants to possess knowledge and skills that related to the IT. Precisely, the study considers specific core accounting information course which is accounting information system that relates to information system and technology. Hence, the study seeks to give insight on the relevant IT knowledge and skills to be integrated into the course so that it is parallel with the expectation to the industry. While this study may be useful as a basic guideline and reference, future study is suggested to come up with a model to be integrated in teaching course of accounting especially in accounting information system (AIS). It is essential that a set of clearly defined IT knowledge and skills for accounting graduates to be developed to serve as a guideline for accounting education. This may include consideration for time and resources that may be required in order to make sure that accounting graduates acquired the skills and knowledges equivalent to the requirement from the industry. For instance, the finding has important implications on how databases should be taught in an accounting major programme structure such as AIS. Other than that, since majority of the respondents come from public accounting/audit firms, therefore it can be concluded that, the findings provide insight from the public accounting firms.

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