Essential Skills for Accounting Graduates: The Accounting Practitioner's Perspective

*Ernest G. Kitindi** and *Klodwig V. Mgaya***

ABSTRACT

This study was undertaken to collect the views of practicing accountants in Botswana on a number of skills considered essential for any graduate in Accounting. Questionnaires were delivered to 250 accountants employed by various organisations in the country. Responses were received from 69 practicing accountants. These accountants were of the view that Accounting lecturers tend to be out of touch with market and competitive expectations because they are isolated from business professionals. Of the essential skills expected for accounting graduates, financial accounting was found to be the most critical technical skill, knowledge of Accounting packages and spreadsheet software were the most critical IT skills, and analytical/critical thinking was found to be the most critical vocational skill. The study concludes that tertiary institutions should try to design their curricula to ensure that their accounting graduates possess the essential skills expected in the Botswana market.

Keywords: critical skills; technical skills; IT skills; vocational skills; accounting graduates

Introduction

Over the years the complexities of business entities has changed considerably. Whereas in some countries businesses have joined together to form larger entities, in some others emphasis is being placed on smaller, leaner businesses. Worldwide there is a general tendency towards restructuring business entities in a quest for competitiveness in a constantly changing environment. Some companies have succeeded, others have failed, and others are still in the motions. In a number of developing countries there is a growth in the number of small and medium-sized businesses amidst larger foreign-owned businesses. Amidst all these, businesses are increasingly adopting IT as the major means of effecting business transactions. Accountants need to keep abreast with the changes that take place in order to be able to continue providing valid and reliable accounting reports, some of which could in turn be used to make decisions concerning further restructuring of the companies. The profession has tried to ensure that it is in a position to provide the

* Senior Lecturer in Accounting and Auditing, Accounting and Finance Department, University of Botswana

**Lecturer in Business Information Systems, Accounting and Finance Department, University of Botswana

required accounting information in a timely fashion. As part of these efforts, the profession is attempting to formulate standards and other pronouncements that will determine how relevant accounting information is to be prepared and presented.

Accountants are expected to be conversant with all pronouncements made by international accountancy organisations like the International Accounting Standards Board (IASB) and the International Federation of Accountants (IFAC). Accountants are also expected to possess other knowledge and skills that are considered useful in the performance of their professional responsibilities. Accountancy training schools strive to ensure that they develop curricula that will enable them to produce accountants who are competent and familiar with the demands of the market. An appropriate curriculum will be one that imparts the right kind of skills on accounting students.

However, concerns have been raised that accounting education does not equip students with skills that are needed at the workplace (Heagy and McMickle 1988; Nelson 1996; Ainswoth 2001; Gammie *et. al.* 2002; Bolt-Lee and Foster 2003). Accounting educators have been accused of lagging behind in restructuring the accounting curriculum to equip students with the tools and expertise they need in today's business world (Gabbin 2002; Tatikonda 2004). Concerns have also been raised by employers of newly graduated accounting students, professional bodies, academics and researchers on the skills of new recruits (Bromson et al. 1994; Ainsworth 2001; Montaño *et. al,* 2001).

Even though these concerns have been expressed in foreign countries, there is a possibility that similar concerns are being expressed in Botswana, albeit privately. At the moment, much as accountancy training institutions in Botswana may occasionally review their curricula with a view to improving them, there is no clear indication as to which skills should be targeted and included in the curricula. No study has been undertaken in Botswana to suggest the essential skills that accounting students in Botswana should be exposed to. The purpose of this study was to identify those skills that may be considered essential for any accounting graduate. This was done by gathering information on the perceptions of practicing accountants on essential skills required for accounting students.

This article is organised into five sections. The next section provides a review of the related literature on accounting and related skills that are required of any accountancy professional. The third section describes the methodology adopted in conducting this study and analysing the data. Thereafter the results of the study are presented and discussed, after which conclusions are made.

Literature Review

There seems to be an apparent dissatisfaction with the accounting graduates of recent years. According to Tatikonda (2004), there is a gap between current education and needs of the industry, and this gap is widening. This view is supported by Kranacher (2006) who suggests that there seems to be a disconnect, almost like a multiple personality disorder, between accounting education and the current skills needed to survive in the profession.

Today's successful accountants are expected to be proficient in many skills. Research has suggested a number of skills outside core accounting and other business courses that are important for accounting graduates. These skills

include communication, innovative problem-solving, information technology, leadership, collaborative teamwork, critical thinking, interpersonal and team building, ethics and professional values, responsibility and organisational ability (Lee and Blaszczynski 1999; Gammie et al. 2002; Wessels 2005). The skills are grouped into technical skills, information technology skills, and vocational skills (Lee and Blaszczynski 1999). The technical skills include all training in accounting and business studies.

Primarily, what differentiates a college graduate in accounting from other graduates is his or her mastery of accounting and business courses. These courses would normally include financial accounting, managerial accounting, finance, economics, statistics and quantitative methods, business law, auditing, taxation, and accounting information systems (AIS). Concern about inadequacy of skills outside the technical area does not suggest that knowledge of accounting is less important. Employers are still more interested in employing graduates who score highly in accounting courses (Blanthorne *et. al.* 2005). However, technical knowledge of accounting alone is no longer sufficient. Students and employers of professional accountants recognise that professional accountants need more than just technical knowledge to perform their accounting duties (Hassall et al. 2003). Lee and Blaszczynski (1999), in a study involving 166 executives of top businesses in the USA, showed that the relative importance of accounting knowledge to other skills is going down whereas that of computer skills, communications skills and group skills is going up. This does not mean, however, that accounting courses are less important. It means that the number of skills that accounting students must be proficient in apart from technical courses is growing.

The accountant of the future cannot be a person of mere numbers but must incorporate accounting as the language of business in all professional endeavours (Bolt-Lee and Foster 2003). It has been established that accounting graduates experience communication-related problems in early employment (Zaid and Abraham 1994; McLaren 1990; Patten and Williams 1990). According to Zaid and Abraham (1994) communication skills are central to intellectual interaction between the providers and the recipients of information because accounting data are of no significance in themselves, but are dependent upon being successfully communicated as accounting information which could subsequently influence the decision making process. Andrews and Sigband (1984) recommended that more time should be given in college curricula to sharpening up the oral communication skills necessary for meetings, conferences and conflict resolution. A study by LaFrancois (1992) also found that the most marketable prospective employees for professional positions in public accounting firms were those with well-developed written and oral communication skills.

According to Andrews and Sigband (1984) a deficiency in communication skills is also evident among accounting professionals to the extent that the economic and financial information they transmit to managers and executives is sometimes so poorly communicated that decision-making becomes difficult. This is why the dominant theme of accounting curricular reform has been the need to improve graduates' writing skills (Nellermoe *et. al.* 1999; Riordan *et al.* 2000). A study by Stowers and White (1999) to assess the communication abilities and perceptions of accounting professionals in the USA showed that the importance of effective

communication skills in public accounting increases as one progresses from entry level to manager and to partner. This reinforces the importance of this skill for career advancement.

Information Technology (IT) has had a great impacton the accounting profession. Technology has made the tasks of collection, recording, and dissemination of financial data quite inexpensive such that anyone with the right software can produce basic information. IT is an invaluable tool to every accountant and knowledge of IT is regarded as a core competency of a professional accountant (Larres and Oyelere 1999). Employers expect a certain level of computer literacy among qualified accountants. Accountants need to be capable of using technology to facilitate and drive businesses. They are expected to be proficient in the use of a range of software tools, which include operating systems, word processing software, spreadsheets, databases, accounting software, presentation software, and communication software. However, complaints abound that newly graduated accounting students do not meet the expected proficiency levels in IT skills (Gabbin 2002; Tatikonda 2004). Accounting educators have been accused of failing to restructure the accounting curriculum to equip students with the tools and expertise they need in today's business world (Institute of Management Accountants, 2000).

Accountants are required to possess a number of technical, technological and vocational skills. Lee and Blaszczynski (1999) investigated the relative importance of skills in the three areas. They found that technical skills were relatively more important at the time of the study, but that this importance of technical skills was to decrease in a projected five year period relative to the importance of information technology skills and vocational skills. This suggests that employers were beginning to emphasise more on other skills in their new accounting recruits.

Bain *et. al.* (2002), on the other hand, examined the topics considered most critical within the IT skills in the USA. Examining 12 current text books on AIS, syllabi from current AIS instructors, and the results of a survey of AIS faculty and professionals, they found that introduction to systems, internal control, and transaction processing are the most important topics to be covered in any AIS course. Wessels (2005) reviewed key literature to identify which information and communications technology (ICT) skills were critical for professional accountants to be competent in the work environment. He summarised a number of skills depending on the roles assumed by the professional accountant at the work place and categorised them into business automation skills, office management skills, audit automation skills, and skills necessary for an accountant serving as a designer and evaluator of IT which include computer-aided systems engineering tools and electronic data interchange, among others.

Montaño *et. al.* (2001) investigated the critical vocational skills required by accountants. Basing their study on an opinion survey of CIMA employers in UK-based organisations, they targeted senior employees responsible for the recruitment and training of management within their organisations. Their findings suggest that communication and stress management skills are the most relevant and important skills for management accountants. Burnett (2003) surveyed employers of accounting graduates from the West Texas A&M University in the USA and members of a local CPA chapter. The objective was to ascertain which skills are important for new graduates. She found that the

top-rated four vocational skills were analytical/ critical thinking, written communication, oral communication and decision-making. Top three IT skills were spreadsheet software, windows, and word processing software.

These findings and those by others like Meer and Adams (1996), Theuri and Gunn (1998), Larres and Oyelere (1999), Jackson and Cherrington (2001), Hassal *et. al.* (2003) and Chen (2005), apart from suggesting the skills that are considered critical for accountants also point out to an urgent need to revise and possibly change our curricula at universities and other accountancy training institutions.

This article presents the results of a study that gathered views of practicing accountants in Botswana on the skills accounting students in the country are expected to possess as well as their views on which skills they consider as essential. The skills are categorized into the three groups referred to above. The first group comprises technical skills, which include all accounting and business skills. The second group is of information technology skills, which include knowledge of how to use some IT tools as well as knowledge of how IT is used to facilitate and drive business operations. The third group consists of vocational skills, which include skills such as communication skills, leadership, and teamwork which are outside core accounting, business studies and information technology.

Research Method

Sample

According to the Botswana Institute of Accountants (BIA) there were 604 professional accountants registered with it as of December 2005 (BIA 2005). However, attempts to obtain a list of these members from the institute were unsuccessful. It was thus not possible to identify where each of the institute's members was employed. Since this research intended to collect views of accountants, the researchers opted to use employers to access the accountants. Some 250 questionnaires were thus distributed, mostly through employers, with specific requests that they be distributed to the accountants in the employ of those organisations. The choice of organisations was by convenience, with no prior identification of those organisations. Completed questionnaires were all collected in person from the organisations and the few accountants who were directly accessed. From the researchers' experiences in other researches involving questionnaires, personal follow up was necessary to minimise the incidence of non-responses. A similar approach was used by Stowers and White (1999) who distributed their questionnaires to professional accountants in accounting firms through the firms' partners and collected the same from them. This approach enabled them to attain a response rate of 74.3%.

Data Collection, Research Instrument and Analysis

Data was collected using a structured questionnaire. The questionnaire was in two parts, the first part was designed to collect general information about the respondents and their organisations. The second part was made up of four sets of questions. The first set comprised six statements that sought to collect views on accounting education. For each statement the accountants were required to indicate their level of agreement or disagreement using a Likert-type scale constructed as follows: (1) Completely agree, (2) Agree, (3) Neutral, (4) Disagree and (5) Completely Disagree.

The second set of questions asked the

accountants to indicate the level of importance that should be assigned to the various courses in the accounting curriculum. Students studying accounting take a variety of business courses during the course of their studies. Whereas courses like Financial Accounting are considered core courses and the basis for understanding accounting, some other courses are not considered core to that understanding. For example, although a course like Marketing is often part of the bouquet of courses a student studying accounting will take, lack of understanding marketing will not prevent the student from understanding accounting. Eighteen such business courses were identified and included in this question.

The third set of questions required respondents to indicate the level of importance that should be given to IT skills. Accounting graduates are required to master a variety of IT-related skills before joining the accounting profession. The skills may relate to use of IT tools such as software packages as well as knowledge of how IT can be used to facilitate and drive business. Twenty-four IT skills were included in the questionnaire.

The fourth set of questions dealt with vocational skills. In addition to accounting, business and IT skills, accounting students are expected to develop several other skills which are important to the profession. Twenty-two vocational skills that a graduate in accounting could acquire were included in the questionnaire. In all three sets of questions, two, three and four level of importance was measured using five levels as follows: (1) Extremely important, (2) Very important, (3) Important, (4) Not very important, and (5) Not important at all.

Analysis of data was mainly descriptive in nature, involving computation of frequencies, percentages and means. Analysis was also carried out to find if there are any significant differences in the opinion between managers and non-managers and between professionally qualified accountants and those who are not professionally qualified on the type of skills newly-graduated accountants should have.

Results

Of the 250 questionnaires distributed 69 were collected, a 27.6% response rate. The researchers believe the response rate was partly influenced by the use of employers to distribute the research instrument. Firstly, the approach denied the researchers direct access to prospective respondents prior to collection of the instrument, and it was difficult to establish whether all questionnaires had been passed on to the intended recipients. Secondly, follow-up of non-responses through the employers was frustrated as most employers became less cooperative after the second wave of follow-up requests. Without direct access to the accountants, it was not possible to otherwise motivate or induce response to the questionnaire, as suggested by Heberlein and Baumgartner (1978).

Despite the above observations, it is considered that the attained response rate is acceptable for this survey. It is within the 20%-40% limits suggested by Nachmias and Nachmias (1976). Wikipedia, the free online encyclopaedia, points out that typical response rates in mail surveys are between 5% and 30% (Wikipedia, 2006, "Statistical Survey"). Owen and Jones (1990) suggest a response rate of approximately 30% as reasonable. Davis and Leitch (1988) achieved lower response rates of 16.3% and 13.4% in their study involving samples of 809 and 298 respectively.

The results on the basis of analysis of the collected questionnaires are presented and discussed below, beginning with a general profile of the respondents.

Respondents' Characteristics

The respondents' characteristics are indicated in Table 1, which shows that the proportion of males in the responding group, at 52%, was slightly greater than that of females who made up 48% of the respondents. We also find that the majority of the respondents were young. Close to 64% were aged not more than 35 years of age, with 59.4%, over half the respondents, in the age bracket 26 years to 35 years.

Table 1 further shows that two-thirds of the respondents have at least a Bachelor degree, with just over half of the respondents (50.7%) possessing a Bachelor degree. About 32% had a Diploma and close to 16% had a Master degree. Only one of the respondents (1.5%) had an educational background not exceeding high school.

Table 1: *Characteristics of Respondents*

	No.	Percent
Number of Respondents	69	100
Female	33	47.8
Male	36	52.2
Age profile		
Below 25	3	4.4
26 to 35	41	59.4
36 to 45	19	27.5
46 to 55	5	7.2
Above 55	1	1.5
Professional qualification held		
No answer	46	66.7
ACCA	11	15.9
ACIMB	1	1.4
ACMA	1	1.4
CA	2	2.9
CIA	1	1.4
CIMA	6	8.7
Type of organisation		
No answer	1	1.4
Accounting/Audit firm	4	5.8
Parastatal organisation	45	65.2
Private organisation	4	5.8
Educational Institution	8	11.6
Government	4	5.8
Medical	1	1.4
Other	2	2.9

	No.	Percent
Accountant or auditor		
Accountant	61	88.4
Auditor	8	11.6
Academic Profile: highest academic qualification		
High School or Less	1	1.5
Diploma	22	31.9
Bachelors Degree	35	50.7
Masters Degree	11	15.9
Position in organization		
No answer	3	4.3
Non managerial	31	44.9
Managerial	35	50.7
Broad functional area		
No answer	1	1.45
Financial accounting	54	78.3
Internal auditing	6	8.7
Public auditing	2	2.9
Consultancy	2	2.9
Administration	3	4.3
Other	1	1.45

In terms of professional qualification, however, only about one-third indicated their professional qualifications. It is assumed that the two-thirds who did not indicate this do not posses any professional qualification. Some 88% of the respondents are employed or working as accountants and 12% working as auditors. Just over half the respondents (50.7%) hold managerial positions with about 45% working in non-managerial positions. About 65% are employed by parastatal organisations and some 12% work with educational institutions. The majority of them (78.3%) work in the broad area of financial accounting.

Views on Accounting Education

Respondents were asked to respond to six statements concerning accounting education. The first statement wanted to know whether the respondents are satisfied with the quality of graduates joining the profession. The respondents were asked to show their level of agreement to the statement that accountancy training institutions in Botswana have a problem of not producing graduates who meet the needs of employers. We find that 59.4%, more than half of the respondents, agreed to the statement. 16% of the respondents strongly agreed to the statement that accounting graduates did not meet needs of employers. The average score for this statement was 2.47, suggesting general agreement to the statement. Most of the respondents cited poor written communication skills as an issue of major concern. This skill was investigated as part of the vocational skills required by accounting graduates, reported later in this study. Table 2 summarises responses to all statements in the first set of questions.

Table 2: *Accounting Practitioner's Views on Accounting Education*

Statement	Mean score	Agree (%)	Disagree (%)	Neutral (%)
Accounting graduates from institutions do not meet needs of employers	2.47	59.4	21.9	18.7
Accounting education as currently structured is outdated and needs a significant modification	2.62	49.2	24.6	26.2
Accounting lecturers are isolated from business professionals and therefore tend to be out of touch with market and competitive expectations	2.18	70.8	16.9	12.3
Accounting education must be market oriented	1.48	98.2	0.0	1.8
Information technology should be interlaced in all accounting courses	1.52	93.9	1.5	4.6
IT courses in universities should dwell more on the practical applications of IT and less on theory	1.66	89.3	1.5	9.2

The second statement required respondents to show their level of agreement to the assertion that accounting education as currently structured is outdated and needs significant modification. Scoring an average of 2.62, the level of agreement to this statement was not strong. Indeed, less than half of the respondents (49.2%) agreed to this statement. 24.6% do not believe that accounting

education is outdated. The argument of those in support of the contention was that accounting colleges tend to lag behind developments in the profession, hence the need for modifications. The third statement actually stated that accounting lecturers are isolated from business professionals and tend to be out of touch with market and competitive expectations. About 71% of the respondents agreed to this statement. The average score was 2.18 with 27.7% of the respondents strongly agreeing to the insinuation that accounting lecturers are out of touch with market and competitive expectations. Although a contradiction of some sort is suggested by these two results, the view might be that even though lecturers are not abreast with practical applications of accounting, they are up-to-date with the theoretical aspects of accounting, implying a relevant accounting curriculum. Implicitly, however, we see a need for lecturers to acquire practical experience in accounting.

The fourth statement was that accounting education must be market oriented. Perhaps to be expected, there was strong agreement to this statement at 98.2%. None of the respondents indicated disagreement to this statement. The average score was 1.48. The fifth statement stated that IT should be interlaced in all accounting courses and not taught in isolation. There have been suggestions that information technology should not be taught as an isolated subject but should be incorporated in other subjects (Bromson et al., 1994). For example, students should be required to submit word processed assignments and use spreadsheets in analyzing data and preparing financial statements. This approach has implications for accounting educators in that it requires all accounting faculty staff to be proficient in the use of computers and their applications (Bromson et al., 1994). About 94% of the respondents agreed to this statement. The average score for this statement was 1.52. This is an indication that practitioners would prefer graduates to have a sufficient practical exposure at the time they graduate from colleges and seek employment.

The sixth statement was that IT courses in tertiary institutions should cover more practical applications than theory. 89.3% of the respondents agreed to this statement, with an average score of 1.66. There are some disagreements as to how information technology courses should be taught to accounting students. Some scholars such as Bromson et al. (1994) are of the opinion that teaching of IT should focus on concepts than on the narrow domain of technical training. Respondents in this study tend to say otherwise, showing a great support for practical proficiency.

Critical Technical Skills

Table 3 indicates the ranking of critical technical skills by the respondents. On the basis of average scores, all eighteen courses are considered important (mean less than or equal to 3.5). However, Financial Accounting, Finance, Accounting Information Systems and Managerial Accounting are considered extremely important (mean score less than or equal to 1.5), with Financial Accounting considered the most important. Eleven other courses were rated very important (mean score less than 2.5). Courses like Marketing, Organisational Behaviour/Human Resources and Operations/Supply-chain Management, though important, were ranked last. The respondents showed a clear bias in favour of those courses that touch directly on accounting. The six courses ranked highest fall in this category.

Table 3: *Ranking of Critical Technical Skills*

Course	Overall Mean	Overall Rank	Professional vs. Non-Professional		Managers vs. Non-Managers	
			t-Value	p-Value	t-Value	p-Value
Financial accounting	1.06	1	0.80	0.43	-0.10	0.92
Finance	1.18	2	-0.55	0.58	-1.47	0.15
Accounting Information systems	1.50	3	-0.67	0.50	-1.39	0.17
Managerial accounting	1.50	4	-1.83	0.07	-2.32	0.02 *
Taxation	1.61	5	-0.97	0.34	-1.16	0.25
Auditing/assurance services	1.69	6	0.22	0.83	-1.06	0.29
Business strategy	1.95	7	0.36	0.72	-1.03	0.31
Accounting research methods	2.12	8	0.40	0.69	0.99	0.32
Ethics	2.13	9	-0.46	0.65	0.09	0.93
Business law	2.17	10	0.47	0.64	-0.70	0.49
Information Technology in general	2.21	11	-1.18	0.24	-1.39	0.17
E-commerce	2.35	12	1.24	0.22	-0.78	0.44
Economics	2.38	13	-1.25	0.21	-1.12	0.27
Statistics/quantitative methods	2.39	14	-0.70	0.49	-0.74	0.46
Global/international business	2.41	15	1.24	0.22	0.68	0.50
Marketing	2.55	16	0.16	0.87	-1.54	0.13
Organizational behaviour/human resources	2.60	17	0.13	0.90	-1.76	0.08
Operations/supply-chain management	2.68	18	0.41	0.68	0.62	0.54

* Significant at the 0.05 level

No significant difference in opinion between professionally-qualified and non professionally-qualified accountants was observed. Likewise the opinions of accountants in managerial positions were similar to those not in managerial positions for all except one course. Although the average score for managerial accounting was very high at 1.5 there was a statistically significant difference of opinion on its level of importance between accountants holding managerial positions and those who do not. 97 percent of accountants in managerial positions were of the opinion that knowledge of managerial accounting was either very important or extremely important. On the other hand, only 87 percent of accountants who are not in managerial positions were of the opinion that knowledge of managerial accounting was that important. It is possible that accountants in managerial positions do apply their knowledge in managerial accounting in their work and acknowledge its importance whereas those not in managerial positions look at it as just one of the courses they had to take in order to qualify as accountants.

Critical IT Skills

Table 4 indicates the ranking of critical IT skills by the respondents. With the exception of programming languages, all suggested IT skills are considered important (mean less than or equal to 3.5). However, only five IT skills were rated very important or extremely important. Accounting packages and spreadsheet software were ranked highest in importance. This conforms to expectations. Accounting packages like ACCPAC and PASTEL, among others, enable business organisations to maintain and process and produce accounting information using computers. This is the trend nowadays and even some small businesses venture into computerised accounting. In the absence of accounting packages, spreadsheet software have served some businesses quite well without having to invest in an accounting package. Spreadsheets are also very useful for purposes of generating tabular and graphical illustrations for reporting purposes. Other skills rated relatively high are auditing packages, windows operating system and word processing software.

The level of agreement between professionally-qualified and non professionally qualified accountants was generally the same for almost all IT skills. Statistically significant differences of opinion were observed on the importance of accounting packages, auditing packages and graphics software. About 57 percent of the professionally-qualified accountants expressed the view that knowledge of an accounting package was very important or extremely important while 82 percent of the non professionally-qualified accountants held a similar view. About 52 percent of the professionally-qualified accountants thought that knowledge of auditing packages was very important or extremely important compared to 70 percent of the non professionally-qualified accountants who held similar views on the importance of auditing packages. About a quarter of the professionally-qualified accountants (23.8%) thought that knowledge of auditing packages was not important while 2 percent of the non professionally-qualified thought the packages were not important. Professionally-qualified accountants and those who are not professionally-qualified differed in their opinions on the importance of knowledge of graphics software. Two-thirds of the professionally-qualified accountants (66.7%) expressed that knowledge of the software was not important whereas only 29 percent of the non-professionally-qualified accountants believed knowledge in this software was not important.

Table 4: *Ranking of Critical IT Skills*

Skill	Overall Mean	Overall Rank	Professional vs. Non Professional		Managers vs. Non-Managers	
			t-Value	p-Value	t-Value	p-Value
Accounting package	1.86	1	2.28	0.03 *	1.14	0.26
Spreadsheet software	1.86	1	-0.04	0.97	0.66	0.51
Auditing Package	2.18	3	2.08	0.04 *	1.70	0.09
Windows	2.33	4	0.92	0.36	1.49	0.14
Word-processing software	2.42	5	0.60	0.55	1.86	0.07
Communications software (e.g., Outlook)	2.57	6	0.90	0.37	2.46	0.02 *
Technology security and controls	2.58	7	1.71	0.09	1.98	0.05
File and directory management	2.62	8	-1.19	0.24	0.85	0.40
Technology management and budgeting	2.66	9	1.86	0.07	0.53	0.60
Presentation software	2.68	10	1.76	0.08	2.71	0.01 *
Systems analysis	2.70	11	1.42	0.16	1.18	0.24
Project management	2.72	12	1.38	0.17	1.29	0.20
Technology terminology	2.72	13	0.54	0.59	1.57	0.12
World Wide Web	2.83	14	1.76	0.08	1.35	0.18
Electronic commerce	2.86	15	1.28	0.21	1.31	0.19
Computer operations management	2.95	16	1.36	0.18	0.69	0.50
Intra/Extranets	2.98	17	1.25	0.22	1.89	0.06
Database software	2.98	18	1.42	0.16	2.20	0.03 *
Computer hardware	3.03	19	0.11	0.91	0.75	0.46
Information systems planning and strategy	3.08	20	0.68	0.50	1.47	0.15
Graphics software (e.g., Harvard graphics)	3.19	21	2.51	0.01 *	1.82	0.07
Other operating systems	3.19	22	0.55	0.59	0.38	0.70
HTML and other web programming	3.43	23	0.80	0.42	2.38	0.02 *
Programming languages	3.70	24	0.10	0.92	1.58	0.12

* Significant at the 0.05 level

Why professionally-qualified accountants have a low opinion on the importance of accounting and auditing packages is not clear. One would have expected them to have a higher regard to the packages as they might be using them in their work. More statistically significant differences in opinion were observed between accountants in managerial positions and those not in managerial positions with regard to the importance of communications software, presentation software, database software and web programming. While 24 percent of

accountants in managerial positions thought that communications software such as Microsoft Outlook, which is commonly used to send and receive electronic mail, was very or extremely important 59 percent of accountants not in managerial position thought such knowledge was very or extremely important. However, 64 percent of accountants in managerial positions thought such knowledge was important while only 31 percent of accountants not in managerial positions thought so.

About 55 percent of accountants who do not hold managerial positions thought that knowledge of presentation software was very important or extremely important. However, only 21 percent of accountants in managerial positions thought that knowledge of the software was very important or extremely important. Likewise, more of the accountants not in management positions (40%) were of the view that knowledge of database software was very important or extremely important compared to 29 percent of accountants in managerial positions with a similar view. With regard to knowledge of HTML and other web programming, while a third of the accountants not in managerial positions (33%) viewed this as not important 64 percent of the accountants in managerial positions held this view. Thus, although two-thirds of the accountants not in management consider this knowledge as at least important, almost the same proportion of accountants in management believe it is not important.

Critical Vocational Skills

Table 5 indicates the ranking by the respondents of critical vocational skills. As is the case with IT skills, all except one vocational skill are considered important (mean less than or equal to 3.5). Analytical and critical thinking was singled out as being the most important vocational skill for graduate accountants, rated extremely important. Other skills ranked relatively high were decision making, continuous learning, risk analysis, teamwork, written communications and leadership. All these scored an average of less than 2.0. Respondents were of the view that some skills such as salesmanship and research were of less importance to accounting graduates. Knowledge of a foreign language was considered least important for accountants. Analytical and critical thinking are indeed invaluable skills for any person working in a senior decision making position. The higher ranking of these and decision making skills acknowledges this fact.

Table 5: *Views on Important Vocational Skills*

Skill	Overall Mean	Overall Rank	Professional vs. Non Professional		Managers vs. Non-Managers	
			t-Value	p-Value	t-Value	p-Value
Analytical/critical thinking	1.48	1	0.82	0.41	0.78	0.44
Decision making	1.70	2	0.76	0.45	-0.36	0.72
Continuous learning	1.82	3	-0.13	0.90	-0.59	0.56
Risk analysis	1.88	4	0.15	0.88	-1.45	0.15
Teamwork	1.91	5	-1.90	0.06	-1.39	0.17
Written communications	1.92	6	0.98	0.33	0.39	0.70
Leadership	1.95	7	-0.03	0.98	-0.57	0.57
Information technology (IT)	2.00	8	-0.39	0.70	-1.92	0.06
Oral communications	2.11	9	-0.04	0.97	-0.24	0.81
Business decision modelling	2.12	10	2.18	0.03 *	0.53	0.60
Interpersonal skills	2.18	11	0.48	0.64	0.06	0.95
Resource management	2.18	12	1.37	0.18	0.37	0.72
Professional demeanour	2.19	13	1.33	0.19	0.51	0.61
Measurement	2.24	14	0.98	0.33	0.32	0.75
Project management	2.26	15	0.85	0.40	-0.67	0.50
Change management	2.29	16	0.25	0.80	-0.72	0.47
Negotiation	2.45	17	0.57	0.57	-1.01	0.31
Customer orientation	2.48	18	0.08	0.94	-0.55	0.58
Entrepreneurship	2.55	19	0.75	0.46	-0.32	0.75
Research	2.59	20	1.19	0.24	0.15	0.88
Salesmanship	3.14	21	-0.47	0.64	-0.95	0.34
Foreign language	3.62	22	-0.20	0.84	-0.28	0.78

* Significant at the 0.05 level

Generally, respondents had similar views in the importance of the various vocational skills suggested to them. A difference in opinion was discerned, however, between professionally-qualified and non professionally-qualified accountants with regard to the importance of business decision modelling. Although none of the respondents suggested that the skill was not important, 50 percent of the professionally-qualified accountants thought the skill was very or extremely important, while 72 percent of those not professionally-qualified thought the skill was very or extremely important.

The findings suggest that accountants generally agree on the level of importance of a majority of the skills. However, in those cases where there are differences in opinion, it emerges that professionally-qualified accountants and those accountants who are in managerial positions have a lower opinion on the importance of those skills compared to non professionally-qualified accountants and the accountants not in managerial positions. It is not clear why this is so, although, in the case of accountants in managerial position the possibility that some of the skills are not applied at managerial level could

be cited as an explanation for the low opinion. However, this explanation is also questionable when one considers the relative importance attached to accounting and auditing software by both professionally-qualified accountants and the accountants in management positions, which is lower than the importance attached by non professionally-qualified accountants and accountants not in management positions. A more plausible explanation can perhaps be obtained from further research.

Summary and Conclusions

Accountants need to keep abreast of the changes taking place in their environment for them to be able to perform their responsibilities effectively. Respondents to this study believe that although lecturers seem to be out of touch with practice and accounting graduates appear not to meet the employers' expectations, the present accounting curricula in accountancy training institutions does not require a significant modification. We conjecture that perhaps the inadequacy of graduates lies with the academicians lacking professional experience, relying solely on theory to impart knowledge on the accounting students. This came out clearly especially with regard to training in Information Technology.

The modern environment necessitates that accountants acquire various skills within the broad areas of technical, technological and vocational. Practising accountants in Botswana have indicated that most of the skills in the three areas are important for accountants. Core accounting courses like Financial Accounting, Finance, Accounting Information Systems and Managerial Accounting, as well as the vocational skill of analytical/critical thinking were singled out as being extremely important. Several other skills were rated very important.

We conclude that, despite the apparent satisfaction exhibited by accounting practitioners in the manner in which accounting education is currently structured, the weaknesses suggested call for a critical review of the accounting curricula in Botswana. The findings implicitly suggest an inadequacy in the practical component of the present curricula, and our conclusion from this is that this practical component needs to be built into the accounting education structure. We suggest that tertiary institutions should try to design their curricula to ensure that their accounting graduates possess the essential skills expected in the Botswana market. This will perhaps meet the expectations of the practitioners and employers' alike. Practitioners would like to see more of practice being infused in teaching, and particularly, for the accounting instructors to update themselves with developments in the market by acquiring practical experience. Information technology skills are particularly expected to include a significant practical component as practitioners expect that graduates should possess adequate practical skills in that area upon graduating from tertiary institutions.

The study reveals some differences in opinion on the importance of some skills or courses suggested among different categories of accountants. It is recommended that a research be undertaken to establish the extent of use of some or all of the skills included in this study. The results of such a study may help shed light on why professionally-qualified accountants and accountants holding managerial positions have a lower opinion on the importance of some of the skills or courses compared to non professionally-qualified accountants and those accountants not holding managerial positions.

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