

EXAMINING AND JUSTIFYING THE IS/IT SKILLS THAT MAY BE DESIGNED INTO THE ACCOUNTANCY EDUCATION CURRICULA FOR TOMORROW'S PROFESSIONALS

Sampson Anomah

(Accounting Information Systems),
Department of Accountancy, Kumasi Polytechnic,
P. O. Box KS 7811, Adum – Kumasi, Ghana

Maurice Aduamoah,

(Business Information Systems Audit),
Department of Accountancy, Kumasi Polytechnic,

Owusu Agyabeng

(Financial Accounting)
Kumasi Polytechnic,

Abstract: *There is an increasing shift in demand towards professionals with a combination of business and Information Technology (IT) and Information Systems (IS) skills to help organisations structure their systems to provide effective and efficient support for their primary objectives and activities. Around the world professional training Associations and academic Institutions offering programmes in Accountancy are realising the inevitable revolutionary trends in the world of work and are redesigning their curricula to meet it. The implication of the above shifts is also the shift of the skills required to achieve their organisational objectives and goals the paradigms of people requirements. As a result, academic institutions and accountancy training bodies must understand the consequential shifts in the roles, skills, knowledge and experience accountants and finance professionals need to demonstrate, both now and in the future to keep their heads above the waters. This article analyses the key IT/IS skills that could be preferred for undergraduate accounting majors and professional accounting trainees and proposes a pedagogic structure of IS/IT in the accountancy curricula.*

Keywords: ‘Accountancy’, ‘Education’, ‘Curriculum’, ‘Information systems/Technology’, ‘E-Commerce’, pedagogy, ‘Accreditation Boards’, Competence .

INTRODUCTION

Accountants have traditionally produced information to enhance management decision-making. With the advent of new information technologies and expanded sources and means of access to information, accountants can help bring richer sets of information to bear on specific managerial decisions and screen out superfluous information. One of the implications of the growth of such services is the need to expand accountants’ perspectives beyond their traditional focus on accounting information to other important types of information and performance indicators, including non-financial information.

Ayebofo (2012) has opined that ‘modern businesses rely more and more on technology in processing accounting information. Modern accounting software have made the preparation of financial reports so easy that one does not need traditional bookkeeping knowledge to produce standard financial reports. In the light of the above changes; there is an urgent need for accounting education to place more emphasis in developing the soft skills rather than the traditional quantitative bookkeeping theories.

Unfortunately, accounting education has proved to be too conservative and has not kept pace with the changes and trends in technology and practical accounting. Accounting educators, therefore, have failed to restructure their curricula to reflect changes in the job market for accountants. This, obvious, unwillingness to change continues to maintain a big gap between accounting education and accounting practice in the world of work and the requirements of employers. Modern accountants need information technology skills, decision-making skills and analytical skills which most accounting degrees do not teach’.

Background to the study:

‘Developments in technology, wider and instantaneous access to information and knowledge, greater communication ability, wider access to international jobs and capital markets, demographic shifts, increased stakeholder scrutiny of organisations and their leaders, stronger regulation and compliance requirements, an increased global job competitive business environment with more need for transparency and wider organisational reporting requirements; all require accountants of tomorrow, students and academic institutions to act faster, more proactively, to stay academically and professionally relevant’ (Leonetti, 2006, 2008). International career development is increasing, however, many critical observers are concerned that accounting, auditing and finance programmes are not reflecting current recruitment programmes and industry aspirations, while developers of academic curricula are not providing accounting and finance professionals with the business management skills, technological skills, personal effectiveness skills and ‘people skills’ their roles require. Society expects that accountants who accept an engagement or occupation to have a reasonable level of competence to perform the work required. ‘The career plans of accountants and related training systems must, therefore, be based on a realistic view of the changing nature of accounting, the changing role of the accountancy profession in providing services to business, government and the community at large and the knowledge and skills required for future success as a professional accountant. As a result of many well publicised scandals that hit the accountancy profession in the past one and half decades, the training of the professional accountant has come under critical scrutiny’ (Skidmore 2002).

Critics and industry standard setters have noted the fundamental deficiencies in the training of the traditional Accountant and have found the need to institute many changes in terms of ethical standards and Information and Communication technology (ICT) skills (Leonetti, 2008). Many academic and professional training bodies in relevant accountancy specialisations are making recommendations of ICT in the training of their students and trainees. The International Accounting Education Standards Board (IAESB), for example, has issued *International Education Standard (IES) 1 - “Entry Requirements to Professional Accounting Education Programs (Revised)”* in response to the above issue. The guidance provides information on programmes and pre-qualification education, training of professional accountants, and continuing professional education and development. IFAC’s ‘IEPS 2’ notes that there is no one specific stream of prescribed curriculum of ICT knowledge and competences that accountancy students and specialists may require. ICT is, therefore, one of the core competences of accountants and requires special attention due to the competitive growth and its rapid rate of change of employable skills in the field.

The body of knowledge and skill required of accountants includes a variety of important areas. Training of accountants and related training systems must, therefore, be based on a realistic view of the changing nature of accounting, the changing role of the accountancy profession in providing services to business, government and the community at large and the knowledge and skills required for future success as a professional accountant’ (Skidmore, 2002)

Gap analysis and justification of the study

An inevitable implication of the growth of accountancy services beyond the traditional roles is the need to expand accountants’ perspectives to other important types of information and current innovative systems to generate financial, non-financial accounting information, including

performance indicators. To maintain both the accountancy profession's credibility and its capacity to supporting new, strategic information technology initiatives and public trust and confidence, the competence of accountants in Information Technology/Systems (IS/IT) strategy in business planning must be preserved and enhanced (Skidmore 2002).

Sadly, qualified Accountants and graduates in accounting get to the world of work to realise they have been partially trained since the competence required of them by employers and their skills do not match. Most professional bodies and academic institutions into accountancy training ignore 'IT/IS' in their syllabi. A cursory look at the syllabi of the main professional accountancy training body in Ghana – Institute of Chartered Accountants (ICA) – clearly shows a very low understanding and emphasis on the current trend with regard to IT/IS and they only have one module 'Business information systems' at the basic level of the training ladder and the syllabus content of this single module is nothing to rely on to produce any quality reliable skills needed by the accountant of tomorrow. A global Accountancy training body – Association of Chartered Certified Accountants (ACCA), with all their advanced methods of examining their prospective members have no or have removed the module dedicated to IT/IS skills.

There has been a continuing debate on what is required to be taught, what is taught and how the future syllabi of accountancy training is to be designed to meet the shift in the paradigms of the competence of future accountants. Many Accreditation Boards concerned with certifying accountancy training are not contributing to research into the development and maintenance of their accounting syllabi to match the trends cited above. It is important to point out the fact, that though many professionals and academicians have realised and appreciate the above problem, available literature investigated in the area shows that not a lot of research have been conducted into it and the researchers' own interpretation and suggestion are that this research paper is apt as it may add to the literature that may be required to fill gaps identified above.

The Statement of problem:

Recent trend in the accountancy profession has heightened the awareness of the need to infuse the training in accountancy with appropriate Information Communication Technology (ICT) to make products more relevant. The amount of ICT training requirements that is sufficient, at prequalification or undergraduate stage has been the issues of debate as part of this recent development in many academic and professional training institutions. Training providers and Higher Educational Institutions that are involved with Accountancy training especially in less technologically advanced countries such as Ghana still have problems in developing the right mix of academic curriculum to assimilate the relevant modules and training for their accounting major students.

Many researchers have averred that the problem could possibly be due to the lack of collaboration and involvement of employers and accounting professional with active field experience in the design of the curricula for the accountancy courses. Most academic institutions, however, in the third world countries tend to be confused with or worse still undermine the relevance and value of IT/IS courses in the accountancy programmes. This article endeavours to empirically examine the relevant ICT-specific skills areas that are crucial to accounting majors.

Research Question

- ✓ What are the ways to make the accountancy curricula be relevant to the world of work in the face of advancements in IS/IT?
- ✓

The Objective of the study:

In developing countries, such as Ghana, as a result of the delayed pace at which they move with developments in technology, academic institutions often clearly exhibit confusion with regards to the relevant courses in technology that will not deprive the accounting student of the requisite skills for the world of work. This is apparently exhibited in the reluctance in placing emphasis on the appropriate Information systems and Information Technology modules that are required in their

accountancy curricula. Though the authors of this article strongly disagreed, the National Accreditation Board of Ghana's officials evaluating the structure of Accountancy programmes in Kumasi Polytechnic recently argued about the relevance of some 'IT/IS' modules in their programmes. They averred that Electronic Commerce and Accounting Information Systems, for example, cannot be mounted as separate modules as they duplicate knowledge and therefore irrelevant.

This paper is also aimed at responding to the above averment by examining and justifying IS/IT programmes in the pedagogic value chain of accountancy training. It is expected that, by the end of this research, a clearer demarcation as well as the relevant logical linkage is made among IT/IS related modules that constitute the information technology skills training for accounting majors. This article does not attempt to describe a comprehensive course outline for various 'IS/IT' courses that academic institutions and training providers should pursue. Rather it is an attempt to re-emphasise the relevant competence requirements that accounting and audit students should obtain in order to be able to fit for the world of work. It does this by showing the major blocks of 'IS/IT' disciplines that are relevant in the accountancy curricula and the differences among them. Some people find it difficult to appreciate that there are vast differences among 'IS/IT' courses such as Accounting Information Systems, Electronic Commerce and Strategic Information Systems. Many people ignore the relevance of the IS/IT skills training requirement in the development of the accountants for tomorrow and we believe it is regrettable. The article attempts to provide a comprehensive description of the above modules and to emphasise the relevance of the skills thereof for the accounting majors.

ANALYSIS

Generic IT/IS literacy module:

IFAC (IEPS 2) recommends that at first year of entry (level 100) into accountancy studies, students should be trained to able to demonstrate knowledge and understanding in Information Communication Technology (ICT) issues – Hardware, Networks and in Software, particularly, proficiency in the use of Microsoft software suit. These include:

- ✓ Spreadsheet software in a relevant accounting/business context
- ✓ Word processing software in a relevant accounting/business context
- ✓ Database software in a relevant accounting/business context
- ✓ Internet tools (E-mail, Web Browser, FTP, Other) software in a relevant accounting/business context
- ✓ Research tools in a relevant accounting/business context
- ✓ Business presentation software in a relevant accounting/business context
- ✓ Anti-virus and other security software in a relevant accounting/business context
- ✓ Hardware, utility software and other software in a relevant accounting/business context.”

They also ‘need to demonstrate their ability to explain, describe or discuss a range of topics relating to the general knowledge of ICT’. As a result, in Institutions of Higher Accountancy studies, it is expected that the recommendations in this article will be appreciated. The above general skills are the foundation upon which Accounting Information Systems, Electronic Commerce and Strategic Information Systems will be based. The following are the evaluative discussion of the IT/IS modules above:

Evaluating the Scope and relevance of ‘Accounting Information Systems’ (AIS) in Accountancy Curriculum

Accounting Information Systems should be of interest to accounting professionals, accounting majors and accounting curriculum developing faculties because this course broadens students’ understanding of the operational accounting data and subsequent information generated in the organisation’s information systems. Even more importantly, it the source of information for internal controls required to support the operations.

According to Anomah (2012), Auditors, in recent development in technology, seem to be hanging out on the periphery of the progress made regarding technologies used for

accounting information reporting. There is a critical requirement for audit techniques to, as a matter of reality, change. 'New forms of reporting characterized by frequency and a data orientation, rather than an information orientation, presents a new form of considerable audit risk'. Therefore, a well-structured Accounting Information systems, tutored by appropriately experienced and qualified tutors, is the course for accounting students and audit trainees for the development of skills that would reduce the pressure on the Auditor to over-rely on Information Systems Auditors for the provision of assurance services hence a reduction of audit risk. Thus, high audit fees charged as a result of these incidental audit costs and 'high risk of compromising sensitive information and likely general control risks of the auditor will be reduced to acceptably low level.

According to Callaghan Peacock and Savage (2001), IFAC distinguishes between pre-qualification and post-qualification education, and between knowledge and skills obtained in that education. Pre-qualification education delivery is the primary responsibility of educational institutions, while post-qualification education and requirements are primarily the responsibility of regulatory bodies and professionally-mandated Continuing Professional Education (CPE). AIS curriculum spans several courses and typically concerns new developments in accounting technology. It roughly correspond to IFAC's IS/IT concepts for the business systems component of the general IT education requirements and the core IS/IT knowledge and skill areas in support of the professional accountant as *user* of IT. IFAC uses the following breakdowns in developing their role-based educational framework. They establish general IS/IT educational requirement as divided into IT concepts for business systems and internal control in computer-based systems. Four professional roles which concern the accountant are established:

- 'The professional accountant as user of IT (*user* role),
- The professional accountant as manager of information systems (*manager* role),
- The professional accountant as designer of business systems (*designer* role), and
- The professional accountant as evaluator of information systems (*evaluator* role)'.

A well-structured AIS course should provide students with an understanding of the business processes with particular emphasis on accounting systems and processes adopted by organisations to capture and process their core financial and none financial transactions.

In this regard, AIS will ensure an understanding of business processes that underpin transaction processing systems (TPSs) that often integrate enterprise-wide hardware and software systems such as ERP systems. Thus, AIS should be able to introduce the student to relevant productivity software used for recording, processing, outputting Accounting Information as well as the hardware and application software systems that enable effective and efficient communication of the generated Accounting Information to the appropriate stakeholders for decision making. It must be noted that Computerised Accounting (Accounting Software) is learnt as part of Accounting Information systems.

'There is perhaps no area of greater controversy for accountants than their responsibility to detect fraud' (Hall, 2008). Saddled with complexities in computerised accounting systems, Auditors and Accountants for tomorrow need to obtain skills and techniques for identifying unethical and dishonest management activities and for assessing the risk of management fraud. Accounting Information systems also provide the background for the acquisition of the skills the accountant requires to prevent, deter and detect Employee fraud by designing system for internal controls.

Manual and computerised work environments introduce several methods of fraud that get perpetrated in many forms and the various types of technical and non-technical controls are recommendable to tackle them in line with National regulations, Statement on Auditing Standards (SAS) 78, the Committee of Sponsoring Organisations of the Treadway Commission (COSO) framework, the Sarbanes-Oxley Act and other related generally accepted internal control framework in today's fast growing Corporate Governance frameworks and initiatives. Accounting Information systems introduces accounting students to these very critical issues affecting modern business concerns.

'The growth in technically specialised roles is a direct response to changes in the external environment - primarily increasing regulation and higher business complexity' (Leonetti, 2006). New and emerging fields of learning and profession akin to Accounting such as forensic Accounting, Certified Fraud Auditor, Information Systems Auditor, and Certified Internal Auditors build on the fundamental skills that are acquirable from Accounting Information systems.

AIS will also provide the fundamental appreciation of typical database structure found in these systems; and, again more importantly, the internal controls practices by organisations to ensure these processes are effective, efficient and economical. 'Without added investment for developing finance and accounting professionals in this specialism, there is a significant risk of talent shortages, high turnover and escalating reward packages' (Leonetti, 2006).

As a result of the wide perspectives Accounting Information Systems, Hall (2008) has noted that 'among accounting courses, Accounting Information Systems (AIS) courses tend to be the least standardized. Often the objectives, background, and orientation of the instructor, rather than adherence to a standard body of knowledge, determines the direction the AIS course takes'. Hall (2008), and Hurt (2008) shared their views of AIS course as a whole four year Bachelors' degree programme. Callaghan et al (2001) recommend the modules that should be taught from Level 200 all the way to Level 400 of the programme.

<i>Broad Expected Learning Outcome</i>	<i>Comment</i>
An understanding of the role that information systems play in the evolution of accounting processes from the traditional manual processes to the more automated processes based on the Resources-Events-Agents (REA) model designed to operate with computer-based information technology	<i>Level 200 (Undergraduate, first year curriculum should have provided the student with hardware and general software skills especially in Microsoft office).</i>
Detailed understanding of the way accounting information is derived in organisations and the link of students' understanding of specific accounting information, such as manufacturing variances; with the different approaches organisations typically use to collect the data to calculate this accounting information.	<i>Level 200 (Undergraduate, year two)</i>
Introduction to Accounting Software packages (a single popular accounting software will suffice) and the detailed understanding and design of Chart of Account (COA), design an AIS database based on an understanding of the concept of business exchange and how they map into the REA framework, generation of simple and complex report from the well linked up database.	<i>This is supposed to be a Computer lab exercise and it is preferred that it is taught for both semesters</i>

An understanding of how and why organisations adopt information technology based on their understanding of the role of computer-based accounting systems, and the business processes that support these systems.	<i>Level 300 (Undergraduate year three or corresponding pedagogical level)</i>
An understanding of the role of information systems for the communication of financial accounting information systems using the eXtensible Business Reporting Language (XBRL) protocol.	<i>Depending on the competence and the regulatory jurisdiction of the students; Level 300.</i>
An understanding of the threats to these processes which typically operate in a computer-based environment and the internal controls needed to minimise their exposure. This Suitable control criteria for analysing and evaluating controls, according to IFAC (IEPS 2), should include: <ul style="list-style-type: none"> ■ The IT internal control environment ■ IT risk assessment ■ Selected IT risk responses ■ IT control activities ■ Information and communication in relation to IT ■ The monitoring process and actions taken in relation to IT ■ The application of appropriate IT systems and tools to business/accounting problems ■ Understanding of business and accounting systems ■ The application of controls to personal systems' 	<i>Level 300 (Undergraduate year three or corresponding pedagogical level)</i>
Showing competence in giving oral Accounting Information presentations.	<i>Level 300 (Undergraduate year three or corresponding pedagogical level)</i>
An understanding of the internal controls frameworks in organisations in relation to general controls (Administrative, Physical and IS/IT security issues), technical or logical controls, applications controls and contingency controls based on their understanding of the importance of organisational controls in the operation of enterprise systems and how they are linked to fraud prevention, deterring and detection from within or without.	<i>Level 300 (Undergraduate year three or corresponding pedagogical level)</i>
An understanding of how the basic accounting processes are implemented in the SAP AG system and the bases of Information systems auditing.	<i>Level 300 (Undergraduate year three or corresponding pedagogical level)</i>

Evaluating the Scope and relevance of 'Electronic Business/Commerce' (E-Commerce) in Accountancy Curriculum

It is a truism that Electronic transactions have taken a complete centre stage of both regional and global business and market operations and the trend is absolutely likely to increase into the future. As a result of the technological sophistication involved, it is important, therefore that the accountant does not lack, at least basic, knowledge in accounting for and auditing electronic transactions. In developing countries like Ghana, E-Commerce, after years of advancements in the advanced countries, is now rearing its head so slowly. So many people including academicians in Ghana fail to appreciate the relevance and value of the associated practical skills and knowledge resulting from E-Commerce in the academic curriculum of the accountancy student. It must be noted here that technologically advanced countries such as the United Kingdom, United States of America, the EU and Japan, it does not take an effort to be able to distinguish between the

discipline of Electronic Commerce (E-Commerce) and other Information Technology or Information Systems Courses relevant to the career development of Accounting Majors. Electronic Commerce (E-Commerce or EC for short) is a discipline in business management that concerns purely the buying and selling of goods and services on the Internet, especially the World Wide Web (www) (Rouse 2005). According Turban et al (2006), in practice, 'a broader definition of EC includes not just the buying and selling of goods and services, but also servicing customers, collaborating with business partners and conducting electronic transactions within the organisation'. This broader definition is rather often referred to as Electronic Business (E-business) and it is to be noted that 'this term is a newer term, and it is often used interchangeably with E-Commerce. For online retail selling, the term e-tailing is sometimes used' (Rouse, 2005).

Turban et al (2006) defines an Electronic Marketplace (E-Marketplace) as a market place in where sellers and buyers exchange goods and services for money (or other goods and services) but do so electronically. Like the physical marketplace, E-Marketplace has three main functions:

- Matching sellers and buyers,
- Facilitating the exchange of information, goods, service and payments associated with market transaction,
- Providing and institutional infrastructure such as a legal and regulatory framework which enables the efficient functioning of the market,

E-commerce is relevant to the accountancy student of today because it provides very easy access for entrepreneurial adventures to students as well as to compete for jobs opportunities as well as continuous professional and academic developments that would not be accessible through traditional means. First, future entrepreneurs, accountancy students, by e-commerce, "will be made aware of a cheap and vast array of supply opportunities through the Internet. Also, the traditional methods of making a market aware of the firm's products and capabilities, e.g. sales calls, promotional literature, trade journal advertisements, etc. can require significant resource commitments" (Mullane, Peters, & Bullington, 2001).

E-commerce offers the opportunity for the entrepreneurial student to assess their chances of exploiting this resource to enhance upon their chances of success as sellers of their services, skills or products. Buyers typically are more interested in their specifications being met than in which firm meets them and because e-commerce requires very little resource commitment with little or no control. 'This is a major benefit for small firms that have been unable to penetrate the existing supply networks of large potential customers' (Mullane, Peters, & Bullington, 2001). Students with E-Commerce skills can easily create wealth through becoming a qualified web entrepreneur.

E-Commerce curriculum is, therefore, expected to produce the following learning outcomes in the students:

<i>Broad Expected Learning Outcome</i>	Comment
An understanding covering the following broad topic areas including the background of online auctions, virtual communities and web portals. E-Commerce will also provide students with understanding of the underlying concepts behind E-Business and other online business models. Students should be able to define and demonstrate understanding of e-commerce concepts such as:	There are technical aspects of E-Commerce such as 'programming' HTML, XML and other languages used to design websites that pure E-Commerce students do.

<ul style="list-style-type: none"> ■ pure and partial E-commerce ■ digital revolution that has driven e-commerce and m-commerce ■ categories of e-commerce by participants and transaction types 	<p>This may not be of interest to the Accountant as he/she is not expected to be technical designer of the websites but rather he/she is to know and evaluate the business and entrepreneurial quality of web-technologies applicable in Commerce planning and managing the businesses for success. However, a recent development which has necessitated standardisation of the modes by which accounting information is communicated to users online is the ‘eXtensible Business Reporting Language’ (XBRL) makes it necessary for the future accountant to obtain skills in these ‘programming’ languages. ‘XBRL(EXtensible Business Reporting Language) is a “member of the family of languages based on XML, or Extensible Markup Language, which is a standard for the electronic exchange of data between businesses and on the internet (XBRL) is a data exchange protocol for business reporting’ although some people believe that XBRL as a standard solution to many problems with the methods used in Financial Reporting online may be a mere fad yet trend in technology brings with it major skills challenges to the future accounting professional (Anomah, 2012). XBRL may be treated under AIS as</p>
<p>An understanding of the digital economy concept that fosters the production, sales and consumption of digitisable products and the vast array of digitisable products delivered through the digital infrastructure including:</p> <ul style="list-style-type: none"> ■ Databases, news and information, books, magazines, TV and radio programming, movies, electronic games, musical CDs and software. ■ Consumers and firms also transact financial activities through the use of digital currencies or financial tokens via networked computers and mobile phones (hence Mobile Commerce or M-Commerce) by Secure Electronic Transaction (SET). ■ M-Commerce use of mobile technologies for e-collaboration, in the workplace which has been experiencing tremendous growth in the last five years and for e-trading purposes, and this is no surprise. ■ Description of benefits and limitations of e-commerce to organisations, customers and society ■ Description of e-commerce on its contribution to organisations’ strategic drift and pressures from the environment. 	

	discussed above.
<p>Students are of e-commerce are expected to demonstrate the appreciation of the many types of E-marketplaces and, more specifically, the two major B2C ones are Electronic Storefronts and Internet Malls.</p> <p>The emphasis for accounting majors being focused on:</p> <ul style="list-style-type: none"> ■ Electronic Storefront which refers to a single company website where products and services are sold with its 24-hour availability, a global reach, the ability to interact and provide custom information and ordering, and multimedia prospects. The World Wide Web is rapidly becoming a multi-billion dollar source of revenue for the world's businesses exploiting many innovative business models (Swatman & Chan 2001). ■ Internet Malls (e-malls or online malls) which are online shopping centres where many online stores are located. Common classification of electronic commerce is by the nature of the transaction or relationship among participants. Notable among them including: Business to business (B2B), Business to Customer (B2C) – <i>e-tailing</i>. ■ Web technologies, communication networks and facilities including various communication networks in the e-marketplace that include the: (internet, Intranet, Extranet, Virtual Private Network (VPN) and Protocol tunnelling, E-banking systems, Intermediation in e-commerce, Information portals, Electronic catalogs and other market mechanisms , Digital economy etc). ■ E-Commerce security: (Basic security issues, E-commerce security risks, threats and vulnerabilities, Phishing, Securing EC networks) 	<p><i>E-Commerce is suggested to be an undergraduate year three or corresponding pedagogical level module in the accountancy curriculum</i></p>

Evaluating the Scope and relevance of ‘Strategic Information Systems’ (SIS) in Accountancy Curriculum

Strategy is a value creating art of which ‘provides the intellectual frameworks, conceptual models, and governing ideas that allow a company's managers to identify opportunities for bringing value to customers and for delivering that value at a profit’(Normann and Ramirez, 1993). On the other side of the equation, the business can use information systems for better, timelier information about its own needs that can lead to lower cost of operation which will also help to improve business process and to increase satisfaction levels.

Planning a business strategy requires a simultaneous IT strategy planning since, as matter of truism, the marriage of the two is inevitable if success and sustainability are part of the business objectives. Information systems and Information technologies are more valuable in achieving a business’ objectives especially when they are combined with changes in business practices and management behaviour. As IT/IS becomes strategic, in order that the company can benefit from technological innovations that serve the business processes, an element of balance must be achieved. This requires an infrastructure whereby the hardware, software and systems architecture are considered along with the overall business processes and the business objectives.

‘Strategic information systems’ concerns planning and implementing business strategies with computer systems so that as to obtain the benefits resulting from reduced operational cost, innovativeness and profitability as a result of the use of IT. They are, therefore, those systems where information technology resources are applied to tap strategic business opportunities in such a way that the computer systems have an impact on the organization’s products and business operations. Strategic information systems are always systems that are developed in response to corporate business initiative.

As firms are recognising and ensuring that the focus of business development is balanced, systems and technology can be implemented in a way that provides benefits to all of the stakeholders, internal and external to the organisation. In so doing, the trend of human resource planning is also being focused on employees with the right skills who will help them achieve their objectives. Accountancy professionals and graduates in the field will enhance upon their value and employable skills to meet the changes with ‘Strategic Information Systems’ as part of their final year courses.

Currently, in Ghana, there is widespread skills and literacy in the use of contemporary Information and Communication Technologies (ICT). This is clearly observable in the increasing use of Computers and Mobile technologies in the administration of business concerns. There, however, is a gapping difference between computer literacy and information literacy. The business processes running problems that continue to persist in Ghanaian business concerns despite the widespread ability to use of hardware devices such as PC, Desktops and powerful mobile devices as well as communication media such as the Internet to perform some tasks, shows that IT literacy is not enough to create value. Information literacy is the ability to use the Hardware, software and network technologies to identify your business problems and to create solutions to assist a business organisation to achieve its objectives. Strategic information literacy is the lacking aspect of the square in order for Ghanaian businesses to effectively begin to create value for stakeholders.

Information systems (IS) skills are management skills; therefore, they are not primarily technological as seen above in AIS and partly in E-Commerce. Rather, Information systems include ‘an understanding of strategic and operational business planning and associated IT issues; the ability to perform appropriate analyses of IT investments; and the understanding of IT related benefits and risks; the ability to stimulate and manage **organisational change**; the ability to communicate effectively about IT issues’ (Skidmore, 2002).

Strategic information systems (SIS) module should therefore be fashioned to achieve the following learning outcomes in students:

Broad Expected Learning Outcome	Comment
An understanding of the boundaries of the disciplines of information technology and information system and distinguishing between information technologies the two.	<p>This is a capstone course that encapsulates all nearly all other courses pursued in the accountancy programme. It means that to well appreciate this programme and practicalise it, the student should have had all the necessary knowledge in IT, Management and Accounting in order to appreciate the process of strategic Business planning and hence the ability to understand the need and IT investment requirements that are needful in business planning which is the thrust of Strategic Information systems. The delivery of this should be infused with case studies.</p> <p><i>SIS is therefore, a final year of undergraduate accountancy course.</i></p>
<p>An understanding of the concepts of organisational knowledge and intellectual capital and their relevance to success.</p> <p>An understanding of organisational knowledge creation and knowledge management processes,</p> <p>An understanding of business intelligence systems and tools that is applicable in contemporary business intelligence systems as well as Web technological tools supporting Knowledge management. An understanding of information age and the ethical and legal implications of data collection in knowledge management</p>	
<p>An understanding of Collaboration systems and contemporary technological tools for working in a dispersed work teams. 'Today's organisations are composed of dispersed workforces, outsourced teams and external consultants. The work of these teams is not composed of separate, individual actions, but connected tasks with a desired outcome – any one person or any one function cannot meet today's challenges alone. A group of people who willingly participate and provide their insights to address the increasingly interdependent issues is needed, and collaboration within this group and with other groups is necessary because one person no longer has the answer. More than ever before, the office is losing its position as the default work environment for the majority of enterprise workers. According to Steve's guide to collaboration (2013), 'recent research revealed that 90% of enterprise workers spend some of their time away from the office. The results from one recent study indicate that only 56% of people work at a fixed desk for more than three days each week and 17% don't even come into an office for a full day. People are working in different ways too, increasingly collaborating rather than working alone, and not limited by geographical or time differences between team members'.</p>	
<p>A deep appreciation of:</p> <ul style="list-style-type: none"> • Organisational value creation systems and how it will exploit information technology to achieve these business objectives. • How information technology is linked to 	

achieving cost reduction and differentiation or both for the attainment of operational excellence and competitive advantage.	
--	--

CONTRIBUTION AND RECOMMENDATION

The career plans of accountants and related training systems must be based on a realistic view of the changing nature of accounting, the changing role of the accountancy profession in providing services to business, government and the community at large and the knowledge and skills required for future success as a professional accountant (Leonetti, 2008). Ambitious accounting students and professionals wishing to take advantage of the career development opportunities under the quickly shifting skills requirements of employers and increasing global competition in the job market must have a clear insight into current trends in information technology and information systems and those key employable skills that organisations are demanding.

The researchers opine with Ayebofo (2012) that “there is always the need of Stakeholders of accounting education coming together to make accounting education more relevant to industry. There is a need for accounting practitioners who have been educated in the key aspects of information technology and who can effectively and efficiently satisfy the increasing financial reporting requirements of modern organizations using the power of information technology to get involved in designing the academic curricula of the accountant of tomorrow. The contributions and close collaboration among accounting academicians, professional and practising accountants, financial managers who are faced with the realities of practice and employers cannot be underestimated in the call for reality based design of the curricula of accounting and finance students. It is also wayward to recommend Accounting programme to have advisory boards composed of Practising accountants, Alumni and other industry stakeholders to bring their experience to bear in making accounting syllabus relevant to industry”.

It is hoped that this research paper will be a wakeup call to professional bodies into accountancy training and institutions of higher academic programmes in accountancy to review their syllabi where appropriate to meet the skills requirements of tomorrow’s accounting professionals. This paper will also contribute the impending debate on the issue of the design of the syllabus of accountancy course and add to the available literature.

CONCLUSION

The paradigms of the competence of tomorrow’s accountant have changed due to innovations in Information and Communication Technology and this trend will continue into the foreseeable future. Global employment competition has come to stay. Though stakeholders appreciate this trend they are hardly researching to address the current gap what is taught and what skills are required by employers. Faced with an unacceptable difficulty expressed by the National Accreditation Board (NAB) of Ghana regarding their problem with clarity and distinction between the disciplines of E-Commerce and of Accounting Information Systems (AIS) and proposing one instead of the other in the accountancy curriculum in order to avoid duplication and overlap of transferable knowledge, the researchers are of the fear that if the curricula of the accountant of tomorrow is left in the hands of only academicians to develop, a comprehensive and globally competitive career will continue to elude the accountants of tomorrow in developing countries like Ghana.

REFERENCES

Anomah, S. (2012). Standardising Accounting Information Systems–The Facts and Fads: The Case of Corporate Online Financial Reporting. *International Journal of Social Science Tomorrow*, 1 (10).

- Anomah, S., & Agyabeng, O. (2013). Evaluating internal controls in a computerised works environment—a risk to audit professionals and a challenge to accountancy training providers. *Research Journal of Finance and Accounting*, 4(1), 132-143.
- Ayebofo, B. (2012). The Role of Accounting Educators in Bridging the Gap between Accounting Theory and Accounting Practice. *Research Journal of Finance and Accounting*, 3(10), 111-114.
- Callaghan J. Peacock E. and Savage A. (2001) 'Assessment of an Accounting Information Systems Curriculum: An Analysis of the International Federation of Accountants' International Education Guideline No. 11', *the Review of Accounting Information Systems*, Volume 4, Number 1
- Hall J. A. (2008) 'Accounting Information Systems', Sixth Edition, Cengage Learning, Mason, OH 45040, USA, ISBN-13: 978-0-324-56089-3
- Hurt R. L (2008) 'Accounting information systems, basic concepts and current issues', McGraw Hills.
- IFAC (2013) 'Entry Requirements to Professional Accounting Education Programs (Revised)', <http://www.ifac.org/sites/default/files/publications/files/IES%201%20Final%20February%201%202013.pdf> (accessed on 06 February 2013)
- IFAC, International Education Practice Statement, IEPS 2, Information Technology for Professional Accountants, <http://www.ifac.org/sites/default/files/publications/files/ieps-2-information-technology-1.pdf> (accessed on 18 March 2013)
- Leonetti A., (2006) 'A changing profession? The evolution of accounting roles, skills and career aspirations', http://www2.accaglobal.com/documents/changing_profession.pdf (accessed on 08 March 2013)
- Leonetti A., (2008) 'The coaching and mentoring revolution – is it working?' <http://www2.accaglobal.com/documents/coachingandmentoring.pdf> (accessed on 08 March 2013)
- Mullane J. V., Peters M. H., & Bullington K. E., (2001), "Entrepreneurial firms as suppliers in business-to-business e-commerce", *Management Decision*, Vol. 39 Iss: 5 pp. 388 - 393
- Normann, R., & Ramirez, R. (1993). From value chain to value constellation: designing interactive strategy. *Harvard business review*, 71, 65-65.
- Rouse M. (2005), 'e-commerce (electronic commerce or EC)' <http://searchcio.techtarget.com/definition/e-commerce> (Accessed on 06 March 2013)
- Ray R (2001) 'E-Commerce: Curriculum, Pedagogy, Outlook', University of Louisville.
- Skidmore S, (2002) Information technology in the accounting curriculum, <http://www.accountancy.com.pk/articles.asp?id=34> (accessed on 06 February 2013)
- Swatman, P. M., & Chan, E. S. (2001). eCommerce/eBusiness Education: Pedagogy or New Product Development?. *Readings in E-Commerce*, Springer-Verlag, 177-216.
- Steve (2013), "Steve's Guide to Collaboration, Maximise the effectiveness of collaboration", http://www.ithound.com/research_item/16078 (accessed on 2 February 2013)

Authors email addresses: samanomah@msn.com and aduamoahm@yahoo.com