ACCOUNTANTS AS CHANGE MANAGERS: CAN EDUCATION MEET THE CHALLENGE?

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ABSTRACT

Information technology has already released accountants from the mundane bookkeeping tasks of processing, recording and reporting, and has given them more opportunity to become involved in higher level management tasks. As a result, the accountant has moved from 'financial manager' to 'information manager'. This shift is perceived as consistent with the notion or definition of accounting. Yet a more fundamental change is on the horizon. The International Federation of Accountants (IFAC) (1992) has identified a further shift from 'information manager' to 'change manager'. In this role, the accountant is a long-term strategic planner, a manager of change, who is responsible for planning and managing technology to the greatest advantage for the organisation or client. This development challenges traditional accounting values, and requires a fundamental re-assessment by individual accountants, the profession, educators and educational institutions of their role.

INTRODUCTION

This paper discusses the various phases being encountered by the accounting profession under the pressures emanating from the developments in information technology. Information technology has already released accountants from the mundane bookkeeping tasks of processing, recording and reporting financial information. It has given them opportunities to become involved in higher level management tasks of planning, analysing, and interpreting. As a result, the accountant has moved from 'financial manager' to 'information manager'. With accounting defined in the terms of an economic information system, this shift is perceived as consistent with that notion.

Yet a more fundamental change is on the horizon. The International Federation of Accountants (IFAC) (1992) has identified a further shift

from 'information manager' to 'change manager'. In this role, the accountant is a long-term strategic planner, a manager of change, who is responsible for planning and managing technology to the greatest advantage for their organisation or client. They should be able to determine the need for, and form of, strategic investment in information technology, and be able to manage the associated risks.

This step will be a difficult one to traverse, as it requires the accountant to relocate to a position outside the customary role of accounting. This challenges traditional accounting values, and requires a fundamental re-assessment by individual accountants, the profession, educators and educational institutions, of their role. This position also requires the accountant to possess skills and knowledge in areas not previously emphasised. People skills, entrepreneurial skills, and technological skills are required in addition to the normal accounting and business skills. Traditional accounting courses with a heavy emphasis on business and accounting skills may be now less relevant. To meet the ever-changing demands involved with this role, and the dynamic environment in which it will operate, accounting educators must be prepared to plan strategically for the development of their courses in consultation with the professional bodies, to meet the changing needs of the accounting profession.

METAMORPHOSIS OF THE PROFESSION

The American Accounting Association (AAA) (1986), Collier et al (1990) and the International Federation of Accountants (IFAC) (1992) have identified the trend outlined above. It is likely that this trend will continue and further accelerate. In the 1990s and beyond, it will be the information-based sectors of the economy that will enjoy some of the fastest growth rates. For organisations and individuals that wish to survive and prosper in the 1990s, the use, management and exploitation of information technology will be critical.

AAA (1986) identified the significance of information technology on accounting when they recommended that accounting should be viewed as a broad economic information and distribution process, based on the design, implementation, and operation of multiple types of information systems. It suggested that accounting educators need to maintain competence in information technologies and have the ability to develop comprehensive information systems. IFAC (1992) has suggested that the exploitation of information technology that will occur in the future will cause fundamental transformations to organisational structures and

business activities. The current and future trend is towards the internal integration of technology, which involves organisations exploiting information technology for long-term strategic advantage, rather than just for cost saving purposes. Information technology is both a catalyst for, and product of, business transformations. Thus, information technology becomes a strategic resource and must be considered in a strategic business context, rather than in a limited administrative context. It clearly becomes a key factor for the success of business and the accounting profession in the 1990s.

In discussing the role of the accountant in this process, IFAC (1992) refers to Arnold et al. (1985), who stated that:

> 'The accountant with his training in business will need to actively follow technological developments, identify those appropriate for his organisation or clients and be able to influence key decision makers to take the appropriate action. The effective management of technology requires business rather than technical skills, although an understanding of the role of technology and the ability to make use of technology for his own purpose is essential. The accountant need not be technically expert in IT but should be an expert in applying IT to business... He should have the capacity to formulate a long term business strategy incorporating IT. He should be able to justify the cost of IT and quantify the benefits and assist in the successful implementation of IT by applying his business skills.'

In such an environment, IFAC (1992) sees the accountant as a long-term strategic planner, a 'change manager', who is responsible for planning and managing technology to the greatest advantage for an organisation or client. Accountants should be able to determine the need for, and form of, strategic investment in information technology, and be able to manage the associated risks. They do not have to be technical experts, but need to understand technology so as to utilise it to the best advantage. The role of 'change manager' contrasts greatly with the traditional image of the accountant as being backward-looking, risk averse and slow to move. This new role provides numerous challenges for the profession, individual accountants and accounting educators. Such a shift may require a metamorphosis for the profession and a fundamental re-appraisal of the discipline itself.

The metamorphosis process has already begun. The accountant to some extent has already moved from 'financial manager' to 'information manager'. The developments in information technology have released

accountants from the bookkeeping tasks of processing, recording and reporting primarily financial information. It has given them more opportunity to become involved in the higher level management tasks of planning, interpretation and judgement. The planning and administration of the information requirements of an organisation now require technological understanding and appreciation.

Office procedures and documentation need to be designed to augment computer processing. Knowledge and skills about hardware and software and electronic communication are already required. This step is consistent with the perceived notion or definition of accounting, which views accounting as the process of providing and communicating relevant and reliable information to economic decision-makers.

However, the next step to 'change manager' will be a difficult one to traverse, as it requires the accountant to relocate to a position outside the customary role of accounting. This challenges traditional accounting values, and requires a fundamental re-assessment by accountants of their role. This position also requires the accountant to possess skills and knowledge not previously emphasised. People skills, entrepreneurial skills, and technological skills are required in addition to the normal accounting and business skills. Decision-making, problem-solving, motivation and team-building, verbal and written communication skills are all seen as crucial prerequisites for this role. Furthermore, this reassessment needs to include greater attention by educators to a framework that prepares their students to conceptually anticipate and manage change during their working lives.

At the same time, rapid, dynamic and often unpredictable transformations are taking place in information technology. Developments, especially in the area of microcomputers, make it difficult for even the business information and computer experts to keep up to date with the details of the technological changes, let alone assess efficiently the applications and implications of the technology for organisations. Thus, many business decisions in this area appear *ad hoc* and made without due strategic consideration. Yet in many instances, this is not the case. So rapid are these technological developments, the time lag between planning and implementation is often enough for strategic obsolescence to occur.

This factor compounds the challenge faced by accountants. It is suggested that a shift to an unfamiliar position outside the traditional role of accounting in such a dynamic environment, which offers only further change and continuing uncertainty, would be abhorrent to many

accountants. To be expected to then manage the change would be seen as an absurd suggestion. In such situations, education is often looked to for a solution.

CAN ACCOUNTING EDUCATORS MEET THE CHALLENGE?

The evidence cited below suggests that educational institutions, accounting educators and researchers are struggling with the problems outlined above. Research findings indicate that computers are being used in accountancy courses at tertiary educational institutions. Yet it also indicates that the degree of utilisation and the sophistication of use is restricted, and that there is uncertainty and debate about the educational objectives for their introduction.

Armitage and Boritz (1986) state that the use of computers in university education in general, including accounting, remains at a very low level. Where implementation has taken place, it has usually been accomplished at the individual subject level, not as part of a coordinated departmental approach to skills development. Kent and Linnegar (1988) support these observations. They found that the majority of higher educational institutions in Australia have introduced computers into their accounting curriculum. However, it has occurred mostly in introductory accounting subjects for teaching worksheets and special purpose journals; areas that are not likely to assist teaching and learning. They do not lead students into accounting concepts and problems in ways that are not possible without the computer. This implies that institutions had the objective of finding an application for the computer. Whitman (1989) in a survey of undergraduate courses in the United Kingdom also found that the trend towards more computer use is apparent, but emphasised there was uncertainty over the content, the relative importance of the material and the most appropriate method of delivery.

The stated objectives for the implementation and integration that has taken place are a reaction to the rapid technological changes occurring in the wider business community, or a response to changes in the accreditation requirements of professional associations. Borthick and Clark (1987) suggest that the integration appears to be in response to business and organisational needs. As computing permeates organisations, the success of accounting graduates at all levels will increasingly depend on their ability to use computer resources to accomplish organisational

objectives. Cooper and Leung (1990) cite the information technology requirements for course accreditation by the professional accounting bodies in Australia and the United Kingdom. They suggest that these accreditation requirements are an important factor influencing the introduction of computers into accounting courses.

Apart from professional requirements and vocationally relevant explanations, there appears to be no consistent or widely accepted educational philosophy, framework, or objective for the integration that has taken place. As a result, the responses appear to be technologically-driven rather than educationally-driven. The use of the technology is viewed by many as more important than the learning experiences and desired educational outcomes.

Also, at a more practical level, it has been individuals or small groups of individuals that have been responsible for any changes. To them, the practical day-to-day problems of hardware and software selection, justifying funding, implementing systems, changing people's attitudes and monitoring success or failure are often more important than worrying about the validity and educational justifications for the changes they are implementing. As a result, the extent and method of integration has reflected the preferences, power and influence of the individual or group. These factors may help explain the marked variance in the extent and methods of integration that exist between institutions.

The lack of sound educational objectives for implementation may also explain why much of the research and literature in this area has concentrated on debating the educational justifications, advantages and disadvantages for integrating computers into accounting courses. Bhaskar (1982, 1983) predicted that the increased usage of computers in the curriculum is inevitable, but cautioned that the use of the computer must be properly integrated into a subject with appropriate courseware, and applications should be oriented towards subject matter which is of relevance to the subject as a whole.

Collins (1983) and Er and Ng (1989) questioned the justifications provided for the substantial intensification of computer usage. Collins (1983) argued that there seems little point in teaching students eminently forgettable aspects of systems which they are certain to have to relearn on leaving university, especially if this is at the expense of knowledge much less likely to be readily available outside the education system. Er and Ng (1989) suggested that computing skills are irrelevant to the learning of accounting concepts and that the only compelling reason

for the use of computers in accountancy courses is that accountants need to deal with computer-based accounting information systems and their audit.

Armitage and Boritz (1986) and Cooper and Leung (1990), in outlining the strategies undertaken by their respective institutions for integrating computers into the accounting curriculum, argued that integration must take place. They suggested that the integration should be planned for strategically. Helmi (1986) supported the concept of planning for integration but warned that the main objective is to teach students the theory, concepts and techniques of the subject matter of accounting. As such, a careful balance has to be established between teaching students the mechanics of using the microcomputer and teaching them accounting subjects.

Fundamental to much of the research cited above is the implied assumption that accounting and information technology are two diverse and closed disciplines. The emphasis, intentional or otherwise, has been on the introduction of computers into 'individual subjects' or 'sub-disciplines' within the curriculum. Thus, integration will occur within the rather static environment of a traditional accounting curriculum that offers a well-structured subject breakdown into its sub-disciplines.

This approach contradicts the normal interpretation of the word 'integration'. Integration normally means to synthesise, merge or bring together as a whole, and implies change within each area to accommodate the other. No alternative meaning was elaborated on in the literature, yet it implies that accounting would not change much in the process of integration. As a result of this approach, the major issue then becomes whether the introduction of technology should enhance the learning of accounting skills and knowledge and, more specifically, enhance the skills and knowledge of the particular subject or sub-discipline. Concentration on this approach has diverted attention away from important, and perhaps more fundamental, issues.

Earlier discussion in this paper with reference to the AAA (1986) and IFAC (1992) would suggest that this approach may be erroneous. Clear, well-defined distinctions between the disciplines are no longer possible. Conceptually, it can be argued that accounting and information technology are integral parts of the overall management and economic information system. This system is not closed to external environmental factors and is responsive to internal organisational changes. The artificial boundaries that may have once confined the sub-systems of the management and

economic information system into distinct disciplines, are becoming less definitive and irrelevant.

Accounting and information technology are interdependent and should not be viewed in isolation. Collier et al (1990) support this idea. They suggest that over the last decade accounting and computing have become fully integrated and interdependent. In fact, developments in the late 1980s can be characterised by the absorption of accounting within a global concept of computer-based information systems, and in particular with the increasing recognition given to human factors within that discipline. This means that accounting education, if is to be worthwhile, should take place within an organisational and technological context. Cooper and Leung (1990) suggest that accountants are user-orientated and should be made aware of the environment of the changing commercial and professional world. They should be educated as managers who will identify the validity and importance of business information, make use of modern technology to manage information, and be able to make strategic decisions based on their knowledge and skills.

Accounting educators, therefore, face a difficult challenge in planning for the future. At a time when governments throughout the world are tending to reduce resource provision to education, the demands caused through technological change upon education, and in particular accounting and business education, appear greater than ever. In such an environment, it is not unexpected to find that many educational institutions appear to be having great difficulty. The transition from the concept of 'financial manager' to 'information manager' is difficult enough, quite apart from attempting the further step to 'change manager'.

STRATEGIC PLANNING: ONE SOLUTION

Accounting educators need to adopt strategic planning techniques. The important initial step is to recognise that accounting as a discipline does not exist in isolation from other areas of business. Business, due to the developments in information technology, operates in a dynamic and ever-changing environment. The strategic planning process for accounting courses must involve the establishment of a framework of policies and systems that are responsive to this changing environment. The clarification of a philosophy, and the identification of the long-term goals and objectives for preparing accounting graduates for the 1990s and beyond, must be established.

IFAC (1992) provides assistance. They identify four major skill areas for accountants. These are people skills (communication), business and accounting skills (professional), an understanding of technology (technological), and a vision to recognise opportunities and the drive to implement them (entrepreneurial).

Traditionally, accounting courses have focused heavily on the professional area. In particular, due to the accreditation requirements of professional accounting bodies, the focus has been heavily biased towards accounting skills. Attention to other areas was often seen as an unnecessary diversion of resources and a challenge to traditional structures and values. More time and money spent on communication skills and technological skills means less available for accounting skills.

In planning for the 1990s, IFAC (1992) suggests that accounting educators must address all four skill areas. This should be done on the basis that the areas are complementary to each other, rather than competing for resources. Technological knowledge and professional knowledge should not be viewed in isolation or as separate domains. To apply the knowledge effectively, some emphasis must also be given to communication and entrepreneurial skills. However, the inevitable question is the balance and mix between these areas. IFAC (1992) does not suggest how this balance should be addressed. This decision is perhaps better left to individual institutions. They will vary the priority, weight and balance between areas, depending upon individual circumstances. Factors that will influence the weighting will be the philosophy adopted, and value judgements and decisions made with regard to desired outcome of course; course design and control; knowledge content and skill requirements, and mode of delivery.

As with the skill areas, these factors are also intertwined and interdependent, with the choice in one factor having logical consequences for the selection in another. Therefore, it is important that institutions be aware of the choices available and make consistent decisions with regard to each. Each is briefly described below.

Desired Outcome

The desired outcome of the course is the fundamental pre-requisite, which is heavily dependent upon the philosophy adopted by the institution towards the role of accountants in business. This paper has argued that accountants should be viewed as change managers. In this role, skills not previously emphasised, such as entrepreneurial skills, management skills and people skills will become more important. There will be a continuing emphasis on technology, but it will move from the individual

user-orientated, administrative and cost saving orientation to an organisational, strategic and competitive advantage orientation. Understandably, this philosophy will not be adopted by all institutions. Some may feel that this vision of the future is extreme or misguided. Other institutions may accept the basic premise but not agree with consequences drawn from it. The two extreme outcomes appear to be the strategic planner, change manager role as opposed to the bookkeeping, transaction-processing role. The whole strategic planning process is dependent upon the choice made here. It is important that an outcome goal be set somewhere along this continuum so that an appropriate planning framework can be designed to achieve it.

Course Design and Control

This area refers to the responsibility for the structure of the course and control over the regulations and assessment requirements. The two extreme models here are an external centralised model, as opposed to an internal decentralised model. An external centralised model would exist in a situation where the course was designed and controlled by some external body, such as a professional accountancy body, with the institution being responsible for delivery. The internal, decentralised model would exist when the institution has complete academic autonomy and is not influenced by external bodies. In a situation where the institution accepts an external centralised course, it is also by default accepting that external body's outcome choice.

Knowledge, Content and Skills

The dilemma faced here is one of providing graduates with skills and knowledge that make them immediately employable and productive, versus the view that an emphasis on method, process and problem-solving may be more important, making the graduate less attractive initially, but more flexible for the future. It is often seen as a choice between offering a general, theoretical approach with an emphasis on theory, the total process, with problem-solving, as opposed to a specific, practical approach with an emphasis on technical skills and detailed professional knowledge. Judgements and decisions made in the two factors above should give guidance here. The concept of a change manager would imply an emphasis on the general/theoretical area, whereas the knowledge and skills required by a bookkeeper would be more specific and practical.

Delivery Mode

This refers to how the knowledge and content are presented and conveyed to the students. It is proposed that the two extremes in this area are textbook versus workshop. The textbook mode is seen as inactive

individual learning, as opposed to the workshops that are viewed as active group learning. The active group mode would appear more appropriate in situations where people skills and entrepreneurial skills are emphasised.

These four variables, together with the skill areas, can now be incorporated into a planning framework. **Appendix A** gives an example of a framework for the four alternative course outcomes that have been mentioned in this paper. Change manager, information manager, financial manager and bookkeeper are all analysed, with the objective of determining the best organisational and curriculum control mix to meet the requirements of that particular position. Once established and agreed upon, institutions could use this framework as the reference point and foundation upon which more detailed planning could take place.

CONCLUSION

In many respects, the accountancy profession is under challenge. Many traditional areas of work are disappearing, user expectations of financial statements are rising, and business is becoming increasingly complex and dependent on information technology. If accountants are to make the transition from 'information manager' to 'change manager', accounting educators and educational institutions must be prepared to critically and totally re-examine, with a different perspective, the objectives and structures of their current courses and, if required, set in place appropriate planning techniques that will help them make the transition.

APPENDIX A

SKILL AREAS		Change Manager	Information Manager	Financial Manager	Bookkeeper
	Business/ Accounting	High	High	High	High
	Technology	Medium/ High	Medium/ High	Medium/ Low	Medium/ Low
	People	High	Medium	Medium/ Low	Low
	Entrepreneurial	Medium	Low	Low	Low

PLANNING VARIABLES		Change	Information Manager	Financial Manager	Bookkeeper Manager
	Design/ Control	Strong Decent.	Emphasis on Decent.	Emphasis Cent.	Strong Cent.
	Content/ Knowledge	Strong General	Emphasis on General	Emphasis Technical	Technical
	Delivery Mode	Textbook/ Workshop	Emphasis on Textbook	Textbook	Textbook

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