The Accountant's Role in the IT Environment: A Malaysian Perspective

By:

Aniza Zainol
School of Business and Information Technology, Monash University Malaysia

Akilah Abdullah
School of Accountancy, University Utara Malaysia

Nor Azizi Ismail
School of Accountancy, University Utara Malaysia

Abstract

This paper is specially designed to look into the contemporary role of accountant in the IT environment particularly in Malaysian perspective. Most of the literature suggests that the accountants' response to the computer technology will anticipate changes in their existing roles. The objectives of this study are (1) to indicate the contemporary view of accountant's role in the IT environment, and (2) to what extend does IT influences the existing accountants roles.

During this few years, there were a lot of discussions about the role of accountants. Like many other professions, accounting has been greatly affected by changes in a dynamic environment. Hence, society expects accountants to keep abreast of relevant developments and ensure that professional accountants continue to deal effectively with challenges faced in the profession. The method used in this research is based on an opinion survey of practicing accountants by mailing questionnaires. The results indicates that the accountant's role, particularly in the organization is confronted with a new demand. As most of the accounting process had been computerized, accountants are insisting on becoming involved with business activities. After all, accountants nowadays have to grasp new skills and knowledge to accommodate their roles within organizations.

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1.0 Introduction

During these few years, there was a lot of discussion about the role of accountants. Like many other professions, accounting has been greatly affected by changes in a dynamic global environment. Hence, society expects accountants to keep abreast of relevant developments and ensure that professional accountants continue to deal effectively with challenges faced in the profession.

In 1994, the International Federation of Accountants (IFAC) clearly highlights the impact of information technology (IT) on the education and work of professional accountants. Generally, the report indicates where information technologies are affecting the way in which organizations operate. And, of course, information technologies are also changing the nature and economics of accounting activity.

IT is rapidly changing the global business environment. It has altering not only the way business is conduct, but also the way information is accessed. The present and future accountants are facing with a major challenge in response to the impact of development in IT. Hence, accountants must be able to deal with the pace of change and able to manage change itself by capitalizing on the opportunities and recognize real and potential threats.

The changes in the business environment and ongoing developments in IT are significantly impacting the role of accountants. Undoubtedly that the role of accountants are beyond then their traditional roles. Rather than being the greatest “bookkeeper” for the last few decades, accountants are expecting to offer business advises and communicate complex financial information in non-technical terms.

This research is specially designed to look into the contemporary role of accountant in the IT environment particularly in Malaysian perspective. Most of the research suggests that the accountants’ response to the computer technology will anticipate changes in their existing roles. The objectives of this study are (1) to indicate the contemporary view of accountant’s role in the IT environment, and (2) to what extent does IT influences the existing accountants roles.
2.0 Background

Technology has played a major role in facilitating human activities. Williams (1991) views technology as a support or facilitator for human problems. Apparently, technology is a way of life, concerned with how people organize things to reduce human problems and fulfill their needs. In general, for instance, the computer technology is designed to understand and assist everyday work. Like many fields, accounting has been greatly affected by the technology. Most of the accounting literature foresees numerous changes in the accountant’s role in the 1990’s especially in the effect of technology to their existing and future roles.

2.1 The Accountant’s Role

Looking back into the history, the role of accountant develops hand-in-hand with the changes in business environment. Since the introduction of the double entry bookkeeping principles by Luca Pacioli in 1494, the accountant role had been the central issues in accommodating the changes in the business environment.

When time goes on, a new pattern of economic activity exists in the business environment. The nature of modern organization has changed dramatically; hence the accountant is also forced to response to these changes. For instance, the information economy has forced most of the organizations to react to their unlimited needs. Monk (1990) emphasizes where the information economy is concerned with the production of information rather than the production of goods and services. The current changes have created a dynamic business environment where people are being forced to adapt and adopt those changes in dealing with existing and future business environment.

During the previous years, many researchers foresee numerous changes in the accountant’s role due the rapid development in IT. In discussing the anticipated changes in the accountant’s role, it is significant to draw a time line as according to a very rapid development in technology. However, the expected differences in their trends will depend on the continuous development of modern and latest technology. Based on the findings, we are going to divide the discussion into two stages:
a. trend of research done in 1980s
b. trend of research done in 1990s

a. Trend of research done in 1980s

Since 1980s, accounting literature has emphasized on a dominant role of computer-based information system within the organization. The new patterns of organization were expected to emerge from the impact of computer technology in the business environment. For instance, Carr (1985) asserts that the computer technology is an integral part of the office-based work where manual activities have shifted to machine-based works. As response to these situations, most of the research findings indicate that the accountants would be technically oriented in the 1990s.

b. Trend of research done in 1990s

In 1990s, the rapid growth of the information technologies has influenced the expectation of accountants' roles. Williams (1991) suggests that in 1990s, the accounting systems would be fully integrated into the organization's information systems. Therefore, the accountant would be more interested in the wider discipline of the information technology which emphasizes IT in the context or organizational issues, system designs, economic issues and so on. Moreover, Zainol (1995) suggests the scenario where accountants in the 1990s face a new role. Rather than being a bean counter, accountants are people with big ideas and business acumen. They are business advisors and part of management teams running the business.

The tremendous development of IT in the business environment has affected the way accounting being operated. These changes have made the businesses are more keen of accountants to go beyond their traditional roles. They are expecting to have the ability to offer sound business advice and communicate complex financial information in the non-
technical terms. (Maria, 1998). Hence, Maria (1998) has suggested the new trend of expectation for professional accountants — someone with broad business knowledge and solid verbal and written competencies. Corrigan (1997) has highlighted where accountants are breaking out of their traditional mould as the "number cruncher" to the "in-house business advisor". It is a fact of life where accountants are facing with the changes that will affect their roles in the organizations and their clients. A fundamental shift towards a wide-ranging advisor role where accountants are now seeing their roles as information facilitators rather than information providers. Their roles are to facilitate management decision making rather than evaluating and controlling them. Hence, he had suggested a few growth areas for the future such as:

a. strategic and business planning, customer profitability and management, revenue generation strategies, and cost management
b. information management
c. competitive intelligence
d. productivity improvements, and
e. cash flow maximization

By looking into the recent changes, Corrigan (1997) suggests that the future direction for accountants is to reposition and retool themselves as business managers rather than financial technicians. If they do not want to adapt and compete, they will be kept out to play a minor role in the organisation.

A broaden job description has generally shifted the accounting functions. Rather than being the number cruncher, the bookkeeper and undertakings routine compliance functions, they are more involved in the line operations and decision making. A survey that was conducted by the Robert Half international in US confirms that 71% of executives believed that accountants in the past five years have become more critical to overall operations. Furthermore, the survey highlight the situation where the future demand will be for accountants who are skilled strategists and team players who will contribute a forward thinking perspective.
It has come to play such a significant role in accounting that, in many ways, it now seems part of the professional development. As software programs make traditional processing functions more efficient, accountants are assuming to more efficiently process and analyze complex financial data.

2.2 The Role of IT in Malaysia

Looking back, Malaysia has undergone a very rapid economic growth since the 1970s and this growth is expected to continue into this new decade. As being addressed by Navaratnam (1999), Malaysia is one of the most advanced countries in the Third World and has gone through rapid structural changes since it’s Independence in 1957.

In the recent years, there has been a dramatically changes in the Malaysian economy, especially in the wake of the economic crisis. Although Malaysia has survived the financial crisis at the end of 1990s by introducing the selective control measures, it is essential that we remain on the strong economic fundamentals and increasing internal strength and resilience in our economy.

IT has introduced a new dimension in the Malaysian economy. As a developing country, Malaysia has gained benefits from the government’s strategy for investing and building up IT’s infrastructures to attract foreign investors. Consequently, the country saw an enormous growth of the electronic industry. No doubt the industry has made the largest contribution to the country’s economic growth in these recent years.

Additionally, the industry has promoted a greater use of IT to fulfill every business need. Until the end of 1980s, the country saw a wide-scale application of IT in every business and industry. Shariffdeen (1994) asserts that the country has acquired generally most modern hardware and software systems with a projected market size of RM1.94 billion in 1992. It was considered as the up most score according to the developing countries standards.
The Prime Minister’s inspiration in Vision 2020 for a fully developed country needs further contributions of IT. Since the Vision focuses on human development, IT would provide a strong foundation towards an information-rich society. Shariffdeen (1994) points out where IT would facilitate the Prime Minister’s vision of a developed Malaysian in year 2020 by:

i. making information and knowledge available to the people, by the people and for the people
ii. creating new ways of performing traditional functions more effectively, and
iii. improving the social values with better information and knowledge.

Despite the fact that IT is increasingly play a very important role in the Malaysian society, the level of computer literacy is very much considered as far behind advanced countries. According to the Economic Report, 1998/1999, with regards to computer usage in Malaysia, it was reported that there were 65 computers per 1,000 people in Malaysia in 1997. However the figures were estimating to increase accordingly to the recent needs.

However, as being mentioned in the Economic Report, the government is making a tremendous approach to improve the level of IT literacy by adopting three agendas — to promote IT literacy in schools, to improve IT literacy in the work places and to increase IT awareness among the population.

2.3 Accounting Profession in Malaysia

The accountancy profession in Malaysia has a very long and interesting history. The first attempt by the government to monitor the progress of the accounting profession was made through the establishment of the Accountants Act in 1967. The initiative was seen as when the government realizes that it was not healthy to let the profession growth without proper guidelines and regulations.
The role of accountants in Malaysia grows significantly the changes in the global role of accountants. Even though before the Accountants Act, 1967, most of the accountants received their professional training overseas and indirectly there are obliged under their registered professional accountancy bodies.

As the tremendous changes in the Malaysian economy as well as the needs of business environment, the role of accountants in Malaysia is getting under lots of pressures. If MIA is responsible to promote the profession, several rules and regulations also being implemented by the Government and other related agencies to increase the public confidence in the credibility of the financial information published.

Analyzing the current scenario, no doubts that the role of accountants has also being reacted to the changes bought by IT. With this in mind MIA in particular has keep on remaining their members about the challenge of IT in the new working environment.
3.0 Methodology

This study utilizes survey documents, based on an opinion survey of practicing accountants by mailing questionnaires. A structured questionnaire was developed to approach the selected respondents with the objectives of indicating the contemporary view of the accountant's role and highlighting the possible opportunities for the accountants to play a wider role in the information-rich society. The questionnaire consists of four sections: the individual and company background, the accounting process activities, and the end-process activities and general opinions.

A sample of 350 from 1064 companies listed in the 1998 Federation of Malaysian Manufacturers (FMM) was selected for this study. The rational behind the decision of choosing Malaysian Manufacturers was basically to portray the most highly sector that contributes to the Malaysian economic growth. As being reported in the Malaysian Economic Report, manufacturing sectors are and will be considered as the most highly contributor in the past, present and future economic growth of Malaysia.

The companies were selected randomly to represent the whole classification of industry groups based on products manufactured or services provided as to International Standard Industrial Classification (ISIC) Codes. The sample contains two sizes — Large Scale Industry (LSI) and Small and Medium Scale Industry (SMI). In general, the LSI are companies with more than 150 employees and with annual sales of more than RM25 million, meanwhile the SMI are companies with or less than 150 employees and with annual sales of RM25 million or less.
4.0 Results

Within 2 months, 75 responses were obtained with the total useful response rate of 21.43%. Generally, the analysis employs a descriptive statistic, which involve presentation of frequencies and relative frequencies without involving any tests. A general assessment of internal validity was evaluated in the questionnaire by comparing responses of the respondents’ different industrial backgrounds with questions concerning the use of computer in the accounting process activities. These comparisons suggested the respondents were consistent in their answers according to their industrial background.

The wave analysis was set up to determine the similarities of the selected respondents. Ten of the early responses were compared with the ten of the late responses, and both groups seemed to have almost synonymous responses. Only questionnaires, which were fully completed, were used in the analysis. The analysis of responses focused on the computer-based accounting systems, which were perceived by respondents to be, influenced their working their working environments. Perceptions of deficiencies in the computer skills were also examined, and comparisons were made to determine the level of computer usage in the accounting process.

4.1 Findings

The survey results are presented in five sections: first, the computer-based accounting environment, second, the accounting process activity, third, the accountants’ attitudes and expectations of the computer technology, then the end-process activity and finally the General opinion: their roles in the computerized environment.

a. Computer-based accounting environment

It is clearly showed that the accountants are working within the computer-based accounting environment. The result shows that 93% of the respondents were involved in computerized environment. At most, it seems that nowadays accountant in Malaysia are definitely involved in the computer-based environment. While the survey is expected the favorable results of
accountants' involvement in computer-based environment, it was also not surprising to discover that most of the packages in the computer-based accounting systems were bought from outside vendors (74.3%). Very few were developed internally (11.4%) and internally developed with outside consultant (14.3%).

Table 1: Respondents within computer-based accounting systems

<table>
<thead>
<tr>
<th>Computer-based accounting systems</th>
<th>All respondents (n=75)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>93%</td>
</tr>
<tr>
<td>No</td>
<td>7%</td>
</tr>
</tbody>
</table>

Table 2: Types of Computerised Accounting Software

<table>
<thead>
<tr>
<th>Types of software</th>
<th>All respondents (n=70)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internally developed</td>
<td>11.4%</td>
</tr>
<tr>
<td>Internally developed with outside consultants</td>
<td>14.3%</td>
</tr>
<tr>
<td>Outside vendors</td>
<td>74.3%</td>
</tr>
</tbody>
</table>

Interestingly, the most popular application among the accountants is the spreadsheet as revealed by the survey. The accountants disclose that they make full use of the spreadsheet rather than other applications to perform most of their jobs. Accounting applications (84.3%), word-processing (85.6%), database application (32.9%) and statistical application (8.6%) were other applications used by the accountants.

Table 3: The application programs used by accountants

<table>
<thead>
<tr>
<th>Type of packages (n=70)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spreadsheet</td>
<td>90.0</td>
</tr>
<tr>
<td>Word-processing</td>
<td>85.7</td>
</tr>
<tr>
<td>Accounting software</td>
<td>84.3</td>
</tr>
<tr>
<td>Database software</td>
<td>32.9</td>
</tr>
<tr>
<td>Statistical software</td>
<td>5.7</td>
</tr>
</tbody>
</table>
It is not bias to claim that from the survey, it seems that nowadays accountants are definitely involved in the computer-based environment. Almost every organization, whatever type of industry they are, has already been computerized with a majority of the software obtained from the packages available on the market. Not surprisingly, it appears to be that the spreadsheet has been commonly used to assist the accountant's job in preference to accounting and databases applications.

b. The accounting process activity

Due to the above situation, the result of this section seems favorable. The survey shows that almost the entire journals, ledgers, trial balances and financial statements are generated by computer technology. In responding to the result, the survey seems to indicate that changes in the accounting environment caused by information technology is dominating the accounting procedures.

<table>
<thead>
<tr>
<th>Table 4: The proportion of ledgers, journals, trial balances and financial statements prepared by accountants in a computerized environment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manually</strong></td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Ledgers and Journals (n=70)</td>
</tr>
<tr>
<td>Trial Balances and Financial Statements (n=70)</td>
</tr>
</tbody>
</table>

c. The accountants' attitudes and expectations of the computer technology

Generally, computer technology acts as a tool to assist accountants in performing their job competently. Furthermore, the survey looks into the accountants' attitudes and expectations towards computer technology. In addition to computerizing the ledgers, journals, trial
balances and financial statements, other accounting procedures are also being computerized. The finding illustrates that 75% of the respondents believe that computers are capable of performing the entire accounting procedures.

Table 5: Accountants' Opinion: Computerising the entire accounting system

<table>
<thead>
<tr>
<th>Any accounting procedures that cannot be computerized</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n=70)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>21.4</td>
</tr>
<tr>
<td>No</td>
<td>78.6</td>
</tr>
</tbody>
</table>

The accountants' expectations are judged from how the respondents rate the role of computers in the accounting process, either "agree", "fair", or "disagree". The survey classifies the accountants' opinion into four different segments — posting, filing systems, data management and data accessibility.

Responses show quite clearly that computer technology requires less duplication procedures with fewer errors in the accounting process. In the survey, 75.7% of the respondent agreed that computer technology creates fewer mistakes and that these are fewer tedious checking activities than in manual posting. Nevertheless, 24.7% of the respondents chose "fair" because basically errors still occur in the electronic environment because it is subject to the program malfunctions. Essentially, a basic clerical activity is still necessary to monitor the posting process because computer technology does not prevent errors, it only prevent inconsistencies in the posting activities.

Analysis of the result show that 80% of the respondents "agree" that the computerized filing system is assessable, manageable and secured compared with the manual filing system. In spite of this, 17.1% of the respondents stated "fair" and 2.9% "disagree", and they raised a few issues in the computerized filing systems. Since computers activate the system, the respondents feel that the system is subject to the capabilities of the packages installed in the computer system. Moreover, the respondents refer to the storage sizes of the computerized filing outputs. In fact, the computerized filing system produces a huge amount of reports and
more space is needed to store these reports. Besides, it also incurs a related cost due to these huge amounts of reports.

Furthermore, the survey shows that 94.3% of the respondents agree that the concept of data management through the master files make their works easier. Not surprisingly, 90% of the respondents "agree" that data is easy to access, retrieve and amend in the computerized system. Basically, they feel that computer technology is capable of adding, formulation and sorting the financial data according to accountants' needs, where errors could be corrected and manipulated according to the users' needs. Nevertheless, 10% of the respondents choose "fair" because they feel that sometimes the computer systems seem too easy when everybody is entitled to get access to the system especially in the network system.

Table 6: Accountants' Opinions - computer technology compared with manual activities

<table>
<thead>
<tr>
<th>Issues</th>
<th>Agree</th>
<th>Fair</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posting — less duplication and fewer errors</td>
<td>75.7</td>
<td>24.3</td>
<td>0</td>
</tr>
<tr>
<td>Filing — manageable and secured filing systems</td>
<td>80</td>
<td>17.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Data management — master files make computer based accounting systems easier to use</td>
<td>94.3</td>
<td>5.7</td>
<td>0</td>
</tr>
<tr>
<td>Accessibility — data is easy to access, retrieve and amend</td>
<td>90</td>
<td>10</td>
<td>0</td>
</tr>
</tbody>
</table>

d. The end-process activity

95.7% of the respondents prepare the internal reports. Not surprisingly, most of the internal reports' prepared by the accountants are concerned with financial and statistical analysis such as financial statements and budget analysis. Moreover, the survey shows that most of the
respondents prepare their internal reports monthly (60.3%), weekly (22.1%) and daily (7.4%).

Table 7: Number of accountants involved in producing internal reports

<table>
<thead>
<tr>
<th>Prepare internal reports (n=70)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>95.7</td>
</tr>
<tr>
<td>No</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Another interesting point raised by the survey is that accountants are also involved with the growth of end-user computing concept. As Table 10 indicates, 52.2% of the respondents prepare their internal reports by manipulating data through the centralized databases. Furthermore, the survey shows that 73.3% of the respondents agree that their reports are more precise and reliable than they would be if they depended on an information specialist. However, 26.7% of the respondents believe that it is more convenient to rely on an information specialist.

Table 8: Types of internal reports prepared by accountants

<table>
<thead>
<tr>
<th>Types of internal report (n=67)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial analysis such as financial statements</td>
<td>95.5*</td>
</tr>
<tr>
<td>Statistical analysis such as sales and budget analysis</td>
<td>89.5*</td>
</tr>
<tr>
<td>Others</td>
<td>4.4*</td>
</tr>
</tbody>
</table>

* take note that the respondents are given a choice to tick more than one

Table 9: Frequency of accounting internal reports prepared by accountants

<table>
<thead>
<tr>
<th>Frequency (n=67)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost daily</td>
<td>7.4</td>
</tr>
<tr>
<td>Monthly</td>
<td>60.3</td>
</tr>
<tr>
<td>Weekly</td>
<td>21.1</td>
</tr>
</tbody>
</table>


Table 10: The tools used by accountants to prepare internal reports

<table>
<thead>
<tr>
<th></th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manipulating from centralized database</td>
<td>52.2</td>
<td>47.8</td>
</tr>
<tr>
<td>(n = 87)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faster and more accurate than relying</td>
<td>73.3</td>
<td>26.7</td>
</tr>
<tr>
<td>on an information specialist (n = 35)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(e. General opinion: their roles in the computerized environment)

Finally, the respondents were asked about their opinions on several issues regarding their roles in the computerized accounting environment. From the survey, it would seem that accountants acknowledge the fact that IT has had an impact on their roles in the organization. 77.1% of the respondents do not feel that the recent electronic data processing has taken over the roles of accountants in the accounting processes. Furthermore, 84.3% of the respondents do not regard computer technology as a threat to their profession.

Table 11: Accountant's general opinion — computer as a threat to their profession

<table>
<thead>
<tr>
<th>Issues (n = 70)</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think that recent electronic data processing has taken over the role</td>
<td>22.9</td>
<td>77.1</td>
</tr>
<tr>
<td>of accountants in the accounting process?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you believe computer technology has become a threat to accounting</td>
<td>15.7</td>
<td>84.3</td>
</tr>
<tr>
<td>profession?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 12: Accountant’s general opinion

<table>
<thead>
<tr>
<th>Issues (n = 70)</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think the accountant role has changed in the last few years?</td>
<td>55.4</td>
<td>44.6</td>
</tr>
<tr>
<td>Do you agree that an accountant is someone who records, classify and summarises business transactions</td>
<td>30.7</td>
<td>69.3</td>
</tr>
<tr>
<td>Do you think that, nowadays, an accountant’s job is only to describe and communicate events that will affect the financial position of the business activity</td>
<td>22.7</td>
<td>77.3</td>
</tr>
</tbody>
</table>

Table 12 indicates the way accountants portray their roles in the computerized working environment. Most of the respondents (55.4%) admit that accountant’s role has changed in the last few years. Hence, 69.3% of the respondents feel that they are no longer involved in recording, classifying and summarizing business transactions. Furthermore, the respondents believe that they are not only describe and communicate events that will affect the financial position of the business.

Among the comments given in the questionnaires, the respondents believe that their roles have change according to the changes in IT development. Most of them are being involved in the decision-making processes, strategic planning and management controls rather than being the greatest “bookkeeper” within the organization. The statement – an accountant is someone who records, classifies and summarises business transactions, could be considered in adequate to define accountants roles.

Above all, the questionnaire stimulates the general ideas that the accounting environment, particularly in Malaysia is facing a new era in the 21st Century. The revolution of computer technology seems to dominate the accounting process and most of the respondents feel that they
do not 'do accounts' anymore but make extensive use of the financial information system by providing a greater degree of consultancy to management for decision making process.

4.2 Summary and Conclusion

The research findings had demonstrated that most of the people in the profession believe their roles have gone through a very tremendous change due to the development in technologies and business environment. These days, the revolution in technologies showed that computers had monopolized the work of accountants in the organisations. Most of the accounting literatures foresee their impacts on the nature and scope of accounting. Gautier and Underdown (1992) has emphasis where experts in cognate areas, such as system analysts, computer programmers and operational research specialists, are invading the traditional accounting areas. They are bringing new knowledge and different skills. And hence as a result, the traditional status and role of accountant has changing accordingly to meet this situation.

The modern technological development has enabled the accountant to provide relevant information effectively. The results of this study indicate that, several benefits are emerging out of the current situation. There are:

1. The use of accounting software has tremendously assisted the accountants in handling the double entry bookkeeping principle. It has significantly reduced their works, times and efforts in preparing journals, ledgers, trial balances and financial statement.

2. No doubts that the greater accuracy of information provided, resulting directly from the reduction of duplication activities. In general, a computer technology has make the data processing activities require less duplication and therefore create fewer errors that the manual posting activities.

3. When the concept of centralization of data being adopted widely in the computerized environment, it has made the information easier to use rather than manual journal and ledger books. The use of general ledger master files have made the data easy to access, retrieve and amend in the computerized accounting system.
4. Furthermore, the technology also being perceived as a tool to prove a more accessible, manageable and secured filing system compared to the manual filing systems.

As the conclusion, technologies have been perceived as a tool in assisting the accountants to play their roles in the current business environment. When pressures for accountants to provide relevant information for decision-making, the computer technology is being used to assist them in identifying, classifying and summarizing those information. Furthermore, the computer technology has made possible for the merger of accounting and non-accounting information, leading to the integration of information services, and reduction in duplication and hence the information costs.

In using the user application programs, spreadsheet has being considered as the most popular programs for accountants. It is not surprised since spreadsheet is able to analyze both financial and non-financial data simultaneously. Another interesting point raised by the survey is that accountants are seriously involved in preparing financial analysis reports rather than the financial statements. They are also being involved in preparing internal reports to assist management on day-to-day basis.

As we are referring to the computerized environment, the accountants are taking the changes rationally. The accountant addressed the importance and benefits of computer technology and importantly, they have reacted to the changes. As though, they believe that most of the accounting procedures will be computerized in the future but they did not consider those changes as a threat to accounting profession. The changes and challenges bought by computer technology must be administered carefully in bringing their benefits to improve the accountant role in the new working environment. Hence, they believe that their roles will be more effective in analyzing and interpreting the financial information. They considered themselves as involving in decision-making, strategic management and management controls.
5.0 Conclusion and Recommendations

In general, the role of accountants in Malaysia has changed accordingly to the global expected changes of the accountant's role in the new business environment. This is expected result as the Malaysian government in the very first place has taken a significant approach in identifying and addressing the issues of technological development in enhancing the overall economic growth.

No doubts that the role of the accountant has definitely changed over the years. In most of the cases, the accounting literature in the 1980s and 1990s had foreseen the impact of computer technology on the existing accountant's role. When considering the development of information technology in the current business environment, it is fair to say that most of the communication, both inside and across the organization is monopolized by advanced technology. For instance, emails have become an important medium of communication. In addition, the Internet has been around for many years and widely used within business.

It is inaccurate to say that computer technology is 100% reliable. The criterion for determining whether computer systems are easy to access, retrieve and amend depends on the people around these systems. Computer systems are accessible and manageable as long as people know how to use them. New skills and knowledge are required to manage computerized systems, therefore, computer technology creates a new challenge for the accountant's skills and they are obliged to learn new skills in order to meet these changes. Training becomes a very essential element in producing quality staff to initiate computerized activities.

The ability of computer technology to undertake the routine aspects of the accounting process has probably affected the existing accountant's role. Not surprisingly, the general use of the accounting software is similar to the use of the double-entry bookkeeping. Where the accounting process is concerned, the technology has taken over the accountant's role in accumulating and generating accounting information in the electronic environment in a similar way to the manual process.

Today, being an accountant is no longer enough. Accountants are dealing with less historic data and have been transformed into business people as a result of becoming more involved in forecasting.
projecting and providing information. As a matter of fact, the accountant's role is more than merely recording, classifying and summarizing business transactions. The accountant's image of number crunching has just about disappeared and a new image has emerged that reflects the ability to generate 'added value' information by applying business knowledge.

The accountant has started to focus on interpreting and using accounting data to give advice on how to run the business. They spend less time in obtaining the figures and concentrate more on analyzing these figures for the business' decision making. There is no doubt that accountants are moving from the passive role of determining business profit to being more active in the running of the business.

Previously, accountants only dealt with transactions without knowing what was happening in the business, but now many accountants have become involved with commercial transactions as well as financial transactions such as buying, merchandising and selling activities, which are sometimes nothing to do with finance and accounting at all. Nowadays, as more and more accountants decide to join management line, accountants in business are involved in every aspect of running the business.

Today, accountants are people with big ideas and keen business acumen. They should have the ability to make good and quick business decisions. They are no longer people who record, classify and summarise business transactions. They are business advisers and part of management teams running the business.

As the reality of the nature and work of accountants have change dramatically as reacting to technological development, several issues must be addressed by the profession and other related agencies in Malaysia. When the needs of accountant to be involve in other field such as business strategy, information systems and business decision-making, the profession must ensure that the education and work of professional accountants are considering these recent implications.
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