

The Impact of Information Technology on Accounting Scope in Iran

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Abstract: The aim of this study is the impact of role of information technology in accounting scope in Iran. So, we provided the questionnaires. The results of paper show that information technology causes to decrease book keeping. Also, it causes to increase accuracy in accounting process, to shorten the time of providing reports, to decrease cost of gathering information, to improve reports in management accounting and to provide a background for executing techniques of costing. Information technology has affected on accountants they need to acquire new skills like as applied software's of accounting, excel and access. Also as decreasing book keeping and saving time of accountants, their participation was increased in the processes of planning, analyzing management. Therefore, in according to mentioned results, it can be stated that if using information technology, it will be provided the better background for improving accounting profession and role-creating more suitable accountants in organizations.

Key words: Information Technology • Bookkeeping • Accounting Process • Reporting

INTRODUCTION

Almost all evaluative studies have tried to identify the benefits of IT use. These include profit increase, cost reduction or displacement, time savings, improved information, professional performance, staff satisfaction, reliability, speedy data transfer, strengthening competitive position and better or new client services. However, most studies do not distinguish between potential and actual benefits. Thus, in spite of the benefits identified, Carr [1] finds that large organizations are sceptical about IT gains while small firms do not bother to quantify benefits. The above studies are useful in bringing IT-related issues into focus and increasing awareness of opportunities and threats. Perhaps more importantly their recommendations influence the actions of accountants. For example, IT knowledge is now a part of examinations for professional qualifications. A major advantage of the studies is that they touch on human and social issues. However, they neglect users of accounting information, the organizational environment and external reporting. It may be that they focus too much on accountants [2].

Most studies suffer from other weaknesses. First, their findings are descriptive (characterized by univariate analysis) and they fail to obtain dynamic data. Although Carr [1,3] attempts to overcome this by undertaking two pieces of research at different times, the coherence is questionable given the loosely defined research objectives. Second, with the exception of Clark and Cooper [4], they over-simplified the relationship between IT and accounting. They usually deal with a one-way impact or relationship, i.e. IT impact on accounting, neglecting the possibility that this may be influenced by factors including accounting itself. Moreover, most studies take too simple an approach to data analysis, lack rigorous statistical tests or sufficient data. Finally, these studies lack theoretical guidance. None attempts to devise a theoretical framework. They largely ignore existing accounting knowledge such as positive accounting theory and agency theory. Although the studies by Clark and Cooper [4] and Carr [1,3] consider some conditional factors, they are largely intuitive. This is understandable because most studies, sponsored by professional bodies, were expected to find solutions to practical problems

rather than contribute to theoretical development. Some problems were, however, identified and addressed by King *et al.* [5]. Their research focuses on management accountants in industrial organizations, aiming to discern whether IT changes the nature of accounting, affects activities and influences role relationships. It adopts a longitudinal case study approach by visiting companies twice, so that the dynamic nature of IT development and its impact can be accommodated. It also follows a more rigid research process by formulating research questions and deriving and testing hypotheses. Further, it was guided by a conceptual framework consisting of a social interactionist perspective which sees people as a central feature in organizations, a pluralist approach which accommodates both conflict and harmonization, as opposed to a unitarist or radical approach and a managerialist view which believes that management has the right to determine objectives and manage to achieve them.

However, although this research has many advantages, it is limited when it comes to generalizing the findings due to the case study approach. Some methodological problems might be alleviated by theoretical endeavour.

For example, a major problem is portraying the dynamic nature of the impact of IT, given the fact that IT develops so fast. The general approach has been an attempt to conduct studies at intervals [2]. However, the effectiveness is doubtful if they are conducted on an ad hoc basis. It is difficult to perceive that the findings from different studies are integrative in any sensible way. A better approach is to organize the studies under a theory so that findings can be generalized and the knowledge derived used to predict future as well as current impacts.

A number of empirical studies have been undertaken, most since the early 1980's. The dominant focus has been the impact of IT on individual accountants and the profession, reflecting an increased interest in human and social issues. The aim has been to evaluate IT-made opportunities and threats and to make recommendations. Although a range of topics have been covered, three appear dominant: the use of IT in accounting; the effects of IT use on accountants, accounting function and accounting firms; and the benefits of IT use.

IT is widely used to share information and coordinate business resources such as physical resources, managerial expertise, technical knowledge and market information across multiple markets [6-8]. By lowering the costs of sharing information and coordinating business

resources, IT can enable scope economies and efficient utilization of business resources across multiple markets. When firms diversify into related business lines by sharing business resources and knowledge, scope economies inherent in these resources are often not realized due to the costs of coordinating these resources in multiple markets [9]. Because IT provides better means of coordination across multiple markets, firms pursuing related diversification may require increased IT investment [10,11]. By the same reasoning, increased IT investment may facilitate diversification, particularly related diversification. A firm's IT investment can be the cause or the effect of its diversification. In other words, IT can complement a firm's diversification strategy or vice versa.

By focusing on the economic benefits of diversification that can be leveraged by IT, this research undertakes an empirical study of the impact of IT on the financial performance resulting from diversification by considering the strategic direction chosen by different firms. The empirical aspects of this subject have received little attention from previous IS and economics research. This study employs multiple diversification indexes to measure the strategic direction in order to increase the robustness of the empirical analysis.

IT Use in Accounting: Accounting has always been a front-runner in IT use. Carr [3] notes that basic accounting systems were the first areas computerized and the analytical aspects of accounting acquired increasing support from financial modelling packages which became available in the 1970's. The use of IT has now become all pervasive. Clark and Cooper [4] find all but the smallest business has computerized accounting systems and that other functions depend on IT. Though IT is extensively used, the quality and mode of use is not always satisfactory. King, Lee, Piper and Whittaker [5] observe from industrial companies that: IT made book-keeping more comprehensive, accurate, timely and frequent, although IT did not help produce more focused and tailored information; IT saved time in book-keeping, but this was absorbed by growth; the pace of systems integration is slow, though increasing; IT is largely used to computerize existing systems; limited evidence shows that IT supports decision making and this by proactive accountants; and there is limited evidence that IT gives greater access to and wider dissemination of information. Carr [1] finds that ill-defined systems requirements remained the major reason for IT failure. In small firms,

there is a shortage of IT skills and IT development strategy, a reluctance to train and involve staff and to quantify benefit. Paradoxically, although large firms gained rapid growth in IT consultancy, they lack internal expertise and are skeptical of benefits.

Barras and Swann [12] find that the accounting profession is slow in adopting IT due to accountants' propensity to look at the bottom line benefits, a reluctance to accept that accounting craft is capable of being automated, unsuitable technology and firms' failure to search for alternative accounting methods more suitable for computer techniques. Carr [3] observes that accountants in industry and commerce made more use of IT than those in accounting firms. Wilson and Sangster [13] attribute this to the nature of the tasks: accounting tasks in industry are more algorithmic while those in accounting firms require more judgement and processing of qualitative information.

Hypotheses: According to research goals, Research hypotheses are as following:

- H1:** IT causes ellipsis or reduction of bookkeeping.
- H2:** IT can help the improvement of the report of Management accounting research.
- H3:** IT provides the bookkeeping for application of costing techniques.
- H4:** Accountants need to acquire new skills with the help of IT.
- H5:** Since IT causes ellipsis or reduction of bookkeeping and contribute in the process of decision making and also analysis of information, accountants can save their time
- H6:** IT causes the reduction of costs which are related to collecting information.
- H7:** Whith the help of IT reduces time of production report.
- H8:** The accuracy in accounting process becomes better whith the help of IT.

Research Method: This research is the kind of inductive research. In other words it is a kind of survey study. The intruments of this research are questionnaire and

interview. The participants of this research are financial managers, accountant generals and accountants of Khorasan-e-Razavi.

In order to estimate of sample size, 20questionnaire are distributed and the standard deviation equals 44.

In this research, sample size is calculated according to Kokoran formuha. As a result, in this research 74 sample whit %95 degree of certainty and less. /1 degree of error, so we can have the following formula;

$$n = \frac{t^2 s^2}{d^2} = \frac{1.96^2 \times 0.44^2}{0.1^2} = 74$$

For constructing the questionnaire Likert Scale is used. This scale is divided to 5 equal parts and the researchers use the multiple choice kind of questionnaire for the participants. The scale contains from strongly agree to strongly disagree. The reliability of questionnaire is %87.

In order to test reliability or questionnaire we use Alfa test (Cronbach) and also for testing the hypothesis are use the mean test and the formula is as following.

$$Z = \frac{\bar{p} - p_0}{\sqrt{\frac{p_0(1-p_0)}{n}}}$$

\bar{p} = mean in sample
 n= Sample size
 $P_0 = 0.5$

The Z value is contrasted with normal distribution in order to make decision for accepting or rejecting hypothesis.

The Results of Hypotheses Testing: In order to analysis hypothesis we analysis the questions which are related to those hypothesis in the questionnaire and since the answers for each question is scored from 1 to 5 and also for getting the score of each hypothesis, we calculate the average score related to each hypothesis. And we are seeking whether the average score the higher that 3 or not. In other words we want to know whether over half of testes agree whith the hypothesis or not. Also hypothesis describe whith following model:

$$\begin{cases} H_0 : p \leq 0.5 : \text{Null hypotheses do not rejecting} \\ H_1 : p > 0.5 : \text{Null hypotheses are rejecting} \end{cases}$$

In the following table shows statistics for related to each hypothesis.

The result of hypothesis testing is as following:

Table 1: Descriptive statistics

		Frequency	Frequency percent	Z_value	P_value
Hypothesis1	The opponents	1	1.4	8.37	0.000
	The advocates	73	98.6		
Hypothesis2	The opponents	4	11.4	4.56	0.000
	The advocates	31	88.6		
Hypothesis3	The opponents	8	22.9	3.21	0.001
	The advocates	27	77.1		
Hypothesis4	The opponents	19	25.7	4.18	0.000
	The advocates	55	74.3		
Hypothesis5	The opponents	2	2.7	8.14	0.000
	The advocates	72	97.3		
Hypothesis6	The opponents	29	39.2	1.86	0.031
	The advocates	45	60.8		
Hypothesis7	The opponents	6	8.1	7.21	0.000
	The advocates	68	91.9		
Hypothesis8	The opponents	2	2.7	8.14	0.000
	The advocates	72	97.3		

Table 2: Result of hypothesis testing

Hypothesis	result
IT causes ellipsis or reduction of bookkeeping.	Whit %95 degree of certainty the null hypotheses is rejected and research hypotheses is accepted.
IT can help the improvement of the report of Management accounting research.	Whit %95 degree of certainty the null hypotheses is rejected and research hypotheses is accepted.
IT provides the bookkeeping for application of costing techniques.	Whit %95 degree of certainty the null hypotheses is rejected and research hypotheses is accepted.
Accountants need to acquire new skills with the help of IT.	Whit %95 degree of certainty the null hypotheses is rejected and research hypotheses is accepted.
Since IT causes ellipsis or reduction of bookkeeping and contribute in the process of decision making and also analysis of information, accountants can save their time	Whit %95 degree of certainty the null hypotheses is rejected and research hypotheses is accepted.
IT causes the reduction of costs which are related to collecting information.	Whit %95 degree of certainty the null hypotheses is rejected and research hypotheses is accepted.
Whit the help of IT reduces time of production report.	Whit %95 degree of certainty the null hypotheses is rejected and research hypotheses is accepted.
The accuracy in accounting process becomes better whit the help of IT.	Whit %95 degree of certainty the null hypotheses is rejected and research hypotheses is accepted.

Summary and Concluding Remarks: Whit the help of IT, documents transform to simple journal and ledger automatically. In other word, bookkeeping is omitted and the accuracy of accounting process become higher that before.

Accountants can use accounting software for registering the document automatically. Management accounting reports by the use of IT become very accurate. And also managers can decide better by using these reports. IT can provide the back ground for the application of costing techniques. IT can help accountants and companies managers to calculate cost of goods accurately and decide appropriately. IT can provide new costing techniques e.g. costing in light of

ABC activities for accountants and manager. In order to calculate cost of goods and cost allocation accurately. Accountants in IT era need to acquire new skills such as working with computers, accounting software, Excel. Institutions are supposed to include IT programs in their schedule.

IT can have their way for bookkeeping process and help accountants and use their time to analyze management information and contribution to decision making process using IT information can reduction of cost and also reducing the time for providing the reports and these reports can be available on the net for the managers and stockholders. Suggestions for profit-seeking units and nonprofit units:

- This paper suggests the use of IT and computer in analysis of financial information. As it is stated in conclusion, computer can be a goal instrument for analysis of information. And since the analysis of information is the most important task of accountants, they can use computers to do this task accurately.
- This paper suggests the use of IT in providing management reports and application of costing techniques. It can help to provide management reports. Such as calculating cost of good and providing production and selling reports. The application of costing techniques such as ABC, kaizen and Target costing with the help of IT is done very accurately.

In IT era the market for graduated people is changed. The market needs those accountants that have the ability of working with computer and software. The accounting institutions are supposed to teach the ability of working with computers to accountants. So we suggest the following factors to institutions:

- We suggest institution to include programs such as excel, Access, Network in their schedule so that graeluated can work with these programs well.
- We offer accounting teacher to use new information technology so that the students can register financial activities with the use of accounting software.
- Including the related subjects with construction and application of information systems. And related subsystems in accounting schedule.

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