

Study of effect of accounting information systems and softwares on qualitative features of accounting information

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Abstract

Regarding to the potential capabilities of accounting information systems (AIS) and software packages as computer AIS, and regarding to the continuous changes and rapid developments of economical units, provision of relevant, reliable, and comparable financial information is necessary. To investigate this, the question is that whether IT affects qualitative features of accounting information in financial statements?

To do this research, a sample of 105 confidant auditors from Tehran Stock Exchange and professors of Islamic Azad University, region 5, was selected by Simple Random Sampling (SRS) method as questionnaires. Inferential statistical method, Clemogrov-Smironov test, and t-student test were used. It was found that accounting information systems and softwares highly affect on comparison capability and relevance of financial statement, but they lowly affect on reliability of them. Also, variance analysis was done for three indices of relevance, reliability, comparability. To do this, pair groups were compared by t-test. In this test, first rank was for relevance.

Keywords: Accounting information system, software packages, and information qualitative features.

1. Introduction

Accounting is an information system and managers should obtain high-quality and suitable information from formal and informal channels for decision-making [6].

Since at first, people appeal to multiple information sources, and because of increasing trend of information volume and its production speed, a system must be produced to refine, store, and transfer this information. This forms management information system [17].

Accounting information system (AIS) is a part of this system that registers and summarized financial events. Then it reports information as accounting information to support managers in decision-making. Thus, most part of information in organizations includes accounting information [6].

Most economical decisions and strategies to maximize profits and minimize costs conclude to accounting information. Since accounting measures economical information and offers it to users and we know it as an information system, therefore, managers need high-quality information for success of organizations [4].

On the other hand, information technology (IT) and AIS are key elements for removal of location and time limitations, better and rapid access to information, up to date information, etc.

It means creating AIS and software packages by well-known companies changes work methods and provides an electronic base instead of paper [8].

On the other hand, the goals of financial statements and accounting sources requires special features for financial statements to be used by investors and other users. These features are called “qualitative features of accounting information” (QFAI), which include relevance, reliability, and comparability [12].

Therefore, sequential changes and rapid advances are taking place in economical units that severs provision of financial information, which are relevance, reliability, and comparability. Also, increasing growth of society complexities justifies requirement of economical information related to information systems and information generating processes [9].

Therefore, regarding to potential capabilities of AIS and software packages as computer AIS, this research is going to study usage of IT and its role on information qualitative features.

2. Theoretical fundamentals of research

In this research, recognition role of information systems in promotion of accounting and accounting information qualitative features is necessary.

2.1. Accounting information systems (AIS)

AIS is an essential part of management information system (MIS) that receives data from financial events and processes it to make suitable information for intra- and extra-organizational users [10].

There are different definitions for AIS:

“AIS is components and elements of an organization that provides information for users by processing financial events” [11].

AIS has two great goals:

1. Making information for legal operations
2. Making information for decision-making

AIS has valuable benefits if it achieves these goals [11].

2.2. Software and its role in accounting systems

Software is an insensible part of a computer system. In other words, if a thing is not hardware, it is software. Software includes programs, documents, and instructions. All documents including flowcharts and gathered data for designing are part of software [2].

Accountants and auditors must be skillful about computer systems that is required to play their roles from creating relationship between managers and analysts to designing and execution of AIS and maintenance of systems [7].

Computer softwares have two categories:

- a) Basic softwares or operating systems
- b) Application softwares

Application softwares are for special uses of computer. For example, application softwares in accounting systems are programs to calculate salaries and fees, stock control, and accounting and financial systems, which are written in different languages [3].

2.3. Qualitative features of accounting information (QFAI)

Qualitative features are those features that make information suitable for users [5]. Some qualitative features relate to information contents in financial statements and some others relate to quality of information [18].

1. Relevance: include well-timed information, suitable anticipation, and suitable evaluation.
2. Reliability: include confirmation capability, comprehension, correctness, priority of contents on forms, and neutrality.
3. Comparability: include procedure stability and disclosure. [12]

3. Research history

What is investigated more in foreign researches is role of IT in qualitative features of reporting.

Ashback, Johnson, and Warfield studies significant changes in financial statements in internet, especially well-timed information [14].

Graham & Baldwin (2003) suggested that using information in financial statements affect judgment trend. In other words, it affects relevance of information [17].

In a research titled "Concepts of accounting information value", Theodore J. Mack emphasized on recognition of value of information and suggested that information value requires using suitable AIS [15].

In Iran, there are several essays about information systems and role of accounting software in changing traditional space, registration of events, and reporting by students and professors.

Arab Mazar and Pajuhi (1993) in an essay titled "Study of application of computer and software packages in provision of financial information by Iranian companies"; Manian (1994) in an essay titled "Study of effective factors in satisfaction of final users and official planning to use application softwares and literacy of users [13]; Khadem (1978) from University of Tehran, in his thesis titled "Effect of accounting information on decisions of managers of companies accepted in Tehran Stock Exchange " [10]; and Jadidi (2002) from University of Esfahan, in his thesis titled "Effect of features of AIS on improvement of decisions of managers of Bahman Group" [8] suggested importance of information systems and their role in improvement of decision-making by managers, investors, creditors, and users of financial statements.

4. Research assumptions

4.1. Main assumption

Software packages and AIS affect QFAI in companies accepted in Bourse.

4.2. Sub-main assumptions

1. Software packages and AIS affect relevance feature of information of financial statements.
2. Software packages and AIS affect comparability feature of information of financial statements.
3. Software packages and AIS affect reliability feature of information of financial statements.

5. Research method

This is a descriptive-application research based on field studies. This is a sectional research by time.

A questionnaire was prepared to investigate and analyze the variables and ideas of statistical society for effect of information systems and accounting software packages. Lickert Scale was used to response the questions. A broad response area and more options are from features of this scale. Thus, respondents wanted to choose an option.

6. Statistical society and sample

The specifications for statistical society of this research are:

1. Confidant auditors member of Bourse
2. Professors of Islamic Azad University, region 5
3. Familiars with AIS and accounting packages

Simple Random Sampling (SRS) was used in this research. In this method, each element has an equal chance for selection.

Two stages were taken to determine sample volume [1].

Formula for sample volume (Kukeran Formula) is:

$$n_0 = \frac{z^2 \left(\frac{a}{2}\right) \text{var}(\theta)}{d^2}$$

in which,

$z_{a/2}$ = standard normal for $100(1-\alpha)$

$\text{var}(\theta)$ = variance of estimated parameter

d = error value

If society volume is infinite, the above formula is used. But, if society volume is definite and

$$n = \frac{n_0}{1 + \frac{n_0}{N}}$$

Of course, $\text{var}(\theta)$ is unknown. If a parameter has two cases, $\text{var}(\theta)=pq$ is considered. Its goodness is that maximum value for $\text{var}(\theta)$ is calculated. This is when $p=q=1/2$.

$$n_0 = \frac{(1.96)^2(0.5)(0.5)}{(0.08)^2} = 150.06$$

Thus, $n_0=150.06$ when $d=0.08$ and $N=300$.

$$n_0 = \frac{150.06}{1 + \frac{150.06}{300}} = 100.04 \approx 101$$

Thus, sample of this research is $n=105$ for $N=300$.

7. Research variables

Dependent variables of this research are relevance, comparability, and reliability of accounting information in financial statements. Also, information systems and software packages are independent variables. Therefore, effect level of independent variables on dependent variables was included in the question of questionnaire.

8. Data analysis method

Two descriptive and inferential methods were used in this research.

8.1. Descriptive statistics

This part of questionnaire consists 26 questions. Then Lickert Spectrum was used to analyze data.

8.2. Inferential statistics

In this research, Clemogrov-Smironov test was used to normalize data, single-sample t-student test was used to study effect of AIS and software packages on QFAI, and variance test was used to compare effect of AIS and software packages on QFAI (relevance, comparability, reliability). Also, pair comparison tests and average of each index were used for ranking effect of information systems and accounting software packages on QFAI.

9. Data analysis

9.1. Normalization test in assumptions

Normalization test (Clemogrov-Smironov) in the main assumption to test the effect of AIS and software packages on QFAI

H0: Data is normal (data is from a normal statistical society)

H1: Data is not normal (data is not from a normal statistical society)

If sig. level $> \alpha = 0.05 \rightarrow H0$

If sig. level $< \alpha = 0.05 \rightarrow H1$

Sig. level of this test = $0.068 > \alpha = 0.05 \rightarrow H0$: data is normal

Significance level for all cases is $> \alpha = 0.05$, then data is normal. Thus, variables are tested by parametric methods.

9.2. Study of effect of AIS and software packages on QFAI by single-sample t-student test

9.2.1. Main assumption: effect of AIS and software packages on QFAI

Single-sample t-student test for effect of AIS and software packages on QFAI

Table 1: Single-sample t-student test for effect of AIS and software packages on QFAI

Number	Average	StD	St. average	T	Freedom degree
105	3.2468	0.4923	0.0696	3.55	0.000

H0: $\mu \leq 3$

H1: $\mu > 3$

H0: AIS and software packages highly affect QFAI

H1: AIS and software packages lowly affect QFAI

If freedom degree $> \alpha = 0.05 \rightarrow H_0$

If freedom degree $< \alpha = 0.05 \rightarrow H_1$

Freedom degree $= 0.000 < \alpha = 0.05 \rightarrow H_1$

Therefore, we conclude that AIS and software packages highly affect QFAI.

9.2.2. Sub-main assumption 1: effect of AIS and software packages on relevance of information in financial statements

The results are:

1. AIS highly affect relevance of financial statements.
2. Software packages highly affect relevance of financial statements.
3. AIS and software packages highly affect relevance of financial statements.

9.2.3. Sub-assumption 2: effect of AIS and software packages on comparability of information in financial statements

The results are:

4. AIS highly affect comparability of financial statements.
5. Software packages lowly affect comparability of financial statements.
6. AIS and software packages highly affect comparability of financial statements.

9.2.4. Sub-assumption 3: effect of AIS and software packages on reliability of information in financial statements

The results are:

7. AIS lowly affect reliability of financial statements.
8. Software packages lowly affect reliability of financial statements.
9. AIS and software packages lowly affect reliability of financial statements.

9.3. Effect of AIS on qualitative features

Variance analysis test for effect of AIS on three indices (relevance, comparability, reliability)

Table 2: Variance analysis test for effect of AIS on three indices (relevance, comparability, reliability)

		Sum of squares	Freedom degree	Average of sum of squares	Frequency	Sig. level
Factor 1	Covalence conformity	10.641	2	5.321	21.751	0.000
Factor 1 error	Covalence conformity	23.972	98	0.245		

$$H_0: \mu_1 = \mu_2 = \mu_3$$

$$H_1: \mu_i \neq \mu_j \text{ at least for one } i, j$$

$$\text{If freedom degree} > \alpha = 0.05 \rightarrow H_0$$

$$\text{If freedom degree} < \alpha = 0.05 \rightarrow H_1$$

$$\text{Freedom degree} = 0.000 < \alpha = 0.05 \rightarrow H_1$$

Therefore, they are not equal at least for one i, j . Thus, we examine each index by pair comparison test.

Then, the indices (relevance, reliability, comparability) are ranked according to parametric variance analysis and pair comparison test:

Rank 1 = relevance

Rank 2 = reliability, comparability

9.4. Effect of software packages on qualitative features

Variance analysis test for effect of AIS on three indices (relevance, comparability, reliability)

$$H_0: \mu_1 = \mu_2 = \mu_3$$

$$H_1: \mu_i \neq \mu_j \text{ at least for one } i, j$$

$$\text{If freedom degree} > \alpha = 0.05 \rightarrow H_0$$

$$\text{If freedom degree} < \alpha = 0.05 \rightarrow H_1$$

$$\text{Freedom degree} = 0.000 < \alpha = 0.05 \rightarrow H_1$$

Therefore, they are not equal at least for one i, j . Thus, we examine each index by pair comparison test.

Then, the indices (relevance, reliability, comparability) are ranked according to parametric variance analysis and pair comparison test:

Rank 1 = relevance

Rank 2 = reliability, comparability

9.5. Effect of AIS and software packages on qualitative features

Variance analysis test for effect of AIS on three indices (relevance, comparability, reliability)

$H_0: \mu_1 = \mu_2 = \mu_3$

$H_1: \mu_i \neq \mu_j$ at least for one i, j

If freedom degree $> \alpha = 0.05 \rightarrow H_0$

If freedom degree $< \alpha = 0.05 \rightarrow H_1$

Freedom degree $= 0.000 < \alpha = 0.05 \rightarrow H_1$

Therefore, they are not equal at least for one i, j . Thus, we examine each index by pair comparison test.

Then, the indices (relevance, reliability, comparability) are ranked according to parametric variance analysis and pair comparison test:

Rank 1 = relevance

Rank 2 = reliability, comparability

10. Findings of research

Sub-main assumption 1

According to the results, it was found that AIS and software packages highly affect on relevance of financial statements.

By discussion about theoretical fundamentals it can be said that wonderful progress of AIS and accounting packages help users in better decision-making, because they increase relevance of information. Findings indicate that AIS and software packages affect well-timed information.

Sub-main assumption 2

According to the results, it was found that AIS and software packages highly affect on comparability of financial statements.

Therefore, procedure stability has increased because of using AIS and software packages. Its reason is that a definite format and an equal procedure are used in financial statements. This increases procedure stability and financial disclosure. Thus, it increases comparability of financial information, but, it decreases comparability of different companies because of differences in contents and method of distribution of financial reports.

Sub-main assumption 3

According to the results, it was found that AIS and software packages lowly affect on reliability of financial statements.

Using accounting information mostly depends on providers of this information than the providing tools, because providers have different effects if they use correct measurement methods and act neutrally. Generally, financial information is confident when independent auditors confirm it.

11. Conclusion

In this research, effect of AIS and software packages was studied and the results are as follows:

Table 3: Effect of information systems on qualitative features

Row	Qualitative feature	Effect level	Rank
1	Relevance	High	First with α error
2	Comparability	High	Second with α error
3	Reliability	Low	Third with α error

Table 4: Effect of software packages on qualitative features

Row	Qualitative feature	Effect level	Rank
1	Relevance	High	First with α error
2	Comparability	High	Second with α error
3	Reliability	Low	Third with α error

Table 5: Effect of information systems and software packages on qualitative features

Row	Qualitative feature	Effect level	Rank
1	Relevance	High	First with α error
2	Comparability	High	Second with α error
3	Reliability	Low	Third with α error

The results show that using AIS and software packages significantly affect financial statements of companies accepted in Tehran Stock Exchange . It is especially dominant in relevance of information, which comes from well-timed information.

Also, the above tables show that relevance of information is on the first rank.

According to the tables, AIS and software packages highly affect on comparability. It provides comparability because of increment of procedure stability. However, effect on reliability is low, because information always is measured correctly and reliably by accountants, and auditors can increase this feature.

References

- [1] Iman Zare , (2011) ,Study of effectiveness models in optimal portfolio of shares, Middle East Journal of Scientific Research 10 (2),239-246.

- [2] Iman Zare , Mohsen Ojaghi AghjehKandi and Ghasem Ojaghi AghjehKandi (2012) , Qualitative Characteristic of Accounting Information in Reported Values of Goodwill and Intangible Assets (Case Study of the Stock Exchange of Iran), *Middle East Journal of Scientific Research* 11(1), 32-38.
 - [3] Iman Zare and Ali Shahsavari, (2012), Ability of Accounting Information to Anticipate Risk, *American Journal of Scientific Research* , Issue 49 , 5-10.
 - [4] Iman Zare, Mohsen Ojaghi AghjehKandi and Seyedahmad Beheshti (2011), Role EPS to Future Earning Changes, *European Journal of Economics, Finance and Administrative Sciences*, Issue 43,44-49.
 - [5] Iman Zare, Mohammad taghi Kabiri and Ali Shahsavari, (2011), Role Stock Exchange to Presented Financial Information, *International Research Journal of Finance and Economics*, Issue 77 ,94-101.
 - [6] Iman Zare , Mohsen Ojaghi Aghjehkandi and Ghasem Ojaghi Aghjehkandi, (2012), Study of Relationship between Reported Items of Intangible Assets and Market Value, *American Journal of Scientific Research* ,Issue 47, 41-47.
 - [7] Iman Zare , Jafar Nekounam and Abbas Talari, (2012), Review Effect Accounting Standards on Disclosure of Information (According to Accounting Standards of Iran), *Middle Eastern Finance and Economics*, Issue 16, 131-137.
1. Ebrahimabadi, Mani (2009), “Role of information systems and software packages on quality of financial reports in companies accepted in Tehran Stock Exchange ”, MA thesis in Accounting, Islamic Azad University, Borujerd Branch.
 2. Badri, Ahmad (1993), “Accounting information and decision-making: Few behavioral hypotheses”, *Quarterly of Accounting and Auditing Researches*, no. 4, pp. 63-83.
 3. Bahramfar, Naghi; Rasuli, Valiollah (1998), “Qualitative features of management accounting information and their role on decision-making”, *Quarterly of Accounting and Auditing Researches*, no. 25, pp. 86-109.
 4. Sajjadi, Hossein (2005), “Accounting Information Systems (AIS), vol. 1”, Publications of Shahid Chamran University.
 5. Narimani, Amir Hossein (2007), “Auditing of DPD information systems”, Publications of Ministry of Culture and Islamic Guidance.
 6. Jadidi, Abbas (2002), “Study of effect of features of accounting information system on improvement of decision-making in Bahman Group”, MA thesis in Management, University of Esfahan.
 7. Isaei Khosh, Ahmad (2001), “A review on accounting information systems”, *Journal of Accountant*, No. 140, pp. 22-25, 74-76.
 8. Mokremi, Yadollah (1995), “The goal of financial statements and qualitative features of financial information”, *Journal of Accountant*, No. 110, pp. 6-13.
- [8] Mukesh kumar,rajesh singh,ashish k singh and florentin smarandache , (2011), some ratio type estimators under measurement errors , *World Applied Sciences Journal* 14 (2), 272-276.

- [9] T. Shah, B. Ali, S.A.H. Shah and E. Ahmed, (2011), Equilibrium in Economic Development: A Perspective of Social Capital, *World Applied Sciences Journal* 14 (12), 1823-1837.
- [10] Mahdi Salehi, Mohmoud Hematfar and Amin Heydari, (2011), A Study of the Relationship Between Institutional Investors and Corporate Value: Empirical Evidence of Iran, *Middle-East Journal of Scientific Research* 8 (1), 72-76.

Publication reference:

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