The Impact of using Computers at the Balqa Applied University (BAU) on the Effectiveness of Internal Control

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Abstract

This study aimed to verify the use of computers in accounting departments and its impact on increasing the effectiveness of internal control in Balqa Applied University(BAU).To achieve this goal, a questionnaire was designed consisting of two parts; the characteristics of the study sample and twenty two paragraphs that represent the questions of collecting data and distribute them on a sample of (38) employees working in accounting departments and internal control from the study population, which consists of colleges in the University deployed in Jordan. The researcher used a statistical package (SPSS) to analyze the collected data and the descriptive statistics and test (T-Test) for the purpose of describing variables and stress on the moral indicators. The study found that the use of computers in accounting affects the effectiveness of internal control and on the reliability and appropriateness of accounting information used in internal control.

Keywords: Effectiveness, Internal control, Balqa Applied University

Introduction

The importance of using computers has increased in business at the present time, especially in the light of globalization and recent developments in digital technology and the nature and importance of the use of digital technology in the field of data processing, its preservation and storage.

The use of computers as a tool technology have contributed to a great degree in accounting operations, where the use of computer has improved in accounting, in terms of using sophisticated accounting computer software that contribute in increasing the level of objectivity and neutrality in accounting information, therefore affect the efficiency of the effectiveness of the decisions that are made based on this information, the accountant is no longer able to rely on manual methods in accounting, due to the breadth of companies' activity and increase the volume of their financial transactions and trade, and the need for a quick and practical information for a decision-making, business sector is one of many sectors that rely heavily on its work on information and accounting data, so this information should be characterized by objectivity and impartiality in a clear and easy way in order to deal with it quickly and practically, so this research try to identify the impact of using the digital computer in accounting work (Hamdi, 1988).

There is no doubt that the importance of accounting is no longer restricted to owners, shareholders and managers, as well as customers, suppliers and banks, but its importance and the need to it has increased by several categories, where most people, if not all of them, actually engaged in and face a financial, accounting events and transactions, where we find them contribute in applying some of the accounting concepts, as they strive to achieve the overall goal of accounting which represented in producing an accounting information of a financial and accounting nature.

The interest in accounting was beyond the limits of measuring economic events and financial transactions as well, but exceeded to include also the need to measure social performance to judge the efficiency level of that performance, as in the last two decades, a lot of organizations appeared and forced pressure in society to preserve environment, reduce pollution, ensure safety and industrial security, reduce work accidents and other aspects that require studying the social costs and the application of the foundations of accounting, in addition to the need to apply the measures of social revision, according to all of the above, we find that the groups that are interested in identifying the accounting information and their use in different fields, will help them in planning, implementation, control and evaluate the performance and decision-making (Al-Hasson, 1980).

Internal control in the company or organization considers one of the early warning devices that work on accounting and administrative auditing in the organization, the internal control device is assigned from competent employees and it does not require any certain qualifications of internal control employees in it, where it can manage every organization or company and set any standards as it deems appropriate for the selection of internal control officer.

Among these standards, the experience of the employee in the organization and his scientific qualifications may include, the internal control device is associated directly with senior management of the organization, so he can express his opinion openly and neutrality and he can suddenly check periodically in administrative and accounting auditing on the assets of the organization or company wherever they are, in addition to verify the validity of the obligations of the organization (Farhan, 1996).

2. Significance of the Study

Accounting software is used to carry out the operations of input, processing, auditing and storage of information and accounting data in order to help the auditor and the management and all the beneficiaries of this information to make the best use of this information, due to the fact that this information is characterized by reliability, objectivity, credibility and the ability to be understood.

Here, the importance of the research lies in addressing one of important issues, either for the accountant or management, the use of computers in carrying out accounting operations have contributed significantly in the efficiency and effectiveness of accounting operations and internal control, and to ensure that the information is characterized by objectivity, applicability, understanding and enhancing a realistic image about the financial realities of the company.

3. Problem of the Study

The most important characteristics of using accounting information systems and the effectiveness of internal control is that the information output is characterized by objectivity, neutrality, flexibility and accuracy, this contributes to increase the degree of reliability of this information, we can formulate the problem of the study with the following question: How could the use of computers contribute in increasing the effectiveness of internal control at the University of Balqa.

4 .Objectives of the Study

This study aims to:

1. Recognize the reality of using computers in accounting and internal control systems (Its definition and components).

 2. Identify the positive aspects of using computers in accounting analysis and control procedures.

3 .Analysis of the impact of using computers on objectivity, impartiality, convenience and flexibility in the information output for accounting computer software and their impact on internal control.

4. Provide a range of suggestions and recommendations that contribute in the development of accounting work by using computer.

5. Population and the Study Sample

The study population consists of all accountants and internal auditors in the faculties of Al-Balqa Applied University throughout the Kingdom. The study sample consists of accountants and internal auditors working in the faculties of Balqa Applied University in the middle region of the Kingdom, and their numbers are (38).

6. Hypotheses

The First Hypothesis:

Null Hypothesis: The use of computers in accounting does not affect on the effectiveness of internal control.

The Second Hypothesis:

Null Hypothesis: The use of computers in accounting does not affect on the reliability of accounting information used in internal control.

The Third Hypothesis:

Null Hypothesis: The use of computers in accounting does not affect on the appropriateness of accounting information used in internal control.

7. Previous Studies

(Banker et al, 2002) focused on five offices of an international public accounting firm that recently made large IT investments, primarily in audit software and knowledge-sharing applications. Both qualitative and quantitative information from the research site were analyzed to estimate the change in productivity following the implementation of IT. The results from both regression analysis and Data Envelopment Analysis (DEA) indicated significant productivity gains following IT implementation, documenting the value impact of IT in a public accounting firm.

(Peterson et al, 2003) examined the impact of computers on accounts and the lessons that can be drawn from Kenya about building computerized accounting systems. Four propositions emerged about the impact of computers on the accounting systems. First and surprisingly, the initial impact of computers was indirect. Their primary impact was to strengthen the manual accounts which the ministries continue to rely upon. Second, computers promoted effectiveness reforms by changing procedures, rather than efficiency reforms by accelerating the throughput of data with existing procedures. Third, computers had not initially promoted document processing but had improved data processing. Fourth, computers had promoted rudimentary analysis. One conclusion from the Kenya case was that modular implementation of computerized accounting was helpful.

Implementing modules rather than an integrated system meant that accounting reforms could begin without waiting for lengthy procedural reforms. Modular implementation also facilitated agency involvement in the design of the system. *(Yang and Guan, 2004)* traced the evolution of US IT auditing and internal control standards in financial statement audits and discusses their significance for the auditing profession. We primarily focus on the discussion of the IT audit standards issued by the AICPA and ISACA. As the use of computers in business data processing gets more widespread and the integration of IT in business processes gets more intricate, it is expected to see more pronouncements of IT audit standards in the future. Auditors should well understand these pronouncements, standards and guidelines when performing an IT audit. *(Chou and Liu, 2005)* focused on the effectiveness of a technology-mediated virtual learning environment (TVLE) in the context of basic information technology skills training. Grounded in the technology mediated learning literature, this study presented a framework that addresses the relationship between the learner controls and learning effectiveness, which contains four categories: learning achievement, self efficacy, satisfaction, and learning climate. In order to compare the learning effectiveness under traditional classroom and TVLE, authors conducted a field experiment. Data were collected from a junior high school of Taiwan. A total of 210 usable responses were analyzed. They identified four results from this study. (1) Students in the TVLE environment achieved better learning performance than their counterparts in the traditional environment; (2) Students in the TVLE environment reported higher levels of computer self efficacy than their counterparts in the traditional environment; (3) Students in the TVLE environment reported higher levels of satisfaction than students in the traditional environment; and (4) Students in the TVLE environment reported higher levels of learning climate than their counterparts in the traditional environment. The implications of this study were discussed, and further research directions were proposed. *(De Franco et al, 2005)* provided evidence about the wealth change and redistribution effects of Section 404 of Sarbanes-Oxley (SOX), which required that management, assess and publicly report on the effectiveness of their firm's internal controls, and that auditors publicly provided an opinion on management's assessment, as well as the effectiveness of the internal controls. This section was the most expensive, burdensome and contentious part of SOX - mainly because the benefits were elusive, and according to some critics, non-existent. The researcher analyzed a sample of 102 firms that report a deficiency in their internal controls between November 1, 2003 and December 31, 2004 and that had no confounding news during the event window. They found that the cumulative size-adjusted abnormal returns are -1.8% during the three-day event window for firms that report internal control deficiencies. This economically-significant wealth change supports the idea that investors' value internal control news and that they were not (at least fully) aware of these deficiencies prior to the disclosures. The study confirmed these results for a small sample of firms reporting deficiencies in the first calendar quarter of 2005. More importantly, using trading data from the NYSE TAQ database, they found that small- (large-) investor net buying was positively (not) associated with returns. More specifically, it was small-investor net selling that was driving the negative returns. These results were consistent with the redistribution of wealth from large to small investors during the announcement period. In summary, these results supported the conjectures made by regulators underlying the regulation and showed that small investors benefit more from these disclosures than large investors.

(Al-Qudah, 2011) aimed at identifying the impact of Accounting Information Systems (AIS) on effectiveness of internal control in Jordanian commercial banks by exploring impact on both management control and internal check. To collect data, the author used questionnaire judged by professors both private and public universities. The instrument was administered to population consisting of employees at the Control Department in Jordanian commercial banks. Data collected were analyzed using the Statistical Program for Social Sciences and other statistical methods including means, standard deviations and T-test. This study concluded with a number of findings including that AIS have an impact on effectiveness of accounting control in Jordanian Commercial Banks in that they help generate accurate, update, comprehensive, and comparable data. This study suggested a set of recommendations including to upgrade the Accounting System applied at Jordanian commercial banks to meet the need for information of various parties involved in the monitoring process.

8. Methods of Data Collection
For the implementation of the applied research, the following methods of data collection and information will be adopted:
1. Information theory will be included through desktop scanning of books, periodicals and research relevant to the subject.
2. Questionnaire method will be used to measure the variables and their own dimensions and study their hypotheses.

9. Statistical Analysis Methods:
The questionnaire used in this study to clarify the basic idea around which this study, as well as some instructions from the researcher to explain how to answer the questionnaire questions.

The researcher chose in this part to a range to answer each question which contained (5) options as follows: (Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree).

The researcher used five Likert scale by developing numbers to answer each question from the questions in section two in the questionnaire.

The collected data has been examined through the questionnaire and then discharged and classified according to the statistical requirements of the statistical display as the analysis taking two options:

First: Descriptive statistics represented in percentages, frequencies, means and standard deviations, all were used for the purpose of description of research variables.

Second: (T-test) was used for the purpose of a moral indicators and it is worth mentioning that statistical packages (SPSS) was used, which was from the ready-made software, that helped in the analysis of research data.

9.1. Validity and Reliability of the Study Tool:

Table (1): The value of alpha to measure the stability of the measuring tool, where its value was:

In-kind	alpha
38	83.5

We note that the value of (alpha) is equal to (83.5%), which is the largest percentage statistically acceptable (60%), which reflects the stability of the measurement tool used.(David, P4, 1998).

9.2. The Results of Statistical Analysis:

Statistical analysis (SPSS) program was used to analyze the study data and extract the results.

Table (2): Arithmetic mean and standard deviation

Question	Text Arithmetic	Mean	Standard Deviation
1	Internal control helps to improve performance level	4.52	0.506
2	Internal control helps to increase work accomplished by the employees	3.94	0.957
3	Internal control helps to facilitate the beneficiaries' transaction convincingly.	4.10	0.980
4	Modern technology of devices and equipment and software are available to perform the accounting work of internal control.	3.68	0.933
5	Computer contributes in reducing time and effort required to work.	4.10	0.648
6	Modern technology used in internal control contributes in raising performance quality.	4.10	0.648
7	The used technology is considered one of the means of internal control	3.68	0.708
8	The external control equipment is supporting to the systems of internal control.	4.00	0.929
9	Internal control motivates work performance	3.78	0.657
10	Internal control unit directly associated with the senior management	4.05	0.836
11	The use of computers in accounting contributes in increasing the degree of safety and confidentiality of information.	4.31	0.847
12	Self-control is considered a complement factor to the laws and regulations to achieve the obligation of fulfilling the required tasks.	3.94	0.898
13	You are committed to the process of self-control	4.31	0.471
14	Proportion of errors in the performance of employees was less as a result of internal control.	4.05	0.769
15	One of the objectives of internal control process is to make sure that work is going according to regulations and laws.	4.37	0.708
16	Internal control process aimed to ensure the conformity of the actual results of performance standards and goals set.	4.47	0.687
17	Internal control process is helping to address and correct the negative deviations.	4.21	0.528
18	Internal control unit specializations are specified accurately in the laws and regulations.	3.63	0.819
19	Wage received by the employee is commensurate with the effort exerted in the internal control department.	4.26	0.776
20	Preventive control is designed to prevent some potential problems from occurring when the work is done.	3.68	0.668
21	21 When the control aim to reveal the mistake is revealing inappropriate mistakes.	3.74	1.12
22	22 Internal control affected with the surrounding environment.	3.42	1.10

We note that paragraph (5) "Computer contributes in reducing time and effort required to work", came in first rank with a mean of (4.57),with a standard deviation of (0.598),paragraph (22) "Internal control affected with the surrounding environment", came at the last rank with arithmetic mean of (3.42), and a standard deviation of (1.10).

9.3. Testing the Hypotheses of the Study

The null hypothesis is accepted or rejected according to a decision rule, which is:

The null hypothesis is accepted, if the calculated value is less than the indexed value that is extracted from the statistical tables or if the value of (alpha) (Sig.) is greater than the value of (0.05), which is the adopted value in the humanities studies, and will be rejected if the calculated value is greater than the indexed value, or if the value of (alpha) (Sig.) is less than the value of (0.05).

The First Hypothesis:

Null Hypothesis (Ho): The use of computers in accounting does not effect on the effectiveness of internal control.

Table (3): Results of Testing the First Hypothesis

Calculated T	Indexed T	Sig.(alpha)	Null hypothesis result
15.4	4.36	00.0	rejection

The two researcher used the T-Test and found from reading the results of the computer in the previous table, that the value of (T calculated =15.4) is greater than indexed value, as well as the value of (alpha) is less than (0.05), according to the decision rule, the null hypothesis (Ho)will be rejected and the alternative hypothesis (Ha) will be accepted, and this means that it affects the use of computers in accounting on the effectiveness of internal control.

The Second Hypothesis:

Null Hypothesis (Ho): The use of computers in accounting does not effect on the reliability of accounting information used in internal control.

Table (4): Results of Testing the Second Hypothesis

Calculated T	Indexed T	Sig.(alpha)	Null hypothesis result
13.2	4.15	00.0	rejection

The researcher used the T-Test and found from reading the computer's results in the previous table that the (calculated value of T=13.2) is greater than the indexed value, as well as the value of (alpha) is less than (0.05), according to the decision rule, the null hypothesis (Ho) will be rejected and the alternative hypothesis (Ha) will be accepted, and this means that using computer in accounting effect on the reliability of accounting information used in internal control.

The Third Hypothesis:

Null Hypothesis (Ho): Using computers in accounting doesn't effect on the appropriate accounting information used in internal control.

Table (5): Results of Testing the Third Hypothesis

Calculated T	Indexed T	Sig.(alpha)	Null hypothesis result
13.7	4.21	00.0	rejection

The researcher used the T-Test and found from the computer results in the previous table that the (calculated value of T=13.7) is greater than the indexed value, as well as the value of (alpha) is less than (0.05), according to the decision rule, the null hypothesis (Ho) will be rejected and the alternative hypothesis (Ha) will be accepted, and this means that the use of computers in accounting effect on the appropriate accounting information used in internal control.

10. Results

The research indicated that the use of computers in accounting will reduce the time and effort required to work and therefore this usage of computers in turn will effect internal control which affected with the surrounding environment. The researcher showed that the use of computers in accounting effect on the effectiveness of internal control in many ways. Furthermore, the use of computers in accounting effect on the reliability of accounting information used in internal control. Finally , the research find out that the use of computers in accounting effect on the appropriateness of accounting information used in internal control.

11. Recommendations

According the findings of research, the researcher suggested some recommendations, firstly, there is a need to measure the performance of the automated system to judge the efficiency of the system in a lot of organizations, in order to maintain occupational and industrial safety and reduce errors of the work. Alongside, there is a need to apply audit mechanism procedures, which is interested in identifying the accounting information and their use in different fields that help the administration in decision-making processes.

There must be correct and accurate information to the department in a timely manner, and there are a lot of administrative services that the computer can provide, which contribute in providing the necessary information in time for the purpose of planning and implementation. It should be ensured that the desired

benefits of utilizing the computer are more than the cost of the system. Finally, the researcher recommended that the administration should provide with feedback in a timely manner about the success or failure of the internal control system in the company and the need to update the system and updating it constantly.

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