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# Investigating the Impact of Accounting Information System Reliability on Financial Report Quality of the Libyan Commercial Banks

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## ABSTRACT

The purpose of this study is to demonstrate the impact of the reliability of accounting information in accordance with adopting of governance to the quality of financial reports issued by the Libyan commercial banks, where a population of 16 banks has been selected. The analytical descriptive approach was used, with two variables measuring the reliability of the accounting information systems (the independent variable) and quality of financial reports (the dependent variable) through a questionnaire that was distributed to senior management employees, on which (128) questionnaire were distributed, and received (122), which were valid for analysis. Statistical methods were used to analyze data and test hypotheses such as (arithmetic averages, standard deviations, simple and multiple linear regression analysis and path analysis), relying on SPSS and AMOS software. The study findings showed that there is a statistically significant impact on the reliability of accounting information systems on quality of financial reporting for Libyan commercial banks. This study was limited to the Libyan commercial banks; the Libyan Islamic banks are not limited to this research. The result of this study provides an evidence of the reliability of the accounting information systems impact on improving the quality of financial reports in the Libyan commercial banks.

## 1. Introduction

Accounting information system is part of the overall information system of the institution. Among the most important systems are accounting information systems. Which, under modern financial and economic developments, are no longer secondary subsystems in management information systems; it has become the nerve of most business organizations (Daban & et. al, 2015). Which attached great care basic channel apply those standards and transmitted through the information, whether financial or accounting beyond the different organizational levels.

It is the main and important part of the MIS, which compiles financial and accounting data and gathers it from sources inside and outside the economic unit, it then run this data and convert it into useful financial and accounting information for users of this information outside and within the unit (Hussain , 2014).The main objective of the accounting information system is to provide a reliable, accurate and accurate picture of the financial and economic reality of the institution. In order to contribute to optimal management decisions and help management solve the problems they face.

The banking sector is one of the basic pillars, which plays an important role in supporting the national economy. Where it is distinguished from other sectors of the sensitivity of the commodity, which is handled (money). Due to the importance of the sector, the focus of banks has become the interest in accounting information systems. In light of the information and communication technology revolution, especially the Internet. In order to maintain its continuity, survival, and strengthen its financial position. The quality of financial reports is essential for investors, an important indicator for creditors and an important tool for measuring the efficiency of management in using its resources (Haddad, 2010).

Libyan banks have the latest technology to face intense competition, which has expanded internally and externally through providing the best services that keep up with the times. Accounting information systems are one of the main components of information technology. Accounting information systems are one of the main components of information technology. It has been shown that banks, like other international institutions, are suffer from the risks of using this technology such as piracy, manipulation and the trust gap between customers and modern technology, which can limit the profitability of these banks. Which requires these banks to adopt accounting information systems, reliable and trustworthy.



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## 2. Literature Review

Accounting information systems are part of the overall information system, where play an important and effective role, by providing various levels of decision-making information ready, and true and accurate at the appropriate time. This information is provided through financial reports and lists, which is the actual daily data (Gil, 2010).

The accounting information systems are defined in a simplified manner as: "a system that collects, registers, stores and processes data, in order to provide information to decision makers" (Romney & Steinbart, 2015).

Kieso, Weygandt, & Warfield, (2013) believes that accounting information systems are the systems responsible for all and processing of process data, and then disseminate financial information to the parties concerned and vary from one organization to another depending on the size, nature of the activity and operations in it.

As defined by Al-Hassan (2013) that "the basic and important administrative information system part, within the economic unit in the field of business. It compiles and compiles financial and accounting data from sources outside and within the economic unit, then runs the data and converts it into useful financial and accounting information for users of this information outside and within the economic unit".

One of the most important features of the modern era is technological progress, the information revolution, and advanced software, which prompted banks to search for systems to develop their business. In order to adapt to the surrounding environment and to face intense competition in its sector, moreover, try to adopt advanced technology to reach a new type of operations through which services provide excellence and increase market share, which reflects positively on their profitability.

At the present time banks are using electronic systems, which provide adequate and appropriate information. Where it is delivered in a timely manner to its users at all levels of management of the institution or its shareholders. It emerged as enterprise resource planning systems (Enterprise Resource Planning). As a program designed to create integration between activities through the interconnection of different functions in banks (Barakaat, 2011).

The systems (ERP) of integrated systems that seek to standardize financial operations. Non-financial and cost reduction and help speed communication with enterprises which increases operational efficiency and effectiveness. As well as help build a central base contributes to making appropriate decisions in a timely manner (Dezdar & Ainin, 2011).

The (ERP) system integrates the internal and external flow of information, within a comprehensive solution and in a single step. Where the Bank assists in the management of functions such as planning, sales and marketing, human resources management, accounting and cost management. The aim is to lead the flow of information between internal and external functions, and contact management with customers, leading to improved operational and financial performance. By efficiently and efficiently performing operations, reducing costs and improving profitability (Joseph, Husam , & Nidal , 2011; Masruki et al., 2018; Dhar et al., 2018; Gaber & Khalid, 2018; Zidan & Ramli, 2018; Al-Qaisi, 2018). Financial reporting is one of the most important sources of information used by all investors and creditors to build investment and credit decisions, as these reports contain information on the financial situation of the organization and on current and future cash flows, and the level of benefit of these reports depends on the quality of those reports and the appropriateness and reliability of the information they contain.

The quality of financial reports includes the authenticity and accuracy of the accounting information, thus maximizing its usefulness to users, and to achieve this then reports should be free from distortion and misinformation, and to be prepared in accordance with a set of legal, regulatory, professional and technical standards and controls, to achieve the purpose of their use. Financial reporting is an effective method of achieving the communication function in accounting, where the needs of its users can be satisfied with the accounting information that accurately depicts the economic events that have a significant impact on the activity of companies during the period of the activity as well as their role in the presentation of information that announces about future management plans and forecasts, as well as the fact that they have become an early warning system for investors for company failure, or if it is about to fail, or the company's continued success and level of success (Al-Fadhel & Noor, 2016).

The financial report can be defined as a set of data recorded in accordance with recognized principles of accounting, personal recognition, where suitability of personal discretion depending on the persons preparing these lists and the extent to which they absorb the common accounting principles (Hassanein, 2013).

Marston and Shrives (1991) indicated that the financial report is the most comprehensive framework for the company's performance and is therefore the primary disclosure tool. Barker (1998) also highlighted the importance of the financial report as an important communication proxy between the company and the external parties, also, Cay and Pratt stated that the financial report has an important role in communicating and creating a real image of the company in the minds of the users of the report (Hooks et al, 2002, citing from Abdullah, 2015).

The financial reports contain many financial and non-financial information required by the users of the financial statements to interpret the figures on financial statements, as well as to clarify the accounting rules and policies used as well as their impact and the extent of change they can do. Consequently, the financial report is not limited to financial information contained in the financial statements, but contains other financial information such as the analysis of expenses and income, as well as non-financial information such as the accounting policies used by the company in the preparation of the financial statements, including financial report of external auditor and board of director's report (Kieso, et al, 2007) (Hammad, 2016). The main objective of financial reporting as a means of communication is to provide information on financial position, activity results and cash flows that benefit a large segment of financial reporting users in taking economic decisions which is the objective of accounting as well (Subaihi, 2012).



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## 3. Methodology

The descriptive approach of the study is to present the principles of information systems reliability and previous related studies (whether at the local, regional or global level), in order to investigate the most significant results achieved in this regard, while the analytical approach (the practical aspect of the study) analyses the level of applying the principles of reliability of accounting information systems as well as measuring the impact of accounting information systems reliability on the quality of financial reports issued by Libyan commercial banks.

Targeted study population consists of all senior management employees (chief executive officer and his deputy, auditing director, compliance director, finance director, IT director, risk management director, information security directors) in commercial banks (total of 16 banks until the med of 2018) operating in Libya and registered with the Central Bank of Libya according to the website of the Central Bank of Libya (www.cbl.gov.ly).

Therefore, the population of this study is represented by the top management members of the commercial Libyan banks, which in total equals to 128 managers. This data is confirmed by the central bank of Libya.

The total population of this study is 128, based on a confidence level of 95% and margin error of 5%, the sample size of the study is 96 based on the sample size equation of Krejcie and Morgan (1970), the researcher has distributed 128 questionnaires to the targeted population as it is considered as a small population and then 122 questionnaires have been returned that are used for the statistical analysis. The current study measurement tool (questionnaire) was constructed on the basis of criteria, some of which were tested and some developed, guided by the characteristics of the current study variables, combining the total and partial measurement, adaptation and adjustment, as well as deletion and addition to be consistent with the banking and the Libyan environment.

The study model highlights the relationship between its variables, the independent variable of the reliability of accounting information systems (security, confidentiality, privacy, process integrity, availability), and the dependent variable of the quality of financial reports, represented by the characteristics of the quality of accounting information (relevance and reliability). The data were analyzed by using the software of Statistical Package for the Social Science (SPSS), and SEM (Amos) version 23.0.

## 4. Data Analysis and Results

Respondents were asked to choose from the most appropriate range that included their current age. The categories options are “Below 25 years old”, “From 25 to 35 years old”, “From 36 to 45 years old” and “More than 45 years old”. However, the largest number of respondents was 62 indicated the age “from 36 to 45” years old with 50.8%. The second largest number was 26 indicated their age between 25 to 35 years old with 21.3% of the respondents indicating their age in this group. As for the third number was 23 reported that the age above 45 years old with a percentage of 18.9%, while only 11 respondents with 9.0% reported the age below 25 years.

Disciplines have almost equal number of respondents which is about 25 respondents with 20.5% (accounting, finance and banking, and economics), while business administration discipline has 24 respondents (19.7%) and IT discipline has 23 respondents (18.9%). Working experience of 11 – 15 years (n = 55, 45.1%). Following by the working experience of 15 years and above (n = 49, 40.2%). Another groups of respondents described lower length of their working experience as from 6 to 10 years (n =10, 8.2%) and the smallest group of respondents regarding working experience were like (n =8, 6.6%) representing the below 5 years.

The frequency analysis showed that most of respondents has the qualification of “Master” (n = 55, 45.1%). While 29 of the respondents were qualified with bachelor (23.8%), and almost same (n=28, 23.0) were qualified with PhD. The smallest group of respondents regarding the qualification were like (n =10, 8.2%) high diploma.

in term of job position as 14 (11.4%) of respondents have a Chief Executive Officer, 15 (12.2%) have a Deputy Executive Officer job position, 64 (52.4%) have a Managing Director job position, and also 29 (23.8%) have a Head of the Department job position.

Table 1: Respondents profile

| Discipline | Frequency | % | Discipline | Frequency | % |
|---|---|---|---|---|---|
| Accounting | 25 | 20.4 | 11 – 15 Years | 55 | 45.1 |
| Finance and Banking | 25 | 20.4 | More than 15 Years | 49 | 40.0 |
| Business Administration | 24 | 19.6 | | | |
| Economics | 25 | 20.4 | Qualification | | |
| IT | 23 | 18.8 | High Diploma | 10 | 8.2 |
| Age | | | Bachelor | 29 | 23.8 |
| Below 25 years old | 11 | 9.0 | Master | 55 | 45.1 |
| 25 - 35 yrs | 26 | 21.3 | PHD | 28 | 23.0 |
| 36 - 45 yrs | 62 | 50.8 | Job Position | | |
| 45 yrs & Above | 23 | 18.9 | Chief Executive Officer | 14 | 11.4 |
| Working Experience | | | Deputy Executive Officer | 15 | 12.2 |
| Below 5 years | 8 | 6.6 | Managing Director | 64 | 52.4 |
| 6 – 10 Years | 10 | 8.2 | Head of the Department | 29 | 23.7 |



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Table 2 shows the result of reliability test, which aim to measure the internal consistency of the variables items. The Cronbach alpha for the model constructs has ranged between 0.670 and 0.970, this clarifies a good internal consistency for the model construct. For the purpose of identifying the relationship between reliability of financial information systems' variables and the quality of financial reports among Libyan commercial banks, the correlation test is employed. Table 3 and 4 shows significant and positive relationships between reliability of financial information systems' variables and quality of financial reports variables.

Table 2 Reliability test

| No | Variable | Items | Cronbach Alpha |
|---|---|---|---|
| 1 | Reliability of Financial Information Systems | | |
| | Security Principle | 8 | 0.923 |
| | Confidentiality Principle | 7 | 0.822 |
| | Privacy Principle | 9 | 0.845 |
| | Integrity process Principle | 9 | 0.670 |
| | Availability Principle | 8 | 0.809 |
| 2 | Quality of Financial Reports | | |
| | Adequacy Feature | 7 | 0.776 |
| | Reliability | 8 | 0.910 |
| Total Cronbach's Alpha | | 77 | 0.970 |

Table 3 Correlations test for the first dependent variable adequacy feature

| The reliability of financial information systems variables | | Adequacy feature |
|---|---|---|
| Security Principle | Pearson Correlation<br>Sig. (2-tailed) | .682<br>.000 |
| Confidentiality Principle | Pearson Correlation<br>Sig. (2-tailed) | .683<br>.000 |
| Privacy Principle | Pearson Correlation<br>Sig. (2-tailed) | .640<br>.000 |
| Process integrity Principle | Pearson Correlation<br>Sig. (2-tailed) | .732<br>.000 |
| Availability Principle | Pearson Correlation<br>Sig. (2-tailed) | .634<br>.000 |

Table 4 Correlations test for the second dependent variable reliability

| The reliability of financial information systems variables | | Reliability |
|---|---|---|
| Security Principle | Pearson Correlation<br>Sig. (2-tailed) | .437<br>.000 |
| Confidentiality Principle | Pearson Correlation<br>Sig. (2-tailed) | .563<br>.000 |
| Privacy Principle | Pearson Correlation<br>Sig. (2-tailed) | .540<br>.000 |
| Process integrity Principle | Pearson Correlation<br>Sig. (2-tailed) | .583<br>.000 |
| Availability Principle | Pearson Correlation<br>Sig. (2-tailed) | .497<br>.000 |

The regression coefficients tables (5 and 6) provide the necessary information to predict the relevance from the reliability of the accounting information systems, as well as determine whether the reliability of the accounting information systems contributes statistically significantly to the model. The multiple linear regression shows that three of five variables (confidentiality, privacy, and process integrity) have significant values less than 0.05 (0.001, 0.000, and 0.000 repeatedly) which means relevance is influenced only by these three variables in the multiple linear regression model.

The multiple linear regression shows that all variables (security, confidentiality, privacy, and process integrity), except availability variable, have significant values less than 0.05 (0.047, 0.004, 0.001, and 0.000 repeatedly) which means that the reliability is influenced by these four variables in the multiple linear regression model, but is not influenced by the availability variable.



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*Table 5 Regression test* for the first dependent variable adequacy feature

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | -.537 | .232 | | -2.311 | .023 |
| Security | .149 | .076 | .179 | 1.967 | .052 |
| Confidentiality | .335 | .099 | .349 | 3.403 | .001 |
| Privacy | .218 | .053 | .241 | 4.113 | .000 |
| Process integrity | .487 | .074 | .399 | 6.588 | .000 |
| Availability | -.109 | .122 | -.106 | -.895 | .372 |

*Table 6 Regression test* for the second dependent variable reliability

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | -.787 | .383 | | -2.052 | .042 |
| Security | -.251 | .125 | -.251 | -2.008 | .047 |
| Confidentiality | .474 | .163 | .411 | 2.914 | .004 |
| Privacy | .297 | .087 | .273 | 3.397 | .001 |
| Process integrity | .509 | .122 | .347 | 4.169 | .000 |
| Availability | .092 | .202 | .074 | .454 | .651 |

According to the current research if was found that there is no direct and significant relationship between security, confidentiality, privacy, process safety, and availability with adequacy of financial reports quality, stating that Pearson correlation values for the variables were (0.682, 0.683, 0.640, 0.732, 0.634 respectively), which indicates moderate positive relationships, which means that when the security, confidentiality, privacy, process safety, and availability principles increase, the adequacy feature will increase too.

On the hand, the study also examined the direct relationships between security, confidentiality, privacy, process safety, and availability with the reliability of financial reports quality. The investigation came up with positive outcomes. The study has found out that there are positive and significant relationships between security, confidentiality, privacy, process safety, and availability with the reliability of financial reports quality with correlation values of (0.437, 0.563, 0.540, 0.583, and 0.497 respectively). Those values mean that when the security, confidentiality, privacy, process safety, and availability principles increase, the reliability feature will increase too.

Those results found cope with the results of the previous studies, for example the study of McLeod and Schell (2007), the framework is a collection of coordinated components with a similar reason to achieve an objective. Susanto (2013) said that the framework as a collection / collection of subsystems / parts / segments in any physical or non-physical are interconnected and cooperate in congruence to achieve a specific objective. Dull, Gelinas, and Wheeler (2012) defined that AIS is a subsystem of MIS. As indicated by Pornpandejwittaya (2012) uses the expression "achievement" to represent the successful use of accounting information systems in territories that are of primary concern to the association, it is widely used by at least one client that meets and improves the quality of its execution.

According to Urquía Grande, Pérez Estébanez, and Muñoz Colomina (2011) AIS is characterized as an "instrument that, when it joined the field of Information Systems and Technology (IT), was intended to assist in the administration and control of the points identified with the financial monetary territory of the Business". Reports of subsequent events may be used by the administration or remotely by other persons with investment, including speculators, lenders and experts in evaluation. In study of Stair and Reynolds (2010), the quality of accounting information systems is generally adaptable, productive, available and timely. As indicated by Collier (2015) the accounting information framework should have the attributes that accompany it to be successful and competent: accurate, auspicious, provide the organization with important information to carry out the control and evaluation of the financial years, provide the organization with information essential that encourages them to organize, organize by input and adaptable to natural changes (Wu et al., 2015).

## 5. Conclusion

Libyan banks have the latest technology to face intense competition, which has expanded internally and externally through providing the best services that keep up with the times. Accounting information systems are one of the main components of information technology. Accounting information systems are one of the main components of information technology.



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It has been shown that banks, like other international institutions, are suffer from the risks of using this technology such as piracy, manipulation and the reliability gap between customers and modern technology, which can limit the profitability of these banks. This requires these banks to adopt accounting information systems and reliable. The current research was implemented to examine the impact of reliability on accounting information systems on the quality of financial reports published by Libyan commercial banks. In the process of doing that, the researcher has come up with objectives and questions to be investigated.

The study has used a the descriptive approach to present both the principles of information systems reliability and previous related studies (whether at the local, regional or global level), in order to investigate the most significant results achieved in this regard, while the analytical approach (the practical aspect of the study) analyses the level of applying the principles of reliability of accounting information systems, as well as measuring the impact of accounting information systems reliability on the quality of financial reports issued by Libyan commercial banks

The results found from the research is supporting most of the research hypotheses. For example, for the hypotheses that stated there are positive and significant relationships between (Security, Confidentiality, Privacy, and Process Integrity, and Availability with adequacy features and Reliability), they were all supported by the results, except for the relationship of Security and availability with reliability, they were rejected.

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