

The effectiveness of the Financial and Accounting Computerized Information Systems in the Jordanian Banking Sector: An Empirical Study

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المخلص

تهدف هذه الدراسة إلى تقييم أداء نظم المعلومات المالية والمحاسبية المعتمدة على الحاسوب في قطاع المصارف الأردنية خلال سنة 2011، وذلك من خلال التركيز على الفاعلية في أداء المهام ، وقد اعتمدت الدراسة على أسلوبين لجمع البيانات: الأولى والثانوية، أما البيانات الأولية فقد تم جمعها من خلال الدراسة الميدانية التي تمت بواسطة استبانة وزّعت على مُستخدمي النظم المالية والمحاسبية المعتمدة على الحاسوب (من محاسبين ومدراء ماليين) في كل البنوك التجارية الرئيسية الأردنية المدرجة في سوق عمان المالي والتي بلغت (15) بنكاً تجارياً. وقد بلغ عدد الاستبيانات الموزعة على المستخدمين (من مدراء ماليين ومحاسبين) 164 استبانة استرد منها 140 استبانة مكتملة الإجابات أي بنسبة استرجاع (85.36%)، وقد تم تحليل البيانات المُجمعة باستخدام الأساليب الإحصائية الوصفية كمقاييس النزعة المركزية، ومقاييس التشتت، والتكرارات، وبعض الأساليب الإحصائية الاستدلالية . في حين أن البيانات الثانوية تم جمعها من خلال الإطلاع والمراجعة لأدبيات الموضوع من كتب وأبحاث ودوريات وغيرها.

وقد أظهرت نتائج هذه الدراسة بأن كل من أنواع تكنولوجيا المعلومات، وأنواع نظم المعلومات المالية والمحاسبية المعتمدة على الحاسوب يتوفر بشكل واسع في البنوك التجارية الأردنية المدرجة في سوق عمان المالي، وأن هذه النظم تتمتع بدرجة كبيرة من الفاعلية في تحقيق أهدافها، حيث أنها تتميز بسهولة استخدامها والتعامل معها والسرعة والدقة في إدخال ومعالجة البيانات. وتتمتع بالمرونة بحيث يمكن إدخال التعديلات والتحسينات عليها لتتلاءم مع البيئة المحيطة واحتياجات المستخدمين وهذا يجعلها قادرة على أداء الوظائف المطلوبة والمحافظة على مستوى أدائها في الظروف المختلفة. وكذلك تتمتع هذه النظم بالتكامل داخلياً (بين وظائفها المختلفة) ومع النظم الأخرى بما يكفل توفير متطلبات الوظائف والنظم المختلفة داخل البنك وخارجه بالموصفات المطلوبة لكل منها، وأخيراً فإنها تتميز بوجود مجموعة من القواعد والإجراءات الرقابية التي تدعم دقتها وتزيد من إمكانية الاعتماد عليها.

Abstract :

This study aims at evaluating the effectiveness of the financial and accounting computerized information systems in the Jordanian banking sector in 2011, from different aspects.

To achieve these objectives, two techniques for gathering data are used: the questionnaire which represents the primary sources. Books, periodicals and various published studies, represent the secondary sources.

The researcher has distributed (164) questionnaires to the users (Accountants and Managers) of the Jordanian commercial banks listed in Amman stock exchange (ASE), (140) were received back and analyzed which represent (85.36%) from the Total population.

The SPSS package was used for statistical analysis through using frequencies, percentages, means and standard deviations, correlations.

The financial and accounting computerized systems are highly effective to achieve their goals, easy to be used, faster and adaptive to different needs and environments. These systems are characterized by being internally integrated and also with other systems in the way that they meet the need of all parties, inside and outside the commercial banks. These systems also are characterized by the presence of monitoring rules that support its efficiency and enhance the trust of users.

Finally, the researcher summarized several recommendations according to the conclusions.

Key Words: information systems (IS), The Financial and Accounting Computerized Information Systems (FACIS), Jordanian Banking Sector.

Introduction

Over the last years, organizations all over the world have invested significantly in information systems (IS). It is widely believed that investment in information systems will enable firms cut costs and compete strategically and effectively (Butler and Gray, 2006)

An information system (IS) is the application of computing and communication technology to face business in the emerging and strengthening global economy. Ultimately an IS exists to help an organization accomplish its objectives (Street and Meister, 2004). An IS takes raw facts, known as data, manipulates, compiles and integrates that data into something that has meaning for a manager or operator (planisamy, 2003). Information Systems should provide guidance to the organizations employees to better assist them in the accomplishment of their objectives. IS has great impact on all levels of organization (i.e. Operational, tactical, and strategic). They also impact on all functional areas: finance and accounting, Manufacturing and production, sales and marketing, and human resource.

The evaluation of the performance of information systems and its role in the Banking industry is a very important point for managers and employees of banks and customers. Especially in the finance and accounting functional areas of banks as these functions affects profit and returns. (Abu Musa, 2006)

1. . Research Problem:

The proposed study investigates the role of information systems in Jordanian banks. In this context several problems due to the banks operate in a dynamic

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environment for a number of reasons such as new technologies, strategic alliances, entrepreneurial ideas, and regulatory changes. Misuse of information systems in these banks will result in loss of competitive advantage opportunities, increase costs and create negative environment.

2. Research Objectives:

The present research conduct an intensive investigation of the accounting and finance information systems in one industry , rather than spread the effort over a wide range of different types of information systems and industries .

Therefore, this study seeks to achieve the following objectives:

To evaluate the effectiveness of the financial and accounting computerized information systems in the banking sector in Jordan.

3. Importance of the Study:

The importance of this study will be to identify how effective use of information systems in Jordanian banks can promote and shape the capabilities of employees and assist in achieving the organization goals and objectives.

4. Research hypothesis

The financial and accounting computerized systems is characterized with effectiveness in performance and achieving goals.

the output of the financial and accounting computerized systems (include information and reports) enjoy high quality regarding the content format and timeliness.

5. Methodology:

There are two types of data collection:

1. **Primary data:** a questionnaire has been developed to measure information systems use and practices in Jordanian banks.
2. **Secondary data:** The researcher will review the relevant literature from different sources such as books, journals, essays, on line database to formulate the theoretical background of this research.

6. The Content of the Research

6.1 Computer-Based Financial and Accounting Information Systems:

Are a set of systems that provide information related to the accounting and financial activities in an organization. These systems should be tightly integrated with other functional information systems because finance and accounting are interwoven into all business operations. (Davis, 2005) defines six financial and accounting computerized information systems which are:

1) General ledger, 2) asset management. 3) order-entry. 4) account receivable and account payable. 5) inventory control and. 6) Payroll systems.

1- *General Ledger Systems:* Generate the company's income statement and balance sheets, and are responsible for managing the new and old account in the company.

2- *Asset Management Systems:* Maintain an inventory of the company's long-term assets and ensure that accounting practices for company Assets comply with regulatory standards. The output of this system often becomes the input to the general ledger system.

3- *Order-Entry Systems*: Capture and manage different kinds of data relating to transaction such as number of units sold, customer billing, credit history, sales tax, and inventory levels. The output of this system is then input to a number of other systems, such as account receivable and inventories management.

4- *The Account Receivable and Account Payable System*: Captures and processes data such as creditor and customer billing information, payments received and owed, credit terms, account balances, and payment schedules.

5- *The Inventory Control System*: Captures, processes, and manages all issues related to the company's inventory such as inventory levels and costs, accounting practices related to inventory maintenance, stock balance, and data on lost, damaged, or returned goods.

6- *Finally, Payroll Systems*: Capture and process data related to wages and salaries, including federal and state taxes, other deductions, employee benefits, overtime, and other related data.

Besides these six systems, (Miller, 2007) provide that many businesses use other types of financial and accounting computerized systems such as the following:

1. *Cash Management Systems* (that is, systems that ensure the organization has enough cash to conduct normal business, receive the best possible return on its short-term cash deposits, and sufficient cash flow to achieve good ratings in financial markets).
2. *Capital Budgeting Systems* (for example: systems that ensure the acquisition and disposal of capital assets such as land, building, and so on).
3. *Investment Management Systems* (such as systems that ensure that the organization gets the best possible returns on its long-term investments).

6.2 Description of the Banking Sector in Jordan

In the light of the emergence and strengthening of the global economy and the transformation of industrial economies and societies into knowledge and information-based service economies, the banking sector in Jordan has realized the importance of modern technology in updating customers' service and providing the necessary flexibility which would enable it to encounter competition through rendering new services at appropriate time and place.

The banking sector in Jordan, dating back to 1930 when the Arab bank has started its operations.

The table (1) shows a description of the banking sector in Jordan, there are 20 banks working in Jordan; 15 Jordanian banks and 5 foreign banks.

Table (1): Description of the Banking Sector in Jordan

Bank Name	Nationality ^(a)	Year of Establishment ^(a)	Number of Branches Working in Jordan ^(a)	Number of Branches Outside Jordan ^(a)	Paid-in Capital ^(b*)
Jordanian Banks					
Arab Bank	Jordanian	1930	31	89	88.000
Bank of Jordan	Jordanian	1960	39	5	20.219
Cairo- Amman Bank	Jordanian	1960	25	19	15.000

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The Housing Bank	Jordanian	1974	106	4	100.000
Jordan Kuwait Bank	Jordanian	1977	26	1	20.000
Arab Banking Crop (ABC)	Jordanian	1989	16	-	20.000
Islamic Int'l Arab Bank	Jordanian	1997	7	-	40.000
Jordan Islamic Bank	Jordanian	1979	49	-	18.233
Arab Jordan Investment Bank	Jordanian	1978	7	1	20.000
Jordan Investment & Finance Bank	Jordanian	1989	6	-	15.133
Union Bank	Jordanian	1991	11	1	20.000
Societe General Bank (Jordan)	Jordanian	1993	6	-	16.015
Al Ahli Bank	Jordanian	1956	49	12	42.000
Capital Bank	Jordanian	1992	11	-	10.000
Jordan Commercial Bank	Jordanian	1978	24	3	20.000
Foreign Banks					
HSBC Bank	British	1949	5	-	10.000
Egyptian Arab Bank	Egyptian	1951	19	-	10.000
Rafidain Bank	Iraqi	1957	2	-	5.000
Chartered Grindlays Bank	Australian	1969	13	-	10.000
Citi Bank	American	1974	2	-	10.000

a: Source: Central Bank of Jordan 2011.

b: Source: Banks & finance Institutions Directory in Jordan. Nov2011.

* Amounts in Thousands of Jordanian Dinar.

. 6.3 Testing the Research Hypothesis:

It Should be noted that the line to accept or reject hypotheses is (3). If the average of the sample's answers is (3) or more, the hypothesis would be accepted; if it was less than (3) it would be rejected.

And the results have been explained in terms of percentages according to the following criteria:

1. Extremely high : 81% - 100%
2. high : 61% -80%
3. fair (moderate) : 41% - 60%
4. low : 21% - 40%
5. Extremely low : 0 – 20%

The Major Hypothesis : The financial and accounting computerized systems is characterized with effectiveness in performance and achieving goals.

The effectiveness of financial and accounting computerized systems can be defined as “The ability of the financial and accounting systems to exploit computer facilities for collecting, recording and processing the data, as well as providing the proper information which help decision – makers for inside and outside the foundation achieve their goals” (OZ 2006, p112)

/ The outputs of the financial and accounting computerized systems (include information and reports) enjoy high quality regarding the content, format and timeliness.

The reports and the information provided by the financial and accounting computerized systems are characterized with good quality if they have a set of characteristics some of which are related with content (Accuracy relevance, validity, Reliability), and the others are related with the form in which the information and reports are presented (such as: clarity, harmonization and conciseness), in addition to their availability in a timely manner both in the normal or the emergency situations.

1- Content Quality:

We note, from the following table number (2), the presence of quality in the reports and information which the financial and accounting computerized systems provided in terms of content in a very high extent as the majority of paragraphs have an arithmetic mean which is greater than 4 (more than 80%), and the highest arithmetic means were to the following paragraphs: (1-e) true information that express reality; (1-a) understandable information; (1-b) the precise information you need, respectively. The deviation of the answers away from the arithmetic mean of such paragraphs is less than 1 which indicates that most answers were consistent and related. And by calculating the total arithmetic mean and the standard deviation of the quality of the information content, we conclude that the arithmetic mean is (4.12) with (82.4%), and a low standard deviation of (0.70) which ascertains the above mentioned result.

**Table (2)
The Quality of the content of the information and reports provided by the financial and accounting computerized systems**

No .	Questions	The Mean		The standard deviation
		Number	Percentage %	
	Computer- based financial and accounting system provides:			
1-a	Understandable information	4.16	83.2%	0.72
1-b	The precise information you need.	4.16	83.2%	0.71
1-c	Reports that seem to be just about exactly what you need.	4.03	80.6%	0.90
1-d	Reliable information.	4.12	82.4%	0.72
1-e	True information that express reality.	4.18	83.6%	0.75
1-f	The information content that meets your needs.	4.06	81.2%	0.79
1-g	Up-to-date information	4.13	82.6%	0.82
	The Total	4.12	82.4%	0.70
The Result: Extremely high		(81%-100%)		

2- Figure (Format) Quality:

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Table (3)

The quality of the figure of information and reports provided by the financial

No.	Questions	The Mean		The standard deviation
		Number	Percentage %	
2-a	The output provided by the computer- based financial and accounting system is: Presented in useful format.	4.08	81.6%	0.80
2-b	Shorthand information.	3.73	74.6%	0.95
2-c	Clear information.	4.06	81.2%	0.76
	The Total	3.96	79.2%	0.80
The Result : High		(61%- 80%)		

and accounting computerized systems

From the table number (3), we conclude that the financial and accounting computerized systems provide information represented in a very useful way (arithmetic mean is 4.08) because such information is clear and consistent (arithmetic mean is 4.06). The information wasn't brief (short); the least arithmetic mean (3.73) was for the paragraph (2-b) which says that the information provided by the financial and accounting computerized system is short; because the financial and accounting information requires details. And by calculating the mean of information quality in terms of form, we note that it has a great and high quality that the mean was (3.96) with low standard deviation of (0.80).

3- Timing Quality

Table (4)

The timing quality of information and reports provided by the financial and accounting computerized systems

No .	Questions	The Mean		The standard deviation
		Number	Percentage %	
3	The computer- based financial and accounting system provides the information you need in time.	4.11	82.2%	0.80
4	The system designs emergency information and reports as needed in the proper details to decision makers.	3.90	78%	0.80
	The Total	4.00	80.1%	0.68
The Result: High		(61%-80%)		

From the table (4), we note that the information and reports provided by the financial and accounting computerized systems reach users in the proper time which suits them well in a high extent; the arithmetic mean is (4.00) with (80.1%) and the standard deviation is (0.68).

The Conclusion To The - Hypothesis:**Table (5)****The quality of the information and reports provided by the financial and accounting computerized systems**

No.	The Dimension	The Mean		The standard deviation
		Number	Percentage %	
1	The Content	4.12	82.4%	0.70
2	The Format	3.96	79.2%	0.80
3	The timeliness	4.00	80.1%	0.68
	The Total	4.03	80.6%	0.76
The Result: High		(61%-80%)		

By calculating the arithmetic mean (4.03) and the standard deviation (0.76) of the three dimensions of the information quality, as it is shown in the table (5), we note that the quality of both reports and information is great (high) which lead to the acceptance of the hypothesis.

7.RESULT:

1/We can say that the reports and information provided by the financial and accounting computerized systems (through the accountants) are clearly and consistently, this makes it easy to understand it. Such information is accurate and it sufficiently reflects reality and gives decision- makers (managers) their needs in the proper time; Decision- makers rely on such information in Decision- making and in conducting their functions in ordinary situations and in times of emergency.

2/It should be mentioned that through the results of both the questionnaires and meetings with investigators (respondents) during the distribution of questionnaires, the researcher found that some managers consider the information and reports they have not brief (short) enough and that they are not consistent with their crowded career situations or with what is termed as "information overload". Managers regard it a huge problem although it is located outside the responsibility of accountants and that it requires from those who designed the systems to coordinate with specialized managers and accountants and to review and redesign the forms of reports which such systems publish.

3_ The financial and accounting computerized systems enjoy a high degree of effectiveness in performance.

These systems allowed accountants to register (record) the accounting operations and prepare various financial statements quickly and accurately which contributed to creating a surplus of time and effort which was exploited to improve and upgrade the quality of work (positive hypothesis).

4_The development of computers and various programming languages, and the competition between the companies which designed the programs have led to the emergence of financial and accounting systems of a high quality in the Jordanian commercial banks.

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