

THE IMPACT OF THE ACCOUNTING INFORMATION QUALITY ON THE EFFECTIVENESS OF BUSINESS INTELLIGENCE IN JORDANIAN FINANCE COMPANIES

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Abstract

The purpose of this study was to determine the effect of accounting information quality on the effectiveness of business intelligence in Jordanian finance firms. To accomplish this goal, the study used a descriptive analytical approach due to its suitability for the study's nature. A questionnaire was developed and distributed to the study's targeted sample of 60 participants. Among the study's most significant findings is that the independent study variable representing the application of accounting information quality has a positive effect on business intelligence and its dimensions (profitability, liquidity) in Jordanian finance companies. Additionally, the study's findings indicated that the business intelligence practices in finance companies most impacted by the quality of accounting information are liquidity and profitability. The study concluded with a set of recommendations, the most significant of which are as follows: the continuation of finance companies, the application of the concept of accounting information quality, and the development of methods for its application.

Keywords: quality of accounting information, business intelligence.

Introduction

Accounting information has grown in importance as a result of technological advancements. This importance stems from the fact that the accounting information system provides information to both internal and external parties represented by the administration and its various units, as well as investors, banks, government agencies, labour unions, and civil society institutions. It's worth noting that good information is most beneficial for rationalising decisions, which must possess qualitative characteristics that can be relied upon when evaluating the achievement of the organization's objectives via it and accounting standards. As a result, it has an effect on the quality of information and the ability of decision makers to benefit.

However, finance companies and banks are the bedrock of contemporary economic life, playing an important role and exerting significant influence over the development and management of economic processes. On the other hand, one of the most important factors affecting the continuity and success of finance companies and banks is the accuracy of their internal organisation in general, as well as the presence of effective accounting and control systems. Additionally, performance is evaluated to ensure the regularity with which its work is completed and the accuracy and validity of information and financial data.

Additionally, it provides necessary information about the financial institutions' overall operations through their various departments and branches. Thus, updated concepts and trends such as "business intelligence" emerged as a means of improving the concept of improving and developing an information's performance, as well as its relationship to accounting data and its impact on the decision-making process.

Problem Statement

The study's objective is to address the following two questions:

- What is the impact of the quality of accounting information on the effectiveness of business intelligence in Jordanian finance companies through the profitability dimension?

- What is the impact of the quality of accounting information on the effectiveness of business intelligence in Jordanian finance companies through the use of the liquidity dimension?

Research Significance

The study gained significance as a result of our desire to shed light on some emerging concepts in accounting and economics, namely "business intelligence," which is an integrated methodology for accounting and administrative processes, as well as for managers' work in business organisations. It aids in comprehending the current state of the work environment and identifying necessary solutions, as it has become more complex as a result of the numerous challenges it faces.

Additionally, business intelligence requires a robust infrastructure capable of providing various services within the organisation as an integrated and efficient system with a data warehouse, as well as a collection of computer technologies capable of dealing with various data types that are collected, saved, and analysed in order to provide methodologies, processes, and structures that convert raw data into useful information.

Research Objectives

The purpose of this study is to define the intellectual framework of business intelligence applications in terms of concept, tools, and the process as a whole, and to determine how they will assist their users in obtaining and clarifying business results in a timely and quality manner. The work of modern applications, including business intelligence, and their compatibility with the nature and characteristics of information, as well as how they will aid in decision-making in the economic environment and in various modern environments of business culture and strategy.

Research Hypothesis

The first hypothesis is that there is no effect of the quality of accounting information on the effectiveness of business intelligence in Jordanian finance companies when the profitability dimension is used.

The second hypothesis is that the quality of accounting information has no effect on the effectiveness of business intelligence in Jordanian finance companies when the liquidity dimension is used.

Literature Review

The accounting information system serves as the primary conduit for the institution's activities and operations; in today's increasingly competitive environment, the system has witnessed into a wild card for establishing the company's presence, particularly in light of the recent technological revolution in the region. Thus, technology has demonstrated that the foundation for any institution's stability and sustainability is an effective and efficient system for keeping abreast of recent economic developments in the Arab region, if not the entire world. Thus, it is defined as an integrated technical system that consists of a network of personal computers connected to servers, installed through data storage on databases and, in most cases, data processing (Yassin, 2000).

Accounting Information Characteristics

The qualitative characteristics of accounting information refer to the characteristics and features that contribute to the value and fundamental importance of accounting information from the perspective of its users, whether internal or external. However, accounting information must be characterised by the following characteristics that are considered to be among the dimensions of accounting information's quality:

Relevance

The American Financial Accounting Standards Board (FASB) has established two basic qualitative characteristics of accounting information:

relevance and reliability. In order to differentiate them, relevance has been defined in several definitions, for example relevant information is information that has at least three dimensions: objective relevance, semantic relevance, and relevance of decisions. (Hendrickson & Breda, 2001)

Whereas, the American Financial Accounting Standards Board (FASB) refers to three components of relevance:

1. Predictive Value and Feedback Value
2. Timeliness
3. Feedback: Feedback

Reliability

Additionally, the American Financial Standards Board (FASB) defines it as "the quality of information that is relevant to ensuring that the information is free from errors and bias to a reasonable degree, and that it faithfully represents what it claims to represent." Its features are as follows:

1. Verifiability
2. Representation Faithfulness
3. Neutrality

Business Intelligence Concept

There are numerous business intelligence concepts, and authors and researchers differ in their interpretations, depending on the field and field in which they work. Luhn, for instance, defines business intelligence as "a collection of concepts and methods for improving business decision-making through the use of fact-based support systems." Additionally, the Gartner group defines it as the capacity for information access and analysis. (www.Gartner.com).

The researcher defines business intelligence as a concept that is founded on data analysis as a primary axis through which modern technology and systems assist in accessing knowledge and then presents it in a variety of ways, including paper reports, interactive reports, shapes, graphics, and diagrams in intelligent ways, through which accurate data-based knowledge is accessed. In a prudent and timely manner, to assist

individuals in management positions in making rational and correct decisions based on accurate knowledge as quickly as possible, which will result in constructive and effective decisions for the overall benefit of the organisation.

Business Intelligence Significance

The importance of business intelligence increases with the increasing competition in the environment of business organisations, due to its superior ability to comprehend large amounts of high-quality data, search for, analyse, extract, and work to provide high-quality and valuable information, as the majority of companies worldwide seek to increase their competitiveness.

On the other hand, at the very least, staying competitive and seeking out more innovative ways to attract customers through the provision of new and high-quality services as a necessary condition for business sustainability. Meanwhile, business intelligence can be applied to a wide variety of fields and sciences throughout life, including communications, information systems, banking, finance, statistics, marketing, and website development, to name a few. Recognize that the fundamental functions of business intelligence include the following: • Data collection • Data evaluation • Data analysis • Data storage

Business Intelligence Systems Components

Business intelligence systems are based on architectural flexibility, which means that their technical components are not restricted to a single system. However, according to research conducted and agreed upon by researchers, the following components have become the focus of business intelligence systems:

- 1- Techniques for data sourcing and support for current and historical data dimensions and measures, as well as their updating and quality.
- 2- Techniques for data analysis As previously stated, OLAP is one of the most widely used data analysis techniques.
- 3- Techniques for data mining and storage.

- 4- Information visualisation techniques, whether in static or interactive reports or on digital dashboards.

Related Studies

To begin, Al- Naimi's study (2019) on Extensible Business Reporting Language (XBRL) concluded that XPRL contributes to improving the qualitative characteristics of accounting information, whether primary or enhanced (secondary). While Al-Henini et al. (2018) discovered that all qualitative characteristics have an effect on the quality of banking services in Jordan. Additionally, he recommended that banks operating in Jordan keep up with advances in accounting information systems and develop systems to enhance the quality of banking services provided to clients.

While Abbas's (2018) study discovered that there is insufficient evidence of a correlation between business intelligence and strategic decision-making in general. On the other hand, the study (Mornawan et al.) confirmed that business intelligence facilitates in-depth analysis by providing a report that can be viewed from multiple perspectives and is more suited to analysis than an operational report. Monitoring sales performance, customer segmentation, and positioning, for example, can be accomplished by viewing a deep analysis report. While the study (Spring 2018) showed the critical role of the human resource cycle (training, performance measurement, and compensation) in determining the fundamental qualitative characteristics of accounting information in Jordanian commercial banks.

The Study Sample and Population

The population of the in-depth study consists of workers in the financial and administrative departments of microfinance companies, numbering (16) companies, where a sample of 260 employees was taken. A random sample of 60 individuals targeted for the study was withdrawn, and a study questionnaire was distributed to them, of which (56) questionnaires were retrieved with a retrieval rate of (93%), and (4) questionnaires were

excluded due to their unsuitability for analysis, and thus were subject to analysis (52) that constituted (93%) of the retrieved questionnaires.

Results pertaining to the study's Questions

What is the impact of the quality of accounting information on the effectiveness of business intelligence in Jordanian finance companies through the profitability dimension?

Paragraph Analysis Results (Profitability)

No.	Paragraph	Arithmetic Mean	Standard Deviation	Order	Approval Level
1-	Business intelligence helps the institution to prepare indicators and analytical financial ratios to identify its profitability through using them on dashboards.	3.77	0.65	2	High
2-	Business intelligence with the timely availability of accounting information has a positive impact on the profitability of the institution by presenting it in an instantaneous manner.	3.70	0.94	3	High
3-	Business intelligence contributes to the provision of accounting information with predictive ability, which positively affects the profitability of the institution through financial reports issued in a momentary and periodic manner.	3.67	0.88	4	Average
4-	Disclosure of effective and efficient accounting information in the business intelligence system contributes positively to the profitability of the institution.	3.19	1.01	5	Average
5-	Using the correct data on the business intelligence system gives accounting information the advantage of accuracy that positively affects the profitability of the institution.	3.90	0.85	1	Average
ALL THE PARAGRAPHS		3.65	0.52	-	Average

The above table demonstrates an increase in the arithmetic averages of profitability items, which totaled 3.65 with a standard deviation of 0.52.

Additionally, all of the computational means of study profitability items tend to increase, as these averages ranged between (3.19-3.90), in addition to the paragraph stating "Using correct data on the business intelligence system gives accounting information the advantage of accuracy, which positively affects the institution's profitability," occupying first place in the study sample's order of priorities and (0.61).

Although the paragraph "disclosure of accurate and timely accounting information in the business intelligence system contributes positively to the institution's profitability," it ranked last in the study sample's priorities and concerns, with an arithmetic average (3.86) and a standard deviation of (1.03) from the mean and standard deviation of the general arithmetic. As a result of these results, it appears as though the sample members have a distinct vision for each of these paragraphs.

What is the impact of the quality of accounting information on the effectiveness of business intelligence in Jordanian finance companies through the use of the liquidity dimension?

Results of paragraphs analysis (liquidity)

No.	Paragraph	Arithmetic Mean	Standard Deviation	Order	Approval Level
1-	Business intelligence techniques provide accounting and financial information that helps the institution in managing liquidity.	3.85	0.57	2	High
2-	Adopting a business intelligence system that provides accounting and financial information that helps institutions identify liquidity ratios.	3.64	0.95	3	Average
3-	Business intelligence dashboards help provide accounting and financial information when assessing liquidity.	3.62	0.89	4	Average
4-	Financial statements are one of the main performance indicators of business intelligence, and it is one of the measurement tools that help in measuring liquidity.	3.25	1.04	5	Average
5-	The predictive feature of business intelligence techniques helps the accounting and financial information to reveal strengths and weaknesses in managing liquidity risk.	3.98	0.88	1	Average
ALL THE PARAGRAPHS		3.67	0.50	-	Average

As illustrated in the preceding table, the general arithmetic averages of liquidity items increased to 3.67 with a standard deviation of 0.50. Additionally, it is clear that all of the liquidity paragraphs' arithmetic means are higher when viewed through the lens of the study sample, as these averages ranged between (3.25 - 3.98). Whereas the paragraph stating that "the predictive capability of business intelligence techniques aids accounting and financial information in revealing the strengths and weaknesses in managing liquidity risk" came in first place in the study sample members' priorities and interests, with a mean of (4.44) and a standard deviation of (0.61)

While the paragraph "financial data is one of the primary performance indicators of business intelligence, and it is one of the measurement tools used to determine liquidity" ranked last in the study sample's priorities and interests, with an arithmetic mean of (3.86) and a standard deviation of (1.03), it was ranked first in the general arithmetic mean and standard deviation. These results imply that the study sample comprehends each of the liquidity paragraphs.

Testing the First Hypothesis

This hypothesis states that "the quality of accounting information has no effect on the effectiveness of business intelligence in Jordanian finance companies in terms of profitability." The following table summarises the results from using ANOVA to determine the effect of accounting information quality on the effectiveness of business intelligence in Jordanian finance companies. Through the lens of profitability?

Independent Variable	Source Of Variation	Sums Of Squares	Degrees Of Freedom	F Value	Significance Level	Statistical Decision
Accounting Information Quality	Regression	3.215	2	7.326	0.002	Refuse the null hypothesis
	Error	10.754	49			
	Total	13.969	51			
R Value		0.480				
B Value		0.230				

F value at the significance level ($0.05 \geq \alpha$) equals 3.19

Testing the Second Hypothesis

According to this hypothesis, "the quality of accounting information has no effect on the effectiveness of business intelligence in Jordanian finance companies on the liquidity dimension." The following table summarises the results of using ANOVA to determine the effect of accounting information quality on the effectiveness of business intelligence in Jordanian finance companies from the point of liquidity to the point of liquidation.

Independent Variable	Source of Variation	Sums of Squares	Degrees of Freedom	F Value	Significance Level	Statistical Decision
Accounting Information Quality	Regression	3.313	2	8.093	0.001	Refuse The Null Hypothesis
	Error	9.485	49			
	Total	12.618	51			
R Value		0.498				
B Value		0.248				

F value at the significance level ($0.05 \geq \alpha$) equals 3.19

Results and Recommendations

Results

Based on the statistical analysis of the data collected to address the study's problem and objectives, as well as the results of testing the study's hypotheses, the following points summarise the study's findings:

1. The study's findings indicate that business intelligence systems are generally available in finance firms.
2. The study's independent variable, represented by the application of accounting information quality, has a positive effect on business intelligence in all of its dimensions (profitability, liquidity).
3. The study's results showed that the business intelligence practises in finance companies most impacted by the quality of accounting information are liquidity and profitability.

Recommendations

According to the findings from the study's theoretical framework and statistical analysis of the data, the following recommendations can be made to improve the effectiveness of business intelligence in financial companies:

1. Financial companies continue to apply the concept of accounting information quality and work to improve their application methods.
2. Work to improve employees' understanding and awareness of the concept of business intelligence, as this has a significant impact on the company's competitiveness.
3. A passion for developing a variety of academic and research programmes that will help business intelligence achieve its full potential in society.

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