



RESEARCH ARTICLE

The Impact of Organizational Agility on Business Intelligence

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ARTICLE INFO	ABSTRACT
Received: Jan 3, 2025	<p>The goal of this analysis is to provide leaders with insights to help them to meet the demands of today's business environment, through exploring the intricate relationship between organizational agility and business intelligence. The descriptive and analytical approach was used to achieve the study objective. The study community consisted of all customers in the banking sector, where social media was used. The electronic questionnaire was sent on social media sites, and there was a response from community members. 328 responses were collected, of which 12 questionnaires were not valid for statistical analysis, leaving 316 questionnaires valid for statistical analysis. The Statistical Package for the Social Sciences (SPSS) program was used. According to the main hypothesis, in general, Organizational Agility has a positive effect on Business Intelligence. Based on the findings of this research, Jordanian banks need to pursue some strategic steps: investing in training and developing employees' competencies linked with the background of BI and agility, hence enabling them to employ the BI tools effectively, while changing direction with respect to quick market changes; performing flexible organizational arrangements that allow for swift decision-making and changeability toward new information.</p>
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INTRODUCTION

Having to handle challenges which have never been faced before on account of the inherently dynamic character of the modern business world, organizations are called upon to evolve faster (Mukherjee, 2023). It has become increasingly clear that one of the key predictor variables for success is the importance of organizational agility (Shafiabady et al., 2023), which can be defined as the ability of an organization to adapt to changes in its environment, to do so very quickly, and to do so very well (Mrugalska & Ahmed, 2021). While industrial leaders in the world face the issue of globalization, technology change and how their customers behave, the embedding of agility into their business model has become one of the most important factors (Ramadan et al., 2023).

Business intelligence (BI) is a set of technology/methodology that allows the organizations to effectively collect, analyze, and derive valuable insights from relevant information to help make informed decision. It is at the center of this dynamic interplay (Al Eid & Yavuz, 2022). When organizational agility and business intelligence are combined, the results of that combination are a powerful synergy that allows businesses to not only survive challenging market circumstances but to succeed in such circumstances (Khawaldeh & Alzghoul, 2024). Culture of innovation and responsiveness is created in agile enterprises by applying real-time data-driven insights (Solanki et al., 2024). This is done by these companies to quickly respond to changing market needs and new/emerging trends.

Through exploring the intricate relationship between organizational agility and business intelligence, this study reveals how agility can be enhanced, and how this relationship can be harnessed to improve data analysis, improve decision making and as a result, deliver strategic value. The goal of this analysis is to jointly illuminate how BI systems can influence each other, examining case studies and existing best practices. The goal of this analysis is to provide leaders with insights to help them to meet the demands of today's business environment.

LITERATURE REVIEW

Organizational Agility

Organizational agility (OA), is claimed in literature to have different dimensions such as responsiveness, flexibility, competence, and quickness (Ünlü & Çalışkan, 2022). Morawiec and Sołtysik-Piorunkiewicz (2023) added two other dimensions which are adaptability and innovation. The OA dimensions refer to the specific attributes that empower an organization to adeptly and proficiently adapt and react to changes. Various sources may present varied definitions and classifications pertaining to these dimensions; nonetheless, there are some commonly recognized ones: (Hussein et al., 2021; Kumkale, 2022; Zitkiene & Deksnys, 2018) Responsiveness is defined as the capacity to perceive and respond to alterations in client demands, market dynamics, and competitive forces; Flexibility refers to the capacity of an organization to adapt and alter its structure, processes, and resources in order to effectively respond to evolving demands; Competence refers to the aptitude to cultivate and utilize the proficiencies, expertise, and capacities of the personnel and groups within an organization; Quickness refers to the capacity to efficiently and effectively execute and provide solutions within the shortest feasible timeframe, all the while upholding standards of quality and efficiency; Adaptability refers to the capacity of an utilize to acquire knowledge from past experiences and feedback, and subsequently enhance its performance and development; Innovation refers to the capacity to conceive and execute novel concepts, commodities, services, and business frameworks that yield worth for the organization and its stakeholders.

Business Intelligence

BI has been defined as a decision-making process enabled by organization data asset knowledge integration and analysis. BI has a more and more central role in almost any company, because information is considered to be the most valuable asset of a company, as a base resource for growth (Tavera Romero et al., 2021). Business intelligence is a combination of technologies, which can be used to process, price, and present data, to be understood, analyzed, and used for decision making. The term "business intelligence" encompasses this set of tools. Alternately, according to another definition, it is a collection of computerized solutions that enable the analysis of firm data in order to extract new qualitative information that is used as the basis for choices, whether they are strategic or tactical (Olszak, 2020). According to Božič & Dimovski (2019), business intelligence is a method by which barriers and psychological barriers are overcome using smart methods. These methods are used to achieve tasks that are inherently and critically difficult, and potentially hazardous, involving detailed and complex information for which more mental attention, continuous mental presence and tight on the spot decisions made with no room for time or mistakes are required.

Hypotheses development

Current research highlights BI and IT as mechanisms that can be triggered to promote different aspects of organizational agility (sensing, decision-making, acting) (Park et al., 2017). The BI assimilation into organizational workflows allows companies to increase their response rate to market shocks and also to increase level of mastery of decision processes. The study uses fuzzy-set qualitative comparative analysis (fsQCA) to reveal the intricate combinations of IT, organizational and environmental factors that lead to agility and identifying that organizational agility is not a technology-based endeavor but a multi-dimensional process facilitated by BI-specific strategies. Mortezaei et al. (2022) found a positive and statistically significant relationship between business intelligence and organizational flexibility and creativity. Summing up, the adoption of BI will lead to a better organizational agility and, subsequently, to a better ability of the organization to respond to

environmental changes and transform them into opportunities to exploit. The outcomes of Aly et al. (2021) indicated that organizational business intelligence exerts a considerable positive direct influence on organizational agility, whereas technological business intelligence has a non-significant direct effect on organizational agility. The findings of Yasir et al. (2021) indicate that IT infrastructure must be enhanced, particularly when an organization intends to implement ERP systems and Business Intelligence to facilitate timely decision-making in response to market demands, which ultimately influences Organizational Agility. Aldaher & İŞCAN (2022) obtained various findings, the most significant of which is a robust association between business intelligence systems and the decision-making processes in managing humanitarian organizations. Secondly, a favorable association exists between the quality of information and the quality of systems utilized in business intelligence, as well as user happiness and perceived value in humanitarian organizations. Third: A positive association exists between user satisfaction with business intelligence tools and decision-making in humanitarian organizations.

According to the above, the following hypotheses can be reached:

H.1: There is an impact of Organizational Agility on Business Intelligence at the level ($\alpha \leq 0.05$).

H1.1: There is an impact of Responsiveness on Business Intelligence at the level ($\alpha \leq 0.05$).

H1.2: There is an impact of Flexibility on Business Intelligence at the level ($\alpha \leq 0.05$).

H1.3: There is an impact of Competence on Business Intelligence at the level ($\alpha \leq 0.05$).

H1.4: There is an impact of Adaptability on Business Intelligence at the level ($\alpha \leq 0.05$).

RESEARCH METHODOLOGY

The descriptive and analytical approach was used to achieve the study objectives and answer its questions. The descriptive approach was used based on studying the research topic based on an appropriate tool used to collect data and information, with the aim of studying the relationship between the study dimensions and its variables. The analytical approach was used to process the data collected, analyze it, and test hypotheses to reach the study results and provide appropriate recommendations for those results.

The study community consisted of all customers in the banking sector, where social media was used. The electronic questionnaire was sent on social media sites, and there was a response from community members. 328 responses were collected, of which 12 questionnaires were not valid for statistical analysis, leaving 316 questionnaires valid for statistical analysis. The Statistical Package for the Social Sciences (SPSS) program was used, as this study aims to identify The Impact of Organizational Agility on Business Intelligence.

Data Collection

Two different sources were used to acquire the information needed to complete the study's objectives. The use of secondary sources began with the use of theoretical and scientific literature. These sources played a crucial role in helping researchers gather the information they needed to build the study's theoretical framework, refine its goals, and review key findings. Additionally, they were extremely important in developing the study's hypotheses and enhancing the conversation. Books, university theses, scholarly research articles, peer-reviewed magazines, and academic works published.

Reliability Test

To ensure that the questionnaire's items were adequate and consistent, the Cronbach's Alpha value was determined. The value is statistically acceptable if the result is more than 0.70, and the closer it is to one (or 100%), the more reliable the search tool will be (Sekaran and Bougie, 2016). Cronbach Alpha ranges from 0.758 to 0.969, as seen in Table (1). To put it another way, the study tool is reliable, and the data it generates is accurate and trustworthy for assessing variables. Since all independent and validated variable dimensions are greater than 70%, reliability has been taken into account.

Table (1): Cronbach's Alpha Coefficient

	Number of items	alpha Cronbach
Responsiveness	5	0.969
Flexibility	5	0.780
Competence	5	0.869
Adaptability	5	0.758
Organizational Agility	20	0.915
Business Intelligence	10	0.906

Hypothesis Testing

The First Main Hypothesis

To test the first main hypothesis, Multi linear regression analysis was performed.

The first main hypothesis of the study was as follows: "There is a statistically significant impact at the level ($\alpha \leq 0.05$) of Organizational Agility on Business Intelligence in the banking sector".

Table (2): Results of Testing the Impact main hypothesis

I.V	Model Summery		ANOVA		Coefficients				
	R	R ²	F	Sig F*	variable	B	standar d error	T	Sig T*
Business Intelligenc e	0.850	0.722	146.501	0.000	Responsivenes s	0.180	0.047	3.434	0.001
					Flexibility	0.474	0.049	9.605	0.000
					Competence	0.160	0.061	2.609	0.010
					Adaptability	0.268	0.050	5.350	0.000

*The effect is statistically significant at the level ($\alpha \leq 0.05$)

The correlation coefficient ($R = 0.850$) shows that using Organizational Agility has an impact on improving Business Intelligence in the banking sector. Table No. (2) shows the effect of the independent variable (Organizational Agility) on Business Intelligence in the banking sector, with a calculated value of F (146.501) and a level of significance ($\text{sig} = 0.000$) less than 0.05. The coefficient of determination ($R^2 = 0.722$) shows that variation in quantitative methods can account for 53.4% of the variation in (Business Intelligence in the banking sector).

The values of the regression coefficients for the sup-dimensions variable (using Organizational Agility) on (Business Intelligence in the banking sector) are displayed in Table 2. The table makes it evident that the Responsiveness dimension B value was (0.180) and that its computed T value was (3.434) at a significant level (0.001). It is less than 0.05, meaning that at the significance level ($\alpha \leq 0.05$), there is a substantial positive effect. The table shows that the value of the Flexibility dimension of T was calculated in this dimension (9.605) at a significance level (0.010), that is, less than 0.05, indicating a substantial positive effect at ($\alpha \leq 0.05$). The value of B was (0.474). The table makes it evident that there was a substantial positive influence in the algorithm dimension, with the B value being (0.160) and the T value being (2.609) at a significance level of (0.010), less than 0.05. where ($\alpha \leq 0.05$). and the table makes it evident that there was a substantial positive influence in the Adaptability dimension, with the B value being (0.268) and the T value being (5.350) at a significance level of (0.000), less than 0.05. where ($\alpha \leq 0.05$).

To test the sub-hypotheses, simple linear regression analysis was performed.

H1.1: "There is a statistically significant impact at the level ($\alpha \leq 0.05$) of Responsiveness on Business Intelligence in the banking sector".

H1.2: "There is a statistically significant impact at the level ($\alpha \leq 0.05$) of Flexibility on Business Intelligence in the banking sector".

H1.3: "There is a statistically significant impact at the level ($\alpha \leq 0.05$) of Competence on Business Intelligence in the banking sector".

H1.4: "There is a statistically significant impact at the level ($\alpha \leq 0.05$) of Adaptability on Business Intelligence in the banking sector".

Table (3): Impact test results H1.1, H1.2, H1.3 and H1.4

D.V	Model Summery		ANOVA		Coefficients			
	R	R ²	F	Sig F*	B	standard error	T	Sig T*
Responsiveness	0.529	0.280	88.849	0.000	0.575	0.048	9.426	0.000
Flexibility	0.775	0.600	344.065	0.000	0.790	0.052	18.549	0.000
Competence	0.626	0.392	147.921	0.000	0.762	0.059	12.162	0.000
Adaptability	0.712	0.508	236.077	0.000	0.676	0.058	15.365	0.000

***The effect is statistically significant at the level ($\alpha \leq 0.05$)**

A positive association was found between the first dimension (Responsiveness) and the second dimension (Business Intelligence), as indicated by Table (3) R-value of (0.529). When all other factors stay constant, the coefficient of determination results shows that ($R^2 = 0.280$), which indicates that, when it comes to the Responsiveness dimension, the (Business Intelligence) domain accounted for (28%) of the variation. At the significance level ($\alpha \leq 0.05$), it was demonstrated that the regression's significance was supported by the value of (F) reaching 88.849 at the confidence level (sig = 0.000).

There is a positive association between the Flexibility on the Business Intelligence in the banking sector, as indicated by the second dimension's R-value of 0.775. After adjusting for all other factors, the coefficient of determination results in ($R^2 = 0.600$), which indicates that the (Flexibility) domain accounted for (60%) of the variance in (Business Intelligence in the banking sector). Furthermore, the value of (F) reached (344.065) at the level of confidence (sig = 0.000), demonstrating the significance of the regression at the level of significance ($\alpha \leq 0.05$), was demonstrated.

There is a positive association between the Competence on the Business Intelligence in the banking sector, as indicated by the second dimension's R-value of 0.626. After adjusting for all other factors, the coefficient of determination results in ($R^2 = 0.392$), which indicates that the (Competence) domain accounted for (39.2%) of the variance in (Business Intelligence in the banking sector). Furthermore, the value of (F) reached (147.921) at the level of confidence (sig = 0.000), demonstrating the significance of the regression at the level of significance ($\alpha \leq 0.05$), was demonstrated.

There is a positive association between the Adaptability on the Business Intelligence in the banking sector, as indicated by the second dimension's R-value of 0.712. After adjusting for all other factors, the coefficient of determination results in ($R^2 = 0.508$), which indicates that the (Adaptability) domain accounted for (50.8%) of the variance in (Business Intelligence in the banking sector). Furthermore, the value of (F) reached (236.077) at the level of confidence (sig = 0.000), demonstrating the significance of the regression at the level of significance ($\alpha \leq 0.05$), was demonstrated.

DISCUSSION

This research puts forward a number of hypotheses, most of which are centering on two aspects, namely Organizational Agility and Business Intelligence, and distinguish between different dimensions of agility - responsiveness, flexibility, competence, and adaptability. Therefore, testing all

the hypotheses at $\alpha \leq 0.05$ means findings are significant statistically and have a low probability that these findings are a result of chance. According to the main hypothesis, in general, Organizational Agility has a positive effect on Business Intelligence. Firms that can respond to changed circumstances and fulfill the demand of the market within a short period of time will see an increase in the capability to lever BI for better decision-making. Responsiveness refers to the speed at which an organization responds to changes in the environment. According to the significant impact, a more responsive organization could make use of BI tools to collect and analyze data in much a better manner by making better strategic decisions. Flexibility refers to the capability of the firm to alter its operations and strategies due to changed circumstances. Competence shows skills and knowledge of the people within an organization. A high influence means that the organization that has high competence will be better able to implement and use a BI system, hence have increased insight into decision-making. Adaptability: It is defined as the ability to accommodate the changed situation. A high correlation would mean that such an adaptable organization will be able to accommodate the BI processes appropriately. Thus, it can respond to changes in markets and customers' needs more effectively. This finding is very much aligned with the prior research conducted by Park et al. (2017), Mortezaei et al. (2022), Aly et al. (2021), Yasir et al. (2021), and Aldaher & İŞCAN (2022), which depicted organizational agility as an enabler of Business Intelligence. To sum up, various dimensions of organizational agility significantly impact Business Intelligence by stating that the consideration of agility in firms will remarkably improve their Business Intelligence and hence final performance.

CONCLUSION

Agility within an organization has now been touted to become increasingly critical for any business intelligence activity in Jordanian banks to survive the changing financial dynamic atmosphere. Agility is needed while competing, regulating, and customer expectation keeps on evolving day by day. Organizational agility will help them in this respect because the use of BI will make their ability to sense, capture, and act upon new data or any piece of information in real-time. This capability is bound to heighten decision-making processes, innovation, and operational efficiency that enable banks to hold a competitive advantage. Besides, integration of agility and BI may lead to enhanced customer satisfaction and loyalty since the banks can offer services that meet the needs of their clients more precisely. The results of this research have shown a significant positive relationship between organizational agility and business intelligence in Jordanian banks. For example, responsiveness, flexibility, competence, and adaptability are some of the dimensions relevant for improving the BI capabilities. This relation does put an emphasis that a bank has to work in the direction of an agile organizational culture for efficient use of BI. It improves strategic decision-making processes, thus leading to improved overall performance of banks for competitiveness in the market. Based on the findings of this research, Jordanian banks need to pursue some strategic steps: investing in training and developing employees' competencies linked with the background of BI and agility, hence enabling them to employ the BI tools effectively, while changing direction with respect to quick market changes; performing flexible organizational arrangements that allow for swift decision-making and changeability toward new information. Additionally, the addition of more sophisticated BI systems that would evolve with the business to meet changing needs will contribute to agility. Finally, a culture of continuous improvement and innovation will ensure that banks remain responsive to customer demands and market trends for sustained competitive advantage.

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