

# **Business Process Re-Engineering and its Impact on Business Intelligence at Jordanian Commercial Banks**

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## **Abstract**

This study aimed to investigate the impact of business process re-engineering on business intelligence at Jordanian commercial banks. business process re-engineering was measured through three dimensions: organizational structure redesign, change capability, and support and commitment top management. business intelligence was measured through three dimensions: competitive intelligence, future foresight, and business performance management. The study used the quantitative method, after obtaining the answers of 220 managers through an electronic questionnaire that was developed to collect the required data. A group of statistical methods were used, such as the mean, standard deviation, and simple and multiple regression coefficients.

The study revealed that there are high application levels for the dimensions of business process re-engineering and dimensions of business intelligence at Jordanian commercial banks, and that there is a significant impact of business process re-engineering on business intelligence, and that business process re-engineering affects each dimension of business intelligence. It was found that there was a strong and statistically positive significant relationship between several variables of business process reengineering and business intelligences.

The study recommended enhancement of business process reengineering drivers including of top management commitment, organizational structure redesign, and change capability and since the practices leads to improved performance of business intelligence in the banks.

**Keywords:** Business Intelligence, Business Process Re-Engineering, Performance, Commercial Banks, Jordan.

## **Introduction**

Business Process Reengineering is a critical approach that distinguishes itself from other organizational change methods by its ability to bring about radical and fundamental changes

in the structures and operations of organizations. This requires a complete redesign of procedures, tasks, and workflows in order to achieve tangible and substantial improvements in various areas. This approach serves as a starting point for organizations to achieve their strategic goals and enhance their strategic or operational performance.

With the increasing global and regional challenges, coupled with the advancement of information and communication technology, it has become imperative for decision-makers in Jordanian commercial banks to continuously search for the changes and challenges that affect their performance and competitiveness. This is where Business Intelligence plays a vital role as a tool that enables decision-makers to analyze data and use it in making strategic decisions and developing solutions for complex problems. Business Intelligence is considered an essential element in the decision support system, whether the situations are semi-structured, structured, or occur infrequently

For this reason, Jordanian commercial banks that have successfully implemented business process reengineering and effectively utilized business intelligence find themselves capable of effectively addressing modern challenges, achieving growth, increasing productivity, and enhancing competitiveness in the market.

### **Study Problem and Questions**

The problem in the study of business intelligence in Jordanian commercial banks lies in the observed challenges facing organizational development in general and, specifically, Jordanian commercial banks. One of these challenges is the underutilization of the relationship between business process reengineering and Business Intelligence. This highlights the need for Jordanian commercial banks to focus on effective Business Intelligence utilization to enhance their ability to achieve objectives based on required standards. Such utilization plays a significant role in improving and developing their operations. Business process reengineering is considered a fundamental source that significantly contributes to finding innovative solutions for administrative operations. This underscores the necessity of harnessing Business Intelligence to make informed decisions that serve the success of companies in improving and developing their various operations to align with environmental changes and emerging trends.

Based on the presented information, this study aims to address the following primary question:

“What is the impact of business process reengineering with its comprehensive dimensions (organizational structure redesign, change capability, and support and commitment top management) on Business Intelligence with its various dimensions (competitive intelligence, future foresight, and business performance management) in Jordanian commercial banks is the subject of this study?”

### **Study Importance**

The **scientific significance** of this study lies in highlighting the impact of business process reengineering on business intelligence and its importance in Jordanian commercial banks. It is worth noting that there is limited research that has addressed these variables, at least to the knowledge of the researchers. Therefore, the study endeavors to provide a comprehensive theoretical framework that encompasses the latest scientific findings in these domains. Additionally, it aims to open new avenues for further research and subsequent studies to enhance our understanding of the relationships between the various dimensions of these variables.

The **practical significance** of the study is further emphasized by the importance of the sector it was applied to. It shed light on the extent to which decision-makers in Jordanian commercial banks have benefited from the results, particularly in terms of verifying the relative importance of each (business process reengineering and Business Intelligence) in Jordanian commercial banks. Additionally, the study provided recommendations for decision-makers.

### **Study Objectives**

The primary aim of this study is to investigate the impact of business process reengineering, with comprehensive dimensions (organizational structure redesign, change capability, and Support and commitment top management), on Business Intelligence, with its dimensions (competitive intelligence, future foresight, and business performance management) in Jordanian commercial banks.

### **Literature Review**

#### **Business Process Reengineering**

The concept of business process reengineering emerged in 1992 when American authors Michael Hammer and James Champy coined the term in their book 'Reengineering the Corporation.' Since then, it has sparked a true revolution in the field of management, prompting a fundamental reconsideration of all activities, processes, and strategies that many business organizations were built upon (Al-Hamidi et al., 2016).

There have been numerous definitions for the term 'business process reengineering' or 'reengineering.' Among these definitions is the fundamental rethinking and radical redesign of administrative processes with the aim of achieving significant, not incremental, improvements in crucial management criteria such as cost, quality, and speed (Michael Hammer and James Champy, 1995) (Basnawi and Algharab, 2017).

In addition, King (1996) perceives it as changing the fundamental approach to work to achieve a radical improvement in areas of speed, cost, and quality. Raymond and Bergeon (1998) define it as making radical changes in organizational processes through the optimal use of information technology to achieve substantial improvements in quality, performance, and productivity. (Dessler, 2020, p.102) defines reengineering as a fundamental redesign of systems and administrative processes, a reevaluation of the company's culture and work methods, with the aim of achieving an extraordinary leap in performance levels and customer service, including increasing production, reducing waste, and responding promptly to global market fluctuations. It also regards the human element as one of the most important factors in production, considering them as a tool for cost reduction, competition enhancement, and the promotion and implementation of total quality concepts.

#### **The Dimensions of Business Process Reengineering:**

Different perspectives on the dimensions of business process reengineering have emerged, as researchers have varied in their approaches, each focusing on dimensions based on their studies and the significance of each dimension in different types of organizations. Therefore, the following dimensions were addressed in the study:

#### **Organizational Structure Redesign**

It contributes to facilitating the flow between diverse levels and administrative units within the organization. Recently, organizations have adopted flat horizontal structures of organizational design due to the reduction in administrative levels and the facilitation of

workflow between different administrative units. This positively impacts the workflow, its efficiency, and the speed of response to customer requirements. The process of restructuring the organizational structure involves conducting the necessary study of the current organizational structure and making the necessary changes to eliminate its flaws and weaknesses. It is an ongoing and evolving process that does not have a fixed endpoint (Al-Hamidi et al., 2016, p.23).

The organizational structure delineates the lines of authority, responsibility, and the scope of supervision from the top managerial levels down to the lower managerial levels. It also illustrates the various departments at each level. Therefore, the organizational structure is considered a crucial tool used to achieve coordination and control to carry out tasks with the highest efficiency. Through the organizational structure, every individual can ascertain their superior, their duties, and their relationships with others (Hayat, 2017).

The organizational structure was defined as a framework that outlines the internal composition of the organization. It illustrates the divisions, structures, and units responsible for various tasks and activities required for business execution. Additionally, it specifies the communication network and the flow of information between different managerial levels (Awaj and Ben Ahmad, 2021). From Daft perspective (Daft, 2007, 42) the organizational structure is described as the method by which tasks are organized and key roles of employees are defined, it also elucidates the information exchange system and identifies the mechanisms for coordinating and the necessary interaction patterns between different departments and their employees.

Robbins (2013, p.33) perceives the organizational structure as the framework that defines the official administrative divisions, including the number of hierarchical levels and the span of control for managers and supervisors.

### **Change Capability**

The process of change is purposeful and should ultimately lead to improving organizational effectiveness, meaning it contributes to achieving goals with the least effort, cost, and in the shortest time possible. The success of change greatly depends on understanding the nature and types of change. Organizational change can be defined as the organized process of transitioning from the current state to a desired and sought-after state. The current state may suffer from functional imbalances, technological obsolescence, or a decline in efficiency, while the desired state represents the appropriate treatment of these aspects or purposes (Najm, 2019, p.31).

Ahmed (2017) defines it as change capability of readiness and willingness to move away from the current state and make changes in values, practices, and organizational structures. It refers to the processes that an organization undertakes to transition from the current state to a desired future state with the goal of increasing its effectiveness. The importance of change becomes evident in certain situations where intervention and organizational change are necessary. One of these situations is when an organization fails to achieve its planned objectives within a specified period, especially concerning competitive positioning against other organizations. Change within an organization can also be seen as a rapid response to external environmental fluctuations, highlighting its importance as the only factor capable of adapting to all external changes imposed on the organization.

**Support and Commitment Top Management**

The successful implementation of business process reengineering requires the commitment of top management to the philosophy of reengineering and the support of its applications. This commitment involves making decisions related to reengineering and creating an organizational climate conducive to its implementation. Business process reengineering demands effective and fully convinced management that is dedicated to its steps, phases, and execution (Hamed & Murad, 2020).

Burnes suggests that the support of top management is the most critical element of success in any organization. Senior managers must recognize that their influence is crucial for the success of any project or plan, as their decisions have an impact on every employee in the organization. In the case of any changes, it is the responsibility of top management to inform employees so they can make necessary psychological preparations. Additionally, senior management should communicate the importance of the changes and any potential effects on the employees. Therefore, it is essential for top management to inspire and motivate their employees toward any change, and high performers should be rewarded and recognized to inspire other employees to work more diligently (Ngaithe et al., 2016).

According to both Rajput and Gahfoor senior management should actively participate in information requirements, decision-making processes, and monitoring activities. Top management should also support human resources, encourage knowledge exchange, establish effective communication, and motivate employee performance, and value employee ideas and suggestions. (Lee et al., 2018).

Additionally, Al-Hamidi et al. (2016) emphasize that through reengineering, organizations can achieve their goals by committing top management to face the changes and challenges that arise during the implementation phases. This commitment involves building trust among employees, achieving decentralization, relying on teamwork, granting employees the right to make independent decisions, and providing continuous information related to the reengineering objectives and progress.

In summary, the involvement, support, and commitment of top management are essential factors in the success of business process reengineering, and they contribute to creating a conducive environment for change within the organization.

**Business Intelligence**

Business Intelligence (BI) is a fundamental element in the information technology sector. It is a broad term used synonymously with decision support, data warehousing, and analysis. Currently, the term business intelligence has a clearer definition and better applications. Many authors and researchers have had differing views on the concept of Business Intelligence, depending on their academic background or perspective.

According to Ukhalkar et al., (2021) Business Intelligence encompasses tools designed in conjunction with business applications and strategies for integrating, collecting, analyzing, and interpreting data. Al-Sheikh (2020) defines it as an array of analytical methodologies and mathematical formulas that utilize available data to generate useful information used in making difficult decisions. Eidizadeh et al. (2017) have pointed out that Business Intelligence is a comprehensive term that covers all activities, processes, and technologies necessary for the collection, storage, and analysis of information to enhance the decision-making process. While Al-Ghatam and Al-Hawamdeh (2021) defined it as a set of theories, application, techniques, processes, skills, and best practices that enable the process of accessing various data sources, analyzing this data, and transforming it into real-time information in a usable

stored data format that helps in understanding the internal and external environment to determine the organization's strategic direction.

The term "Business Intelligence" is defined by Al-Qarni (2021) as a comprehensive concept that encompasses structure, tools, databases, analytical tools, applications, methodologies, and emphasizes the importance of Business Intelligence on data collection, storage, and analysis with analytical tools to provide complex internal and competitive information for decision-makers.

Researchers have focused on delineating the dimensions of Business Intelligence (BI) based on the nature of the sector in which organizations operate, which plays a fundamental role in shaping them. Accordingly, the researchers have addressed the following dimensions:

### **Future Insight**

This term has been the subject of varying opinions, as it pertains to the field of knowledge that deals with events that have not yet occurred, and when they happen, they become the present. The spread of this term began in western countries, and its translations into arabic have varied to denote the field of future studies, including futures thinking, forecasting, and all the terminologies that indicate a set of steps and procedures used to predict the future direction of an organization. here are some key points to provide more information about this term: Westphal et al. (2023)

**Forecasting:** Forecasting is a specific aspect of future insight that involves making predictions about future events based on historical data, trends, and statistical models. It is commonly used in areas such as financial planning, weather forecasting, and market analysis.

**Futures Thinking:** Futures thinking is a cognitive process used to envision and anticipate future possibilities. It encourages individuals and organizations to adopt a forward-thinking mindset and consider the long-term implications of their actions and decisions.

**Strategic Foresight:** strategic foresight is a structured approach to future insight that combines analysis, scenario planning, and long-term thinking to guide decision-making. It helps organizations become more agile and resilient in a rapidly changing world.

Overall, future Insight is a critical element of modern strategic management, helping organizations navigate uncertainties and plan for a wide range of possible futures. It emphasizes the importance of continuous learning, adaptability, and proactive decision-making in today's dynamic business environment.

### **Competitive Intelligence**

Porter's influential studies in strategic management and competitive analysis in 1980 contributed significantly to the development of the field of competitive intelligence for organizations. These studies highlighted the importance of monitoring competitors' behavior and linking competitor analysis to an organization's strategic choices (Hamed & Murad, 2020). According to the professional association of competitive intelligence professional's competitive intelligence is defined as an ethical process of collecting and disseminating accurate, specific, relevant, timely, insightful, and sufficient information related to business environment, competitors, and the organization itself. Competitive intelligence serves as a tool used by organizations to obtain critical information about their competitors, including their objectives, strategies, strengths, weaknesses, and the competitive environment,

including variables and risks. This aspect of competitive intelligence significantly supports the organization's decision-making processes. (Nasri, 2012).

**Business Performance Management (BPM)**

The business performance standards group defines business performance management as the organization and systematic analysis of business methodologies, processes, and related systems to guide and direct the overall performance of an organization. This, in turn, leads to translating goals and formulating them within executable plans. and also is the process through which an organization controls and improves its activities and operations by enhancing the performance of individuals and teams. It should align with the organization's strategic goals. Additionally, BPM involves reviewing and evaluating activities and systems, as well as developing knowledge within the organization. (Armstrong, 2018, p42).

Business Performance Management (BPM) relates to an organization's ability to carry out a set of activities and processes efficiently to achieve high-value products by utilizing its available resources. BPM within an organization has a significant impact on various factors, including the return on investment value, asset returns, and the organization's ability to market its services. In other words, the better an organization manages its business performance, the greater its capacity to achieve its objectives. (Kakhki & Palvia, 2016).

**Previous Studies:**

The study conducted by Al-Ghatam and Al-Hawamdeh (2021) aimed to identify the usage of business intelligence, which includes its dimension's future insight, analytical processing, competitive intelligence, business management performance, and its impact on crisis management stages at the National Disaster and Crisis Management Center in the Kingdom of Bahrain. The study utilized a descriptive-analytical approach, and a questionnaire was adopted as the research tool. The study population consisted of managers in senior, middle, and supervisory roles affiliated with the National Disaster and Crisis Management Center in the Kingdom of Bahrain, totaling 860 employees. The study sample was selected using stratified proportional sampling, including 266 employees in managerial positions. The questionnaire data were analyzed, and the study hypotheses were tested using the statistical software package Smart.PLS3. The results of the study revealed that the availability of business intelligence and crisis management stages were at a moderate level on a Likert five-point scale. Furthermore, the study found a statistically significant impact of competitive intelligence on crisis management stages. In a study conducted by Kareem and Hanthal (2021), the aim was to investigate the impact of business intelligence perspectives, including data acquisition, data warehousing, analytical processing, and information presentation and monitoring, on the reengineering of banking operations in private banks in Baghdad. The study also aimed to assess the feasibility of implementing these perspectives and their effect on the reengineering of banking operations in the researched private banks. The study highlighted the importance of business intelligence perspectives in assisting private banks in reengineering their operations, thereby achieving a high level of competitiveness in the face of changing market dynamics. The study's population consisted of employees in private banks, and a descriptive-analytical approach was adopted, and the study hypotheses were tested using the statistical software package Smart.PLS3. A total of 92 questionnaires were distributed to individuals working in these banks. The study's key findings indicated that there is an impact of business intelligence perspectives on the reengineering of banking operations. The study conducted by Al-Amoush (2021) aimed to determine the impact of

business intelligence systems, including data collection, analysis, and storage, data security processing, business performance management, and competitive intelligence, on crisis management at Greater Amman Municipality. The study adopted a descriptive-analytical approach, and the study population consisted of managerial positions in Greater Amman Municipality and its districts, with a total of 189 managers. Data were collected through an electronic questionnaire distributed to the study's sample, and 168 questionnaires were retrieved. The results revealed that Greater Amman Municipality applies both the concept of business intelligence systems and crisis management at a high level. Furthermore, business intelligence systems have a statistically significant impact on crisis management in Greater Amman Municipality. In the study conducted by Bouqaba (2021), the aim was to assess the current state of business intelligence systems, including business intelligence management, real-time analytical processing, and competitive intelligence, within the Algerian economic enterprise. The study also aimed to evaluate the level of organizational agility within this enterprise and determine the relationship between business intelligence systems and the development of organizational ambidexterity. The chosen field for this study was the National Enterprise for Oil Wells (ENTP) in Biskra, Algeria. The study sample comprised 53 individuals, including top executives within the organization. The study employed a descriptive-analytical approach and utilized a questionnaire as the research tool. The results of the study indicated the existence of a statistically significant relationship between business intelligence systems and the development of organizational ambidexterity within the selected enterprise, as per the study's model. In a study conducted by Vishvakarma (2021), the research aimed to experimentally investigate the impact of organizational strategies on critical success factors for business process reengineering related to scope, efficiency, effectiveness, information flow direction, and change resistance during the implementation of business process reengineering projects. The study collected its data through surveys distributed to 131 companies worldwide that had undergone business process reengineering. The participants in the survey included managers and supervisors. Various statistical techniques, such as cluster analysis, principal component analysis, and subsequent data analysis, were employed to analyze the collected data. The results of the study revealed that organizational strategies have an influence on performance reengineering factors, such as scope, efficiency, and upward communication. Additionally, the study found that some factors do not play a significant role in organizational strategies but are essential for all types of organizational strategies. In a study conducted by Onger et al. (2021), the research aimed to determine the relationship between business process reengineering strategy, represented by its seven dimensions, and the performance of food manufacturing companies in Kenya. The study included a population of 75 companies engaged in food manufacturing in Kenya. The targeted respondents were CEOs, production managers, and operations managers. A cross-sectional descriptive survey approach was adopted for data collection and analysis. The primary data from respondents were collected using a structured questionnaire, while secondary data were collected from the company's published financial reports. The results of the study indicated a significant relationship between business process reengineering strategy and the performance of food manufacturing companies in Kenya. In a study conducted by Khashman (2019), the research aimed to highlight the factors of business process reengineering, including its dimensions (ability to change, selection of process reengineering methodology, top management support, organizational culture, and strategic alignment), that influence organizational performance in the management of driver and vehicle licensing in Jordan through the use of



information and communication technology as an intermediary role. The study utilized the SMART PLS software to analyze the core relationships between the most relevant variables related to business process reengineering, information and communication technology, and organizational performance across five structural models. The study's sample included all employees at operational, middle, and upper management levels, totaling 124 workers in the Driver and Vehicle Licensing Department. The results of the study revealed a strong and statistically significant positive relationship between several variables of business process reengineering and organizational performance when using information and communication technology as a mediating variable.

### **Study Hypotheses**

Based on the main research question and the sub-questions, the study hypotheses can be determined as follows:

**H<sub>0</sub>1** : There is no statistically significant impact for business process reengineering with a whole dimensions (organizational structure redesign, change capability, and support and commitment top management) on business intelligence with dimensions (competitive intelligence future insight, business performance management) at Jordanian commercial banks at a significance level ( $\alpha \leq 0.05$ ).

**H<sub>0</sub>1.1**: There is no statistically significant impact at of organizational structure redesign on business intelligence at Jordanian commercial banks at the significance level ( $\alpha \leq 0.05$ ).

**H<sub>0</sub>1.2**: There is no statistically significant impact of change capability on business intelligence at Jordanian commercial banks at the significance level ( $\alpha \leq 0.05$ ).

**H<sub>0</sub>1.3**: There is no statistically significant impact at of support and commitment top management on business intelligence at Jordanian commercial banks at the significance level ( $\alpha \leq 0.05$ ).

### **Methodology**

The population of this study consisted of top and middle management working at Jordanian commercial banks. The population size was (375). Simple random sampling was used and the sample size was calculated using Al-Najjar et al. (2020). The sample size was (220) top and middle management.

A questionnaire instrument was developed based on the related literature. To ensure a high level of validity and reliability, construct measurements were adopted from earlier research. Prior to data collection, the questionnaire was validated by a number of professors and experts in the domain of this study. Afterwards, the questionnaire was revised to reflect the comments and suggestions received.

To measure the variables of the study, the researchers used a scale consisting of (15) items to measure the dimensions of business process re-engineering (independent variable). A scale consisting of (15) subjects was used to measure the effectiveness of business intelligence (dependent variable), after reviewing several previous studies on the subject of the study. The five-point scale was used to answer the items in the following way: (1) Strongly Disagree; (2) Disagree; (3) Neither Agree nor Disagree; (4) Agree; (5) Strongly Agree. Face validity was achieved using scales developed by previous studies and by presenting the questionnaire to 10 judges who had expertise and specialist knowledge.

## Results

Table 1 shows the personal and functional characteristics of the managers of the study sample, where the percentage of male managers was 73.6, while the percentage of female managers was 26.4. This shows that managers in Jordanian commercial banks they have the largest number of males this is due to community culture.

**Table 1**

*The personal and functional characteristics*

Variable	Frequency	Percentage
<b>Gender</b>		
Male	162	73.6
Female	58	26.4
<b>Age (years)</b>		
Less than 30	28	12.7
30- less than 40	58	26.4
40 - less than 50	98	44.5
50 and more	36	16.4
<b>Experience (years)</b>		
Less than 5	17	7.7
5- less than 10	64	29.1
10- less than 15	82	37.3
15 and more	57	25.9
<b>Occupation</b>		
Manager	48	21.8
Assistant Director	61	27.7
Administrative	45	20.5
Committee Member		
Head of Department	66	30
<b>Qualifications</b>		
Community college diploma or less	5	2.3
Bachelor's	129	58.6
Master's	73	33.2
PhD	13	5.9

Table 2 presents the values of the Cronbach alpha coefficient, the mean and the standard deviation of the study sample managers' responses to the questionnaire decisions. The results indicate that the alpha values for all dimensions exceeded 70%. As for the values of the mean for the items of the dimensions of business intelligence and business process re-engineering, they were all at high levels, the lowest for Organizational structure redesign 3.97, and the highest for Business performance management and Competitive intelligence at 4.14.

**Table 2***Descriptive statistics*

Dimension	Items	Alpha	Mean	Std.
Organizational structure redesign	5	0.93	3.97	0.78
Change capability	5	0.92	4.11	0.70
Support and commitment top management	5	0.89	4.13	0.59
Competitive intelligence	5	0.88	4.14	0.60
Future insight	5	0.90	4.13	0.57
Business performance management	5	0.89	4.14	0.66

**Hypothesis Analysis:****Table 3***Impact of business process re-engineering on Business Intelligence*

<i>Business Engineering</i>	<i>Process</i>	<i>Re-</i>	Adjusted R <sup>2</sup>	F	Sig.	
			0.76	112.20	0.00	
Variable			Unstandardized Coefficients	Standardized Coefficients	t	Sig.
Organizational redesign	structure		b	beta	t	Sig.
			0.27	0.33	3.97	0.00
Change capability			0.17	0.20	2.25	0.03
Support and commitment top management	top		0.27	0.36	3.65	0.00

**H<sub>0</sub>1** :There is no statistically significant impact for business process reengineering with a whole dimensions (organizational structure redesign, change capability, and support and commitment top management) on business intelligence with dimensions (competitive intelligence future insight, business performance management) at Jordanian commercial banks at a significance level ( $\alpha \leq 0.05$ ).

In order to test the first hypothesis, multiple regression analysis was used Table 3 shows the details.

The results indicate that business process reengineering together explained about 76 % of the variance in on the basis of the adjusted R<sup>2</sup> value. The F-value was equal to 112.20 and has positive significant impact at  $p \leq 0.05$ . Therefore, the null hypothesis was rejected and the alternative was accepted.

**H<sub>0</sub>1.1:** There is no statistically significant impact at of organizational structure redesign on business intelligence at Jordanian commercial banks.at the significance level ( $\alpha \leq 0.05$ ).

The results indicate that organizational structure redesign has positive significant impact on business intelligence at Jordanian commercial banks.at Sig=0.00 ( $\alpha \leq 0.05$ ) Therefore, the null hypothesis was rejected and the alternative was accepted.

**H<sub>0</sub>1.2:** There is no statistically significant impact of change capability on business intelligence at Jordanian commercial banks at the significance level ( $\alpha \leq 0.05$ ).

The results indicate that change capability has positive significant impact on business intelligence at Jordanian commercial banks at  $\text{Sig}=0.03$  ( $\alpha \leq 0.05$ ). Therefore, the null hypothesis was rejected and the alternative was accepted.

**H<sub>0</sub>1.3:** There is no statistically significant impact of support and commitment top management on business intelligence at Jordanian commercial banks at the significance level ( $\alpha \leq 0.05$ ).

The results indicate that support and commitment top management has significant impact on business intelligence at Jordanian commercial banks at  $\text{sig}=0.00$  ( $\alpha \leq 0.05$ ) therefore, the null hypothesis was rejected and the alternative was accepted.

The results also indicate that support and commitment top management with  $\text{beta} = 0.36$ ,  $t = 3.65$ , has the most impact on business intelligence followed by organizational structure redesign with  $\text{beta value} = 0.33$ , and  $t\text{-value} = 3.97$  and change capability with  $\text{beta} = 0.20$ , and  $t\text{-value} = 2.25$  respectively.

### **Discussion**

This study was concerned with examining the impact of business process reengineering on business intelligence at Jordanian commercial banks. The results of the study indicated that there are high levels of business process reengineering (organizational structure redesign, change capability, and support and commitment top management).

This was because a combination of competitive pressures, a dynamic economic and technological landscape, a strong commitment from top management, a well-developed change capability, and the potential for improving operational efficiency and business intelligence. These factors collectively motivate banks to invest in reengineering their processes.

The results of the study also indicated that there are high levels of dimensions of business intelligence (competitive intelligence future insight, business performance management), and this indicates that they are well-prepared to compete in a dynamic and data-driven environment. They are proactive in gathering and using information to make strategic decisions, manage their performance, and maintain a competitive advantage. This can be seen as a positive sign of their readiness to thrive in the modern banking industry.

The results showed that support and commitment top management with  $\text{beta} = 0.36$ ,  $t = 3.65$ , has the most impact on business intelligence, this was because support and commitment top management is the most significant because it influences and catalyzes other factors like organizational structure redesign and change capability. It sets the foundation for a successful business process reengineering effort and subsequent improvements in business intelligence. followed by organizational structure redesign with  $\text{beta value} = 0.33$ , and  $t\text{-value} = 3.97$ , this is due to a well-planned and executed redesign can create an environment that is more conducive to efficient data management, analysis, and informed decision-making, which are essential for enhancing business intelligence. and the last dimension was followed is change capability with  $\text{beta} = 0.20$ , and  $t\text{-value} = 2.25$  respectively, is due to a combination of factors such as interdependencies with other variables, challenges in implementation, resource constraints, cultural factors. While change capability is important, its influence might be somewhat constrained under certain circumstances.

The findings of this study make a valuable **theoretical and contextual contribution** to the existing knowledge in the field of business process reengineering (BPR) and its impact on business intelligence (BI) in the context of Jordanian commercial banks. This research underscores the significance of several factors that collectively drive the adoption and successful implementation of BPR in these banks. **Firstly**, the study highlights the pivotal role of top management support and commitment, emphasizing that their endorsement and dedication to the BPR initiative serve as the foundational catalyst for change. This insight aligns with existing literature, but in the Jordanian context, it is especially relevant, as it showcases how strong leadership commitment can overcome organizational challenges and drive transformative efforts.

**Secondly**, the research underscores the importance of organizational structure redesign. It sheds light on how a well-planned and executed redesign can create an environment conducive to efficient data management, analysis, and informed decision-making. This finding contributes to the broader understanding of the interplay between organizational structure and BI, particularly in the banking sector. By focusing on Jordanian commercial banks, the study provides a unique contextual lens, which can be particularly informative for other emerging markets and organizations seeking to enhance their BI capabilities.

**Lastly**, the study's examination of change capability adds to the nuanced understanding of this critical factor in BPR initiatives. It acknowledges that while change capability is essential, its influence may be constrained under certain circumstances, such as resource constraints and cultural factors. This insight can guide practitioners and scholars in better assessing the realistic potential for change in specific organizational contexts, helping them navigate the challenges associated with implementing BPR effectively.

**In the broader context**, this research underscores the readiness of Jordanian commercial banks to thrive in the modern banking industry, especially in the context of rapidly evolving technology and a data-driven environment. By emphasizing their high levels of business intelligence dimensions, including competitive intelligence and business performance management, the study shows that these banks are proactive in using information to make strategic decisions and maintain a competitive edge. This demonstrates the adaptability and responsiveness of Jordanian banks to the changing landscape of the financial sector.

### **Recommendations**

1. Enhance support and commitment of top management in Jordanian banks to ensure the support of business process reengineering efforts and subsequent improvements in business intelligence, due to its importance in leading the stages of decision-making.
2. Improve the applying of the processes organizational structure redesign to create an environment conducive to efficient data management, analysis, and informed decision-making.
3. Continuously monitor competitive intelligence: Develop a proactive approach to gathering and using competitive intelligence, ensuring that the banks stays competitive in a dynamic and data-driven environment.
4. Promote business performance management, through implement strategies to manage and improve the banks performance, maintaining a competitive advantage through data-driven decision-making and strategic insights.

## References

- Daft, R. (2007). *Understanding the theory and design of organizations* (10<sup>th</sup> ed.). Thomson.
- Dessler, Gary (2020). *Human resource-management* (16<sup>th</sup> ed). Pearson.
- Eidizadeh, R., Salehzadeh, R., & Esfahani, A. C., (2017). Analyzing the role of business intelligence, knowledge sharing and organizational innovation on gaining competitive advantage. *Journal of Workplace Learning*, 29 (4), 250-267.
- Kakhki, M., & Palvia, P. (2016). Effect of business intelligence and analytics on business performance. *Twenty- Second Americas Conference on Information Systems*, San Diego.
- Khashman, A. M. (2019). The effect of business process re-engineering on organizational performance: The mediating role of information and communications technology. *International Journal of Business and Management*, 14(9), 132-149.  
<https://doi.org/10.5539/ijbm.v14n9p132>.
- King, I. (1996). The road to continuous improvement: BPR and project management. *IIE solutions*, 28(10), 22-28.
- Lee, H. M., Chen, T., Hsu, Y. H., & Wu, Y. C. (2018). Effect of complementary product fit and brand awareness on brand attitude after M &A: word of mouth as a moderator. *Global Journal of Business Research*, 12(1), 51-67.
- Najm, A. N. (2019). *Leadership in the twenty-first century*. Al-Waraq Publishing and Distribution Foundation.
- Nasri, W. (2012). Conceptual model of strategic benefits of competitive intelligence process. *International Journal of Business and Commerce*, 1(6), 25-35.
- Ngaithe, L. N., K'Aol, G. O., Lewa, P., & Ndwiga, M, (2016). Effect of idealized influence and inspirational motivation on staff performance in state owned enterprises in Kenya. *International Journal of Information Management*, 8(30), 6-13.  
<http://erepo.usiu.ac.ke/11732/3073>
- Ongeri, R. N., Magutu, P. O., & Litondo, K. (2020). The business process re-engineering strategy: it's impact on the performance of companies manufacturing food in kenya. *European Journal of Business and Management Research*, 5(5), 1-8.  
<https://doi.org/10.24018/ejbmr.2020.5.5.576>.
- Raymond, L., Bergeron, F., & Rivard, S. (1998). Determinants of business process reengineering success in small and large enterprises: An empirical study in the Canadian context. *Journal of Small Business Management*, 36(1), 72.
- Robbins. S, (2013). *Essentials of organizations behavior* (7<sup>th</sup> ed.). Pearson Education.
- Vishvakarma, N.K., Sharma, R.R.K. & Kumar, A. Anup (2021). Empirical analysis of impact of organizational strategies on critical success factors of business process reengineering. *Global Journal of Flexible Systems Management*, 22(1) 55–73.  
<https://doi.org/10.1007/s40171-021-00259-9>.
- Westphal, L. M., Sturtevant, B. R., Reese, G. C., Quigley, K. M., Crabtree, J., Bengston, D. N., & Plisinski, J. S. (2023). Preparing for an uncertain future: Merging the strategic foresight toolkit with landscape modeling in northeast Minnesota's forests. *Landscape and Urban Planning*, 237, 104798.  
<https://doi.org/10.1016/j.landurbplan.2023.104798>