



Achieving Organizational Flexibility Through Business Intelligence at Jordan Customs

Safa Suliman Al-Olimat*

Al al-Bayt University, Mafraq, Jordan
Safasalolimat@aabu.edu.jo

Mifleh Ali Abu-Oliem

Jordan Customs Department, Amman, Jordan
Drabuoliemmifleh@gmail.com

Shaker Jaralla Alkshali

The world Islamic Sciences & Education University, Amman, Jordan
drshaker@yahoo.com

ABSTRACT: This study sought to assess the impact of business intelligence with its dimensions (data warehouse, data mining, online analytical processing, report preparation, and business performance management) on organizational flexibility at Jordan Customs. The study's population consisted of (544) managers at Jordan Customs Department. A simple random sample of (224) employee who hold a managerial position was taken from the study population. The questionnaire was distributed electronically to the managers in the study sample, and (210) questionnaires valid for statistical analysis were retrieved. Several statistical methods were utilized to analyze the study data and obtain the results via (Smart PLS4-SEM).

The study revealed several key findings. Notably, the results indicated high levels of study variables, represented by business intelligence and organizational flexibility at Jordan Customs. Furthermore, the study's findings revealed the presence of statistically significant impact of business intelligence with its dimensions on organizational flexibility at Jordan Customs Department. In light of the findings, the study proposed the managements of Jordan Customs to seek assistance from information technology companies to develop its systems and train its employees on how to identify data sources and how to acquire, store, analyze, and preserve them. In addition, it can develop its relationship with the sources from which it obtains the data it needs, which gives it an advantage in obtaining data; achieving the required flexibility for the department.

KEYWORDS: Business intelligence, Data mining, Jordan Customs, On-line analytical processing, Organizational flexibility.

* Corresponding Author

1. INTRODUCTION

The current business environment is considered rapidly changing and unpredictable. Therefore, organizations should be prepared to respond for unexpected disruptions quickly and effectively to ensure the sustainability and long-term success of organizations. This may include carrying out risk assessments to pinpoint possible vulnerabilities and disruptions, creating business continuity plans to maintain essential operations and services during disruptions, and building relationships with external stakeholders to improve collaboration, coordination and communication. Organizations can ensure their best readiness to respond to disruptions and quickly recover by integrating flexible activities into their crisis management plans (Durst & Henschel, 2024, 10). Business intelligence is considered one of the most important approaches and effective administrative methods to keep pace with these challenges, as it is a crucial entry point for creating a comprehensive qualitative shift in various aspects of work. It has become one of the most essential needs for any organization. Business intelligence plays a vital role in the operation of any organization, aligning with its future vision, transforming it from a traditional organization into a learning and intelligent one, along with the subsequent goals and programs that address all aspects of management.

The concept of organizational flexibility is one of the most important modern concepts in management, helping organizations easily adopt new ideas and implement changes across various levels of their operations. It provides them with the necessary and sufficient ability to deal with all new requirements imposed by the surrounding work environment. Flexibility has become essential in various aspects of organizations, including organizational structures, activities, processes, and strategies. It contributes to their improvement, elevating the organization and granting it a unique advantage that distinguishes it from other organizations. Hence, the importance and need for organizations, regardless of their sector, to adopt business intelligence have emerged. This is aimed at collecting, storing, and analyzing data, as well as preparing various reports for business management and developing multiple plans that take into account keeping pace with modern developments and technologies. The goal is to facilitate the decision-making process and achieve the organization's objectives. Given that the Jordan Customs Department is

considered one of the pillars of the Jordanian economy, this study aims to reveal the impact of business intelligence on its organizational flexibility.

2. STUDY PROBLEM AND QUESTION

The main problem of this study lies in the organizational flexibility of Jordan Customs and the extent to which business intelligence can play a role in this flexibility. In light of the ambiguous environment characterized by uncertainty that business organizations experience today, numerous changes and fluctuations have emerged across various sectors. This has led to the necessity for Jordan Customs, like other organizations, to develop multiple working scenarios to be flexible and capable of adapting quickly and effectively to different circumstances. Flexibility may require business intelligence through efforts to create a data warehouse, develop the ability to mine and process data instantly, prepare reports, manage business performance, to achieve a comprehensive integrated view form a clear vision of the future. These efforts aim to make various decisions, achieve desired goals, and improve operations. Based on the above, the following questions are crucial to the research problem:

1. What is the impact of business intelligence on organizational flexibility at Jordan Customs?
2. What is the level of relative importance of business intelligence with its dimensions (data warehouse, data mining, online analytical processing, report preparation, and business performance management) at Jordan Customs?
3. What is the level of relative importance of organizational flexibility at Jordan Customs?

3. STUDY IMPORTANCE

The importance of this study is as follows:

Scientific Importance: The scientific or theoretical importance of this study stems from the significance of the variables it addresses. The concept of business intelligence with its dimensions (data warehouse, data mining, online analytical processing, report preparation, and business performance management) is considered one of the important concepts in organizational operations to achieve their goals. Organizational flexibility, with its

dimensions, is considered a key requirement in today's business world. The need for it has become more urgent in light of the challenges and changes the world is witnessing today in all aspects and areas of life. These concepts are contemporary ones that attract the attention of researchers and scholars due to their importance in organizations' ability to think and adapt to surrounding changes, seize available opportunities, and avoid potential threats. Change has become the only constant in organizations today.

Practical Importance: The practical importance of the study lies in the extent to which the management at Jordan Customs can benefit from its findings and recommendations. It also relates to the understanding of the study concepts represented by business intelligence with its dimensions, and organizational flexibility at Jordan Customs.

4. STUDY OBJECTIVES

This study generally aims to identify:

1. The level of application of the business intelligence concept with its dimensions at Jordan Customs.
2. The level of application of organizational flexibility at Jordan Customs.
3. The impact of business intelligence with its dimensions (data warehouse, data mining, online analytical processing, report preparation, and business performance management) on organizational flexibility at Jordan Customs.

5. STUDY MODEL

See *Figure 1*.

6. THEORETICAL FRAMEWORK

Business Intelligence

Business intelligence refers to an integrated set of physical architectures, methodologies, software, processes, and analytical tools that contribute to transforming data into information, and then converting information into applied knowledge. This is done to reach strategic, tactical, and operational decision-making through the ability to access data, process it, and conduct appropriate analysis of current and historical data, ambiguous situations, and performance indicators. The goal is to arrive at applied knowledge that helps in building a valuable future vision, assisting in finding integrated solutions that drive the organization towards achieving profits (Al-Nasser, 2022, 40–41). The concept of business intelligence is associated with an organization's possession of software that helps it collect data related to its services, then analyze, process, classify, and store this data in safe and sound ways to provide valuable information to decision-makers (Alomoush, 2021). Meanwhile, Keshtegar et al. (2021) consider business intelligence as integrating databases, methodologies, applications, and analytical tools under one umbrella with the aim of transforming available data into information and then into decisions that are implemented through specific procedures.

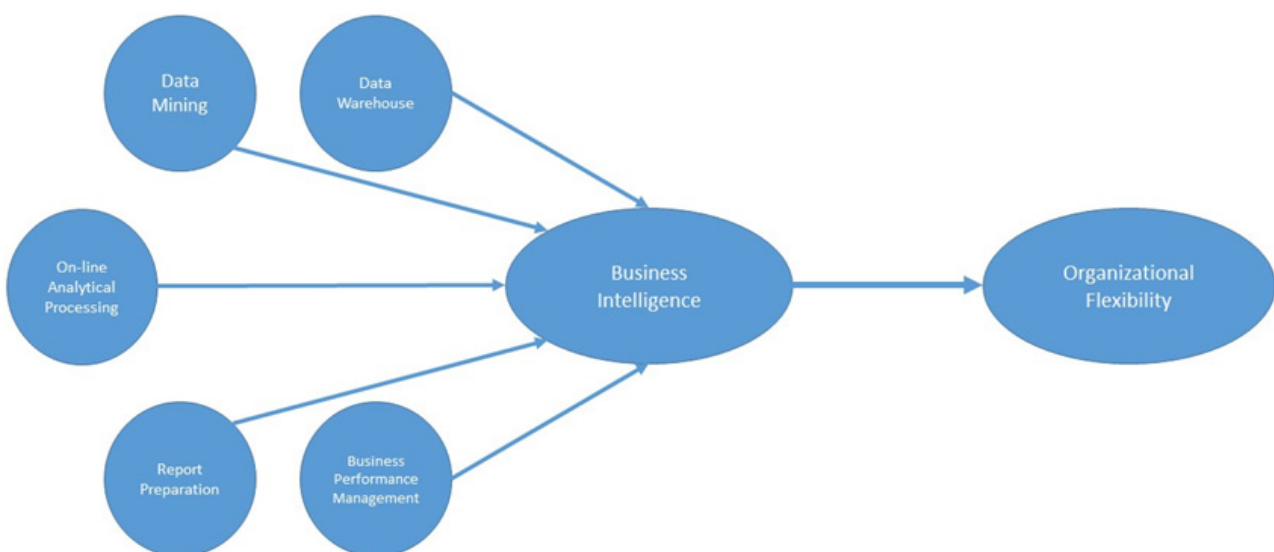


Figure 1. Study Model

Business intelligence applications aim to improve decision-making performance (Bajgoric, 2017, 315). Business intelligence has evolved to become an organizational engine that drives business and provides a powerful source of competitive advantage. Therefore, modern business computing must be continuous to provide an operating platform for business continuity (Bajgoric, 2017, 4). In the dynamic competitive environment, the need for business intelligence systems to analyze data and information in a timely manner has become more urgent; in order to predict market trends and improve performance for contemporary organizations (Al-Nasser, 2022, 17). Al-Hallaq and Al-Ismail (2023) believe that the application of business intelligence contributes to improving the decision-making process by providing necessary information in a timely manner and by providing reports that make it easier for users to understand and analyze data, in addition to its role in achieving cost savings and raising performance efficiency.

In the era of big data, the importance of business intelligence has become self-evident; it transforms data into valuable information, providing a basis for fact-based and evidence-based decision-making. Additionally, business intelligence helps improve organizational operational efficiency, reduce costs, and gain a deeper understanding of operational conditions. Through data analysis, new market opportunities, customer requirements, and product innovations can be discovered. It also contributes to enhancing user experience by understanding customer behavior, allowing for more personalized products and services, which ultimately leads to increased user satisfaction (Shenwei, 2024). Consequently, business intelligence is a concept used to refer to everything related to data in terms of collection, storage, extraction, analysis, and processing, leading to accurate information that supports the process of making various decisions to improve business performance and achieve goals based on in-depth analyses and detailed reports.

Business Intelligence Dimensions

A number of researchers in management science point to the existence of different dimensions of business intelligence. Researchers have not agreed on the same dimensions; rather, there was a disparity among them in terms of defining these dimensions that were addressed in their studies. Many researchers have dealt with the concept of business intelligence

as being based on a conceptual structure with multiple dimensions. Based on previous studies, the researcher has adopted the dimensions of business intelligence according to what most studies have addressed: data warehouse, data mining, online analytical processing, report preparation, and business performance management.

Data Warehouse

A data warehouse (DW) is a large analytical database that derives its data from a variety of systems. It is organized in a way that facilitates query operations, reporting, and analysis, and is typically used as a basis for a decision support system. Data warehouses are classified into three types: Enterprise data warehouse, Data mart, and Operational data store (Khan, 2003, 8). The concept of a data warehouse refers to data storage, where it acts as a central storage and management system for large-scale data, facilitating subsequent analysis and reporting (Mayer-Schneberger & Cukier, 2013). Gadiparthi (2024) considers a data warehouse as technologies that serve as a central repository for integrated data from various sources, providing storage for highly organized and filtered data, making it ideal for quick querying and reporting. Consequently, a data warehouse is a powerful technical database where data is collected and stored in an organized manner that facilitates its retrieval when needed and at high speed.

Data Mining

Data mining (DM) is the process of discovering important patterns, models, and other types of knowledge existing in large data sets. Data mining is also called “Knowledge Discovery from Data” or knowledge extraction from data, which is a more appropriate name, although unfortunately somewhat long (Han et al., 2023, 2). It is the process of extracting information contained within a large amount of data with the aim of searching for cognitive patterns and discovering hidden facts in databases using tools that search for trends and meaningless data, and extract implicit information that was not previously known, which can be useful and valuable (Abd El-Haq and Abd El-Radi, 2023, 88–89). Data mining allows for the automatic extraction of actionable insights from data warehouses by discovering hidden correlations and patterns in the data (Chowdhury et al., 2017, 51). Consequently, data mining is

the process of extracting knowledge from large amounts of data, to discover relationships, correlations, cognitive patterns and hidden facts between data with the aim of using and benefiting from them in decision-making.

On-Line Analytical Processing

Online analytical processing (OLAP) represents the ability to provide instant analysis of data stored in data warehouse systems or large databases with the aim of producing value-added information and presenting it in the form of comprehensive, concise, yet thorough, accurate, and multidimensional information reports. Real-time processing systems are used to analyze complex data by leveraging the analytical techniques, modeling, and business data visualization they contain, and displaying this data in various forms according to the needs and requirements of the end user (Yassin, 2018, 55). The concept of online analytical processing refers to the general activity of querying and displaying text and numerical data from the data warehouse for analytical purposes to be used in the decision-making process (Burststein & Holsapple, 2008, 259). Consequently, online analytical processing is a technique for quickly analyzing multidimensional data, it includes processes of collecting data stored in databases and analyzing it in a timely and efficient manner to extract knowledge that allows decision-makers to discover information from multiple perspectives to make accurate and quick decisions.

Report Preparation

Business intelligence reports use data graphics and visuals to represent data with the aim of facilitating understanding and sharing of results. They rely on metrics and time-based information. One of the most famous types of business intelligence reports is the dashboard or scoreboard, which shows the nature and state of performance based on visualized data displayed on the board in the form of snapshots (Howson, 2013, 17). Business intelligence reports involve presenting data in the form of charts, maps, and graphics that enable users to better understand the data and use it to achieve tactical and strategic goals (Vlamiš & Vlamiš, 2015, 23). Asayel (2023) believes that through report preparation, primary data is transformed into meaningful reports, where data can be converted into readable information,

and information can be converted into numerical tables. Consequently, the importance of report preparation lies in the ability to transform big data and complex information into results in the form of data graphics, tables, or charts that are easy to understand and share, providing clear and actionable insights that can be relied upon to make decisions that lead to achieving goals.

Business Performance Management

The concept of business performance management (BPM) refers to the process through which an organization's operations and activities are controlled and improved by developing the performance of individuals and work teams, which must align with its strategic objectives. This also includes reviewing and evaluating various activities and systems, and developing knowledge within the organization (Armstrong, 2018, 9). Richards et al. (2019) believe that business performance management systems can help organizations face challenges. Strategic decision-making in a changing business environment is a challenge encountered by many organizations today. Although most organizations do a good job of implementing management systems in areas of financial, budgeting, administrative reporting and business intelligence analysis, the use of such systems for corporate decision-making are rarely used. Therefore, business performance management reflects the organization's ability to efficiently practice a set of activities and processes to achieve value that leads to improved overall performance, competitive advantage, and strategic goals.

Organizational Flexibility

Today's business organizations, of various types and levels, are significantly affected by surrounding events, developments, and challenges. Therefore, they must have the ability to change and adapt, which is related to the concept of flexibility. A flexible thing is something capable of changing, adjusting, and adapting to events around it on all social, economic, political, and cultural levels. Organizational flexibility has been defined as a general approach that facilitates organizations' response to environmental and economic changes, enabling them to possess capabilities that focus on important characteristics such as knowledge, diverse skills and behaviors of individuals,

and other tools that help organizations face these changes (Bhattacharya et al., 2005). Organizational flexibility represents the organization's ability to discover and respond effectively to changes imposed by the environment, positively reflecting on its performance. This is achieved through adopting flexibility in organizational structure and procedures, or the ability to respond to change while considering surrounding environmental fluctuations. It is a multidimensional concept that includes flexibility in organizational structure and organizational procedures (Qaid and Tawaf, 2024).

Sushil et al. (2016, 8) view organizational flexibility as a tool that enables the organization to control its operations and activities to create a clear mission, vision, and strategies for the organization to increase its benefits, returns, and value, especially if managed effectively and efficiently. Based on this, it can be said that organizational flexibility is an approach adopted by organizations to adapt to various environmental changes. Flexibility encompasses all aspects of the organization, including organizational structures, procedures, processes, plans, and strategies. Flexible organizations are characterized by their ability to make necessary changes and modifications that contribute to the organization's development and growth based on its surrounding circumstances.

The importance of organizational flexibility stems from the uncertainty that business organizations currently face in the competitive environment and in the business environment in general. The challenges and changes that appear suddenly and rapidly, and the requirements they impose to change the organization's strategies and orientations, have highlighted the need for organizational flexibility. Through it, the organization can deal with all these circumstances by modifying, changing, and replacing strategies and processes in a way that adapts and aligns with the surrounding variables (Lal & Bharadwaj, 2016). Al-Na'as and Ben Ouda (2020) mention that flexibility contributes to achieving more profits and revenues, enhances the level of customer service which positively reflects on their satisfaction, improves the quality of products and services provided by the organization, and supports creativity and innovation within it.

The fundamental role of organizational flexibility is to drive organizations towards their desired successes and provide them with the organizational and administrative

foundations to face future challenges. This is done by preparing strategies that anticipate what is expected to happen locally and globally in the future through building flexible organizational structures and mutual relationships by supporting human resources to achieve sustainable excellence in all aspects (Haddad et al., 2023). It is evident from the above that flexibility has become a basic need for organizations to be able to adapt to the continuous and successive pressures and challenges surrounding them in the work environment, and thus achieve their desired goals with all efficiency and effectiveness.

7. THE RELATIONSHIP BETWEEN BUSINESS INTELLIGENCE AND ORGANIZATIONAL FLEXIBILITY

Many companies faced difficulty in keeping up with technological transformation until the COVID-19 crisis erupted. Since the pandemic began, the challenge has intensified and increasingly focused on the future of work and life more than people previously thought. Digital technology will become a crucial aspect of business flexibility tomorrow, as every organization will have to rely on data analytics, digital tools, and automation. Recently, many reports have focused on business flexibility. It's not just born out of crisis as is widely known, but it also involves a new reality (Elgazzar et al., 2022). The survival and growth of organizations currently depend on process management and the capabilities necessary for the effective use of large amounts of data from various sources to support the strategic and operational goals of organizations. The relationship between organizational analytical capabilities and performance outcomes in organizational flexibility and business process management maturity has been tested. It was found that organizational analytical capabilities positively affect organizational flexibility. Stimulating the practice of data and information analysis translates into managerial behavior that enhances the development of knowledge and understanding about how to manage unexpected risk events, enabling companies to assess their ability to respond to various disruptions (Sincorá et al., 2018).

Organizational flexibility plays an important role in preventing business services from disruptions caused by man-made disasters such as failed change implementation processes and

software errors. Thanks to the power of data mining techniques and machine learning, an intelligent business analytics system has been built to proactively detect potential disruptions and assist the operational team in enhancing organizational flexibility. Evaluations have been conducted proving that the proposed data analysis approach is more effective in detecting incidents than the traditional expert-focused approach. Therefore, the proposed approach can be used to help the operational team achieve flexibility as it outperforms basic methods in terms of accuracy and recall for detecting incidents in a real enterprise system dataset (Xu et al., 2019). A study by Al-Matari et al. (2022), which aimed to identify the role of business process capabilities in modifying the relationship between dynamic accounting information systems capability and organizational flexibility, indicated that dynamic accounting information systems capability has a positive effect on organizational flexibility. Organizational flexibility is positively affected by the mediation of business process capabilities. The organization's dynamic accounting information systems capabilities, represented by flexible accounting information systems, integrated business intelligence system, and efficiency of human resources related to accounting information systems, can contribute to improving organizational flexibility.

On the other hand, a study by Al-Qasrawi and Alafi (2022) aimed to identify the impact of business intelligence with its dimensions on strategic entrepreneurship in the presence of organizational agility in Jordanian entrepreneurial companies. The results showed that business intelligence with its dimensions (data warehouse, data mining, and real-time analytical processing) is applied at a high rate. There is a significant effect of business intelligence with its dimensions on strategic entrepreneurship and an effect of business intelligence with its dimensions on organizational agility. Similarly, a study by Al-Hawamdeh and Al-Ghanam (2021) revealed an effect of business intelligence with its dimensions (future foresight, real-time analytical processing, competitive intelligence, and business performance management) on crisis management in the National Center for Disaster and Crisis Management in the Kingdom of Bahrain. A study by Asayel (2023) aimed to uncover the role of business intelligence systems with their dimensions (data collection and storage, data mining, direct analytical processing, reporting and information exchange, and decision support

and making systems) in developing supervisory practices with their dimensions in the General Administration of Education in the Jazan region. The results of the study showed that the reality of applying business intelligence systems came to a very large degree in general, and that the more business intelligence systems are applied in educational supervision in the General Administration of Education in the Jazan region, the more effective the benefit from supervisory practices in it.

8. STUDY HYPOTHESIS

H: There is a statistically significant impact at the significance level ($\alpha \leq 0.05$) of business intelligence with its dimensions (data warehouse, data mining, online analytical processing, report preparation, and business performance management) on organizational flexibility at Jordan Customs.

9. METHODOLOGY

Study Population and Sample

The study population consisted of (544) managers at the upper and middle levels at Jordan Customs. A simple random sample of (224) employee who hold a managerial position was taken from the study population. The questionnaire was distributed electronically to the managers in the study sample, and (210) questionnaires valid for statistical analysis were retrieved, then they were subjected to statistical analysis using Smart PLS4 software.

Study Instrument

The questionnaire was used as a tool to collect primary data. The study questionnaire was developed based on the study variables, in addition to referring to previous studies closely related to the study topic to reflect the study hypotheses, achieve its objectives, and measure the variables as follows:

Part One: Contains items that measure the dimensions of the independent variable (business intelligence) with its dimensions (data warehouse, data mining, online analytical processing, report preparation, and business performance management).

Part Two: Contains items that measure the dependent variable (organizational flexibility).

10. RESULTS

Table 1 shows that the two variables of this study followed the normal distribution, since the general standard for the skewness coefficient is that if the number is greater than (+1) or less than (-1), this indicates a skewed distribution (Hair et al., 2021, 66). Lord et al. (2021, 143) believe that the kurtosis coefficient of a normal distribution takes a constant value of (3), and that any value above or below (3) provides information about the kurtosis of the distribution being compared to the normal distribution. Hair et al. (2017, 85) emphasize that achieving a normal distribution of data is not necessary with PLS-SEM, but it must be ensured that the distribution does not deviate significantly from normal.

Table 2 shows high levels of application of the two variables represented by business intelligence and organizational flexibility at Jordan Customs.

The study adopted the Reflective Measurement Model, where the evaluation of the reflective measurement model includes assessing the reliability of the study instrument, and evaluating the validity of the instrument. The evaluation of the reliability carried out through the outer loadings, Cronbach's alpha coefficient with a threshold equal or exceed 0.7 and Composite Reliability (CR) that should be equal or above 0.6, whereas evaluating validity involves assessing two types of validity, the first type is Convergent Validity using Average Variance Extracted (AVE), and the second type is Discriminant Validity, which compares all construct measures in the same model through several criteria: the Fornell-Larcker criterion, the Heterotrait-Monotrait (HTMT) ratio, and the Cross-Loading criterion (Hair et al., 2021, 116–117).

Table 3 demonstrates that all the reliability coefficients met the acceptable threshold values.

The convergent validity was validated using the AVE criterion. This criterion is defined as the grand average of the squared loadings of the indicators associated with the construct (i.e., the sum of the squared loadings divided by the number of indicators), which should be equal to or greater than 0.5 (Hair et al., 2017, 138). According to table 4, all AVE values are considered to be acceptable. Furthermore, the study employed Fornell-Larcker criterion, the Heterotrait-Monotrait (HTMT) ratio, and the Cross-Loading criterion to evaluate the discriminant validity.

Table 1. Normal Distribution.

Construct	Skewness	Kurtosis
BI	-0.972	2.256
OF	-0.803	0.991

Note: BI = Business Intelligence, OF = Organization Flexibility.

Table 2. level of importance of the variables.

Construct	Mean	Level of importance
BI	4.03	High
OF	3.84	High

Note: BI = Business Intelligence, OF = Organization Flexibility.

Table 3. Reliability of study instrument.

Construct	Indicator	Outer loadings ≥ 0.7	Cronbach's Alpha ≥ 0.7	Composite Reliability CR ≥ 0.6
DW	DW1	0.843	0.899	0.926
	DW2	0.870		
	DW3	0.879		
	DW4	0.811		
	DW5	0.818		
DM	DM1	0.760	0.891	0.920
	DM2	0.844		
	DM3	0.849		
	DM4	0.852		
	DM5	0.868		
OLAP	OLAP1	0.836	0.920	0.940
	OLAP2	0.871		
	OLAP3	0.890		
	OLAP4	0.903		
	OLAP5	0.851		
RP	RP1	0.825	0.889	0.919
	RP2	0.858		
	RP3	0.806		
	RP4	0.805		
	RP5	0.867		
BPM	BPM1	0.848	0.931	0.948
	BPM2	0.908		
	BPM3	0.903		
	BPM4	0.915		
	BPM5	0.856		
OF	OR1	0.846	0.962	0.967
	OR2	0.840		
	OR3	0.905		
	OR4	0.884		
	OR5	0.880		
	OR6	0.880		
	OR7	0.852		
	OR8	0.854		
	OR9	0.836		
	OR10	0.861		

Note: DW = Data Warehouse, DM = Data Mining, OLAP = On-Line Analytical Processing, RP = Report Preparation, BPM = Business Performance Management, OR = Organization Flexibility.

Table 4. Convergent Validity of study instrument.

Construct	Average Variance Extracted (AVE ≥ 0.5)
DW	0.714
DM	0.698
OLAP	0.758
RP	0.693
BPM	0.786
OF	0.747

Note: DW = Data Warehouse, DM = Data Mining, OLAP = On-Line Analytical Processing, RP = Report Preparation, BPM = Business Performance Management, OF = Organization Flexibility.

Table 5. Discriminant validity: Fornell-Larcker criterion

	BPM	DM	DW	OLAP	OF	RP
BPM	0.886					
DM	0.757	0.836				
DW	0.668	0.733	0.845			
OLAP	0.815	0.843	0.688	0.871		
OF	0.778	0.759	0.653	0.776	0.864	
RP	0.758	0.724	0.684	0.765	0.731	0.833

Note: DW = Data Warehouse, DM = Data Mining, OLAP = On-Line Analytical Processing, RP = Report Preparation, BPM = Business Performance Management, OF = Organization Flexibility.

Table 6. Discriminant validity: Heterotrait-Monotrait (HTMT) ratio – Matrix

	BPM	DM	DW	OLAP	OF	RP
BPM						
DM	0.828					
DW	0.728	0.816				
OLAP	0.879	0.929	0.754			
OF	0.820	0.817	0.699	0.823		
RP	0.830	0.807	0.761	0.843	0.788	

Note: DW = Data Warehouse, DM = Data Mining, OLAP = On-Line Analytical Processing, RP = Report Preparation, BPM = Business Performance Management, OF = Organization Flexibility.

Table 7. Discriminant validity: Cross Loading criterion

	BPM	DM	DW	OLAP	OF	RP
BPM1	0.848	0.708	0.607	0.737	0.676	0.685
BPM2	0.908	0.666	0.556	0.748	0.703	0.687
BPM3	0.903	0.675	0.612	0.723	0.690	0.687
BPM4	0.915	0.680	0.605	0.762	0.713	0.694
BPM5	0.856	0.623	0.579	0.636	0.666	0.602
DM1	0.563	0.760	0.609	0.622	0.546	0.519
MD2	0.640	0.844	0.631	0.717	0.614	0.628
DM3	0.601	0.849	0.548	0.703	0.635	0.585
DM4	0.615	0.852	0.603	0.691	0.687	0.597
DM5	0.731	0.868	0.668	0.778	0.682	0.683

The table continues

Continuation of the table Table 7. Discriminant validity: Cross Loading criterion

	BPM	DM	DW	OLAP	OF	RP
DW1	0.551	0.585	0.843	0.547	0.567	0.548
DW2	0.559	0.607	0.870	0.592	0.559	0.560
DW3	0.622	0.673	0.879	0.639	0.612	0.659
DW4	0.525	0.555	0.811	0.540	0.472	0.534
DW5	0.557	0.669	0.818	0.579	0.539	0.581
OLAP1	0.684	0.737	0.561	0.836	0.584	0.642
OLAP2	0.717	0.740	0.631	0.871	0.706	0.624
OLAP3	0.700	0.708	0.535	0.890	0.683	0.677
OLAP4	0.715	0.754	0.625	0.903	0.686	0.745
OLAP5	0.730	0.729	0.637	0.851	0.714	0.638
OF1	0.644	0.652	0.595	0.636	0.846	0.641
OF10	0.742	0.676	0.612	0.714	0.861	0.665
OF2	0.584	0.592	0.556	0.603	0.840	0.612
OF3	0.706	0.683	0.573	0.709	0.905	0.647
OF4	0.668	0.648	0.522	0.671	0.884	0.577
OF5	0.646	0.677	0.554	0.687	0.880	0.635
OF6	0.664	0.667	0.562	0.669	0.880	0.633
OF7	0.650	0.630	0.481	0.656	0.852	0.617
OF8	0.673	0.654	0.576	0.663	0.854	0.635
OF9	0.729	0.670	0.601	0.687	0.836	0.642
RP1	0.633	0.632	0.592	0.654	0.593	0.825
RP2	0.640	0.597	0.613	0.640	0.579	0.858
RP3	0.556	0.493	0.485	0.576	0.567	0.806
RP4	0.629	0.603	0.567	0.619	0.622	0.805
RP5	0.689	0.676	0.583	0.689	0.676	0.867

Note: DW = Data Warehouse, DM = Data Mining, OLAP = On-Line Analytical Processing, RP = Report Preparation, BPM = Business Performance Management, OF = Organization Flexibility.

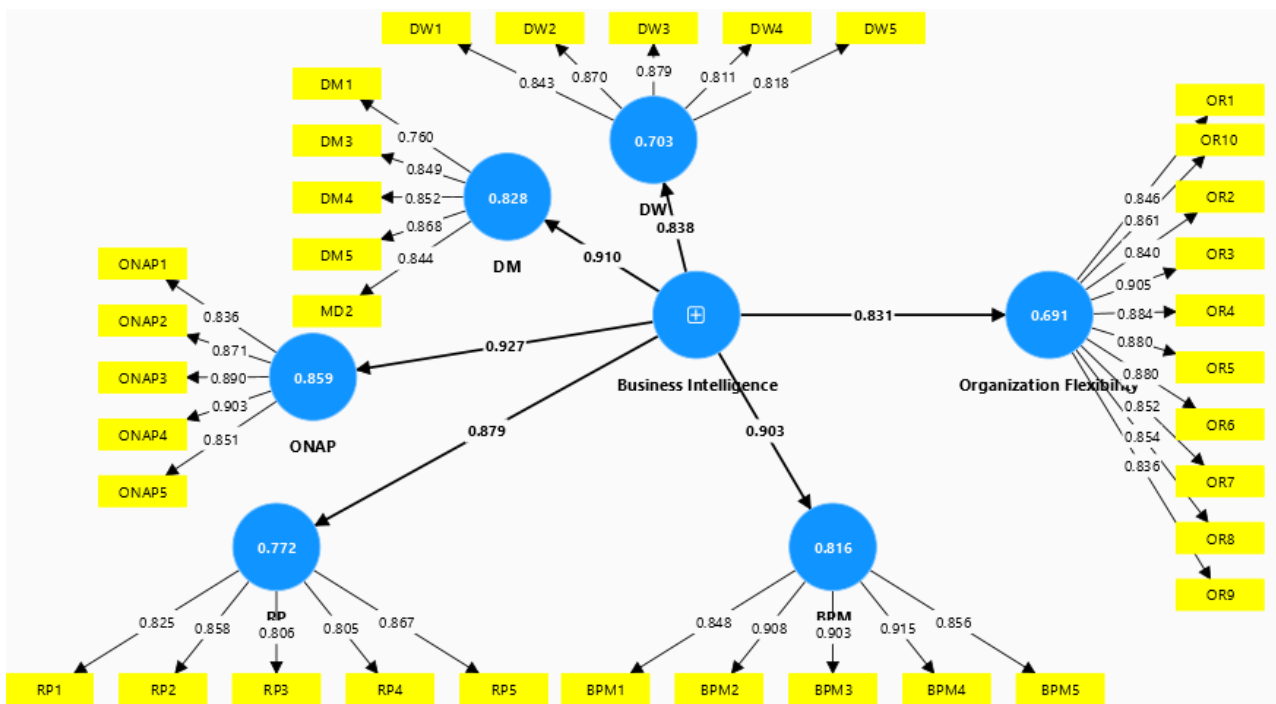


Figure 2. Measurement model

Table 8. Collinearity statistics (VIF)

Construct	BI
OF	1.000

Note: BI = Business Intelligence, OF = Organization Flexibility.w

Table 9. Coefficient of determination (R²)

Construct	R ²	R ² Adjusted	Explanatory power
BI	0.691	0.690	Moderate

Note: BI = Business Intelligence.

Table 10. Testing Hypothesis

Hypothesis	Path	Path coefficient (β)	R-square	t-Value	p-value	Is it Significant? p ≤ 0.05	Status
H	BI → OF	0.831	0.691	28.220	0.000	Yes	Supported

Note: BI = Business Intelligence, OF = Organization Flexibility.

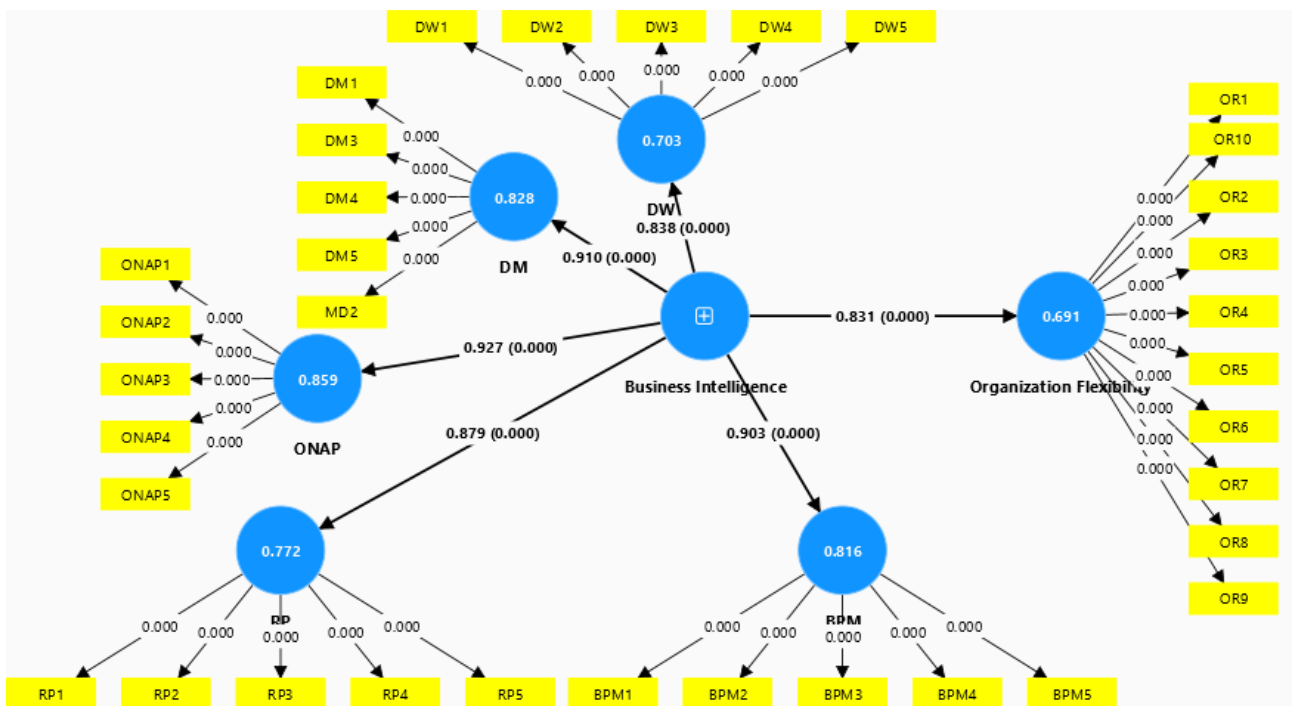


Figure 3. Hypothesis Testing.

Fornell-Larcker criterion compares the square root of AVE values with the correlations of other latent variables. In evaluating the results of the Fornell-Larcker criterion, it is determined whether the AVE is greater than the squared correlation with any other construct (Hair et al., 2017, 139). Table 5 shows that all discriminant validity coefficients according to this criterion are statistically acceptable, except for data mining with on-line analytical processing; this may be due to the proximity of these concepts to each other.

Based on Henseler et al., (2015), the values of HTMT ratio should not exceed 0.85 when the variables are conceptually similar and exceed 0.90 when the variables are conceptually dissimilar. Table 6 shows that all HTMT values are acceptable and below 0.90, except data mining with on-line analytical processing.

Another alternative for discriminant validity assessment is the cross-loadings criterion, where cross-loadings are verified by ensuring that the loading of indicators for a given variable is higher than all cross-loadings with other variables (Hair et al., 2017, 148). Table 7 shows that all cross-loading coefficients have met the criterion and are statistically acceptable, meaning all variables achieved discriminant validity in the measurement model.

After confirmatory testing of the measurement model's reliability and validity, the structural model was evaluated in terms of Variance Inflation Factor (VIF) and determination coefficient (R^2).

The Variance Inflation Factor (VIF) demonstrates no signs of multi-collinearity among the dimensions of the study variables in the structural model, that should be less than the threshold value of 5 (Hair et al., 2021, 191). Table 8 shows that the VIF value is below 5, meaning that it has met the criterion, and this indicates that there are no critical levels of multi-collinearity between the study variables.

The coefficient of determination (R^2) is the most commonly used measure for evaluating the explanatory power of the structural model. It is the square of the correlation between the actual values and the predicted values; therefore, it includes all the data used in estimating the model to evaluate its predictive ability (Hair et al., 2017, 209). Henseler et al. (2009) consider R^2 values of (0.75) to be high, (0.5) to be moderate, and (0.25) to be weak. Table (9) shows that the coefficient of determination (R^2) for the dependent variable in the model, represented by organizational flexibility, was (0.691), meaning that (69.1%)

of the variance in organizational flexibility at Jordan Customs was explained through the study model (business intelligence), and the remainder is attributed to other factors. As for the values of the adjusted coefficient of determination (R^2 adjusted), which is considered a more conservative measure than the coefficient of determination (R^2), the difference between it and the coefficient of determination (R^2) was very small; this confirms the adequate explanatory power of the structural model. Table 9 also shows that the model has a moderate explanatory power, since (R^2) has a value of 0.691 which lies between (0.5–0.75).

The result of testing hypothesis is shown in Table 10 and Fig. 3. Business Intelligence has a positive influence on Organization Flexibility; path coefficient value ($\beta = 0.831$), ($p = 0.000$) which is less than the significance level of (0.05). the result also shows that the t-value reached 28.220, which is greater than the reference value (1.96) as determined by Hair et al. (2017, 206) as the standard value corresponding to a significance level of (0.05). Therefore, H is supported.

11. DISCUSSION

This study found that the level of relative importance of the independent variable represented by business intelligence with its dimensions (data warehouse, data mining, on-line analytical processing, report preparation, and business performance management) was high at Jordan Customs, with an overall average value of (4.03). This result indicates that the level of application of business intelligence at Jordan Customs Department is high; this suggests that Jordan Customs has a clear methodology, behavior, and tangible efforts to adopt business intelligence dimensions. They give great attention to the data warehouse as they have a central system for storing data related to their operations, and they have a plan to collect and store necessary data related to their services and work on updating it periodically. They also focus on data mining processes that help in dealing with big data to access valuable information and to analyze customer behavior and build their strategic plans. Furthermore, they use advanced systems for real-time data processing and analysis to obtain quick and accurate information and outputs. This is in addition to their ability to prepare reports instantly upon request to rely on them in decision-making and business

performance management, saving time and effort, and increasing the efficiency of various operations.

The study also found that the level of relative importance of the dependent variable represented by organizational flexibility was high at Jordan Customs, with an overall average value of (3.84). This result indicates that the level of application of organizational flexibility at Jordan Customs is high; this shows that the organizational structure in Jordan Customs Department is characterized by high flexibility and continuous updating that takes place on it, and modification of tasks according to the developments of change. In addition to its continuous development of its strategies and the development of alternative strategies that are used depending on the situation to face the challenges it encounters, it also continuously reviews operations, and adopts the principle of simplifying operations and procedures in line with its strategic objectives.

This study examined the effect of business intelligence as an independent variable on organizational flexibility as a dependent variable in the Jordan Customs Department. The results of the study indicated a significant effect of business intelligence on organizational flexibility. The findings of the study are consistent with the results of Xu et al. (2019), which indicated that because of the power of data mining techniques and machine learning, an intelligent business analytics system can be built to proactively discover potential disruptions and help the operational team enhance organizational flexibility. It also aligns with the study of Sincorá et al. (2018), which showed that organizational analytical capabilities positively affect organizational flexibility. This means that the Customs Department's has a set of software that works on converting data into information, and then transforming this information into applicable knowledge, and its ability to computerize its activities, which facilitates obtaining information at low costs, in addition to its ability to collect, store, analyze, process data and obtain accurate information, all of this enables it to adapt with all events happening around it. The availability of information gives it sufficient flexibility in making operational and strategic decisions and helps in forming a future vision, as well as enabling them to modify their strategies partially or completely, in addition to the possibility of making adjustments to their organizational structure in terms of division of labor and distribution

of authorities, and re-engineering their processes, whether technical or administrative. It enables them to achieve the highest levels of efficiency and effectiveness, and enhance customer service, which is reflected on their satisfaction. From the above, it is observed that business intelligence helps Jordan Customs Department in building a flexible organizational structure, and preparing flexible strategies and processes, which provides them with a source of competitive advantage.

12. CONCLUSION AND IMPLICATIONS FOR MANAGERS AT JORDAN CUSTOMS

Implications for Managers

The results of this study showed that achieving organizational flexibility for the institution requires enhancing business intelligence, including building an integrated system of hardware and software and identifying the data sources that the institution needs, as well as providing human resources capable of dealing with these softwares to transform them into information and then into applicable knowledge that helps managers make decisions away from uncertainty. In this context, the institution can seek assistance from information technology companies to develop its systems and train its employees on how to identify data sources and how to acquire, store, analyze, and preserve them. In addition, it can develop its relationship with the sources from which it obtains the data it needs, which gives it an advantage in obtaining data.

Limitations and Recommendation for Future Research

In this study, the effect of business intelligence on organizational flexibility was tested in the Customs Department in Jordan. The results indicated a clear effect of business intelligence on organizational flexibility. However, limiting the study to a single department, despite its large size, may present some difficulties in generalizing its results to other organizations, especially industrial ones. Additionally, there's the question of the accuracy of the data provided by the respondents, particularly regarding business intelligence as a variable that may be new to the study community. The topic of research on how to reach the highest levels of organizational flexibility needs more examination and investigation. Many variables can

enhance flexibility, whether in the strategic, structural, and operational aspects, as well as in the adopted leadership style, the institution's absorptive capacity, strategic alliances.

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