



The effect of business intelligence on the development of human resources in Jordanian banks

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Abstract

The study aims to investigate the adoption and utilization of business intelligence systems by banks in Jordan for the purpose of managing their human resources. Additionally, the study sought to identify effective strategies for developing the human capital of these banks. The study emphasizes the importance of business intelligence systems in enhancing human capital development as a strategic imperative. This study utilized a descriptive and analytical methodology to collect data from male and female bank employees in Jordan. In order to gather the necessary data, the researcher distributed a questionnaire among the participants of the study. A total of 350 surveys were administered. The data that was gathered was subsequently analyzed utilizing the SPSS software. According to the study's findings, the practice of online analytical processing, business performance management, and competitive intelligence was reported to be of moderate prevalence. Based on employees' perspectives, there was a moderate level of implementation observed in terms of employee knowledge, experience, skills, value, training, as well as invention and innovation. The study further demonstrated that the mean level of engagement with the independent variable, business intelligence, as well as the dependent variable, human capital development, were both of a medium degree.

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Introduction

Business intelligence encompasses the utilisation of various methodologies and instruments to scrutinise business data from past, present, and future perspectives. This technology encompasses various functions including reporting, data mining, analytics, and performance management. Through the analysis and interpretation of substantial volumes of both structured and unstructured data, enterprises have the potential to identify novel strategic prospects and attain a competitive edge within the marketplace. Human resources encompass the collective body of employees within a company, industry, or economy, whereas human capital pertains specifically to the intellectual capacity and expertise possessed by individuals. The human resources (HR) department is responsible for overseeing multiple facets pertaining to employment, encompassing adherence to labour legislation, provision of employee benefits, and facilitation of recruitment procedures ^[1]. BI is how firms analyze data. Businesses may examine past, present, and future operations using BI technology. Reporting, online analytical processing, analytics, data mining, process mining, complicated event processing, business performance management, benchmarking, text mining, predictive analytics, and prescriptive analytics. BI technologies find, discover, and exploit new business possibilities by processing massive amounts of organised and unstructured data. Businesses may acquire an advantage and long-term stability by easily interpreting large data ^[2].

In the past, the field of human resource management was commonly known as "Personnel Administration." During the 1920s,

personnel administration placed significant emphasis on the utilisation, assessment, and incentivization of employees. Nevertheless, the employment and systematic connections between various parties at all levels of organisational performance were disregarded. Consequently, the discipline during that period was characterised by a lack of a cohesive theoretical framework^[3].

Human resources are an organization's employees, whereas human capital is people's expertise. Manpower, labour, staff, coworkers, and persons are similar. Human resource managers handle the whole employee life cycle. These include processing resumes and job applications, arranging and conducting interviews, aiding with recruiting, and completing background checks. They plan recruiting and selection. A payroll and benefits administrator monitors vacation and sick time, analyses payroll, and handles benefits-related tasks such as claim settlement, benefit statement reconciliation, and invoice payment^[4]. The development adds physical, economic, environmental, social, and demographic features and advances. The development aims to improve living standards, protect the environment, and create local and regional jobs. Development is noticeable and beneficial, but it takes time to build up circumstances for qualitative improvement^[5].

Banks must enhance their working methods and update their systems by utilising Banking Intelligence solutions to support and develop human capital, which promotes company development and the provision of innovative, unique, and competitive services. Modern banks are like this. Jordanian banks' largest problem is improving staff performance and data collection, especially customer and supplier data. They badly need several intelligence systems to boost human capital.

From this point of view, our research paper was addressed to highlight the current adoption rate of business intelligence systems within Jordan and their utilization in managing human resources. Also, Provide recommendations that can help enhance knowledge and application of the research variables among the studied or selected sample. This study aims to assess Jordanian banks' Business Intelligence effect. Businesses may decrease risks, increase profits, acquire a competitive edge, optimise marketing, and enhance internal processes using business intelligence.

This study offers guidance to Jordanian bank executives, senior managers, and IT managers on using business intelligence tools to enhance many elements of banking operations. furthermore, Increasing the researcher's theoretical and practical expertise in this key field of business administration, including how business intelligence works to gain a competitive edge and develop human resources.

Literature review

Companies utilise business intelligence (BI) methods and tools to analyse data. BI gives past, present, and future company insights. BI technologies include reporting, analytics, data mining, process mining, complicated event processing, benchmarking, business performance management, text mining, and predictive and prescriptive analytics. BI helps firms find new strategic possibilities and make educated choices by processing massive volumes of organised and unstructured data. Companies may acquire a competitive edge and long-term stability by using these insights^[6, 7]. Online Analytical Processing (OLAP) easily handles complicated multidimensional queries. Sales,

marketing, management reporting, budgeting, financial reporting, and BPM employ OLAP^[8]. It's also applied in new industries like agriculture^[9]. OLAP is a subset of business intelligence, which includes relational databases, data mining, and report authoring^[10]. Business performance management includes performance management and analytical techniques that help organisations meet goals. This phrase is sometimes called "corporate performance management" (CPM) or "enterprise performance management"^[11, 12]. These methods help manage organisation performance. However, Gartner has deprecated the name "CPM" and categorised it as "financial planning and analysis (FP&A)" and "financial close" to reflect increasing planning emphasis and a new category of solutions supporting financial closing^[13]. Competitive intelligence (CI) helps leaders and managers make strategic business choices by collecting and analysing data from several sources. This entails identifying, collecting, assessing, and sharing information about the environment, including goods, consumers, and rivals^[14]. Known as a methodical procedure^[15]. CI requires a rapid grasp of the industry and rivals to boost competitiveness^[16]. Baker (1964), an economist from the University of Chicago, coined the phrase "Human Capital," referring to the skills, routines, and societal/individual traits, including creativity, that enable employment to produce economic value. Human capital is the talents and expertise businesspeople provide^[17].

Human capital is the organization's collective competency and its purpose to generate the finest solutions for consumers via working people's expertise^[18]. It comprises all employees and everyday workers. In contrast,^[19] define human capital as a collection of human capabilities, experiences, and skills at the level of its performance, currently employed by the organisation or being trained for it in the future, or suspended from it due to accidents, work-related illnesses, vacations, or involuntary absences, those who meet the minimum job requirements and are in charge of achieving the institution's goals. Human capital refers to spending on health, nutrition, training, and other factors that prepare people for jobs from childhood to working age^[20]. Bhatt and Shah's 2023 study^[21] examined how the organization's flexibility, workers' desire to change, external conditions, and the necessity for change affects employees' readiness to use AI in HR practices. The researchers created a conceptual framework using the Technological Readiness Index, Change Readiness Scale, Technology Acceptance Model, Technology, Organisation, and Environment model, and Technology Readiness Scale. The results of the exploratory analysis indicate that the model can be used for further research if confirmatory factor analysis, validity and reliability tests, and other research procedures are performed. Binzafrah and Taleedi^[22] explore how business intelligence practises affect work satisfaction in the Asir Region of Saudi Electricity Company. The research used a descriptive questionnaire and an analytical methodology to attain its goals. The researchers advised organisations to use the newest business intelligence technologies to solve challenges and implement business intelligence systems to improve operations. In additional too, the study by Bany Mohammad^[23] examines how banking sector characteristics affect business intelligence and analytics (BIA). The research used a theoretical model to examine how technical, organisational, and environmental variables affect banking BIA acceptance and use. The report proposes considering BIA use in banking beyond

technological issues. Even more the study by Tavera Romero ^[24] underlines the importance of Industry 4.0 technology for supporting innovation initiatives and responding fast to changing markets. The paper also forecasts that Industry 4.0 will significantly depend on BI, therefore enterprises must adapt. Moreover, a study by ^[25] examined how Jordanian commercial banks' HR management affects organisational intelligence. The research indicated that bank managers adopt effective human resource management practises to increase their banks' capacity to perceive and adapt to environmental changes, resulting to better intelligence, profitability, and success. Sousa and Dias investigated the efficacy of employing Business Intelligence (BI) technologies in the integration of reports, analytics, dashboards, and metrics, with the aim of influencing decision-making processes carried out by human resource managers. The present study examines the outcomes of an exploratory investigation conducted on the utilisation of business intelligence (BI) technologies within Portuguese organisations, specifically focusing on their role in facilitating decision-making processes related to human resource management ^[26]. The authors explore the increasing prevalence of artificial intelligence (AI) technologies in the corporate sector during the previous two decades. With the increasing prevalence of augmented intelligence, it is anticipated that routine administrative tasks will be progressively substituted by intelligent AI technology, leading to improved and more efficient outcomes ^[27]. Over the last two decades, business AI use has grown. As augmented intelligence grows, administrative jobs should become easier. This Jordanian research is the first of its type and is unique in various ways. The study applies business intelligence systems to Jordanian banks, highlighting their urgent need for accurate and timely information in the face of global competition and the information revolution. This differs from previous Arab and foreign studies that focused solely on industry, insurance, and services.

The study was implemented using an analytical and descriptive approach to examine the relationship between Business Intelligence Systems and Human Resource Development, resulting in quantitative value indicators and recommendations for Jordanian banks. Be replaced with clever AI technology for better and more effective outcomes.

Research Methodology

This section covers research methodology, data collecting, sample population, statistical methodologies, and treatments. Business Intelligence and the Development of Human Resources were studied using both descriptive and analytical methods, as well as the effect of Business Intelligence on the sub-axes of the dependent variable, employee knowledge.

6. Data and sample

The study population consisted of (12145) male and female Jordanian bank employees. (350) questionnaires were distributed to the study sample banks, 334 were retrieved, and 25 were excluded due to filling errors, leaving 309 validation questionnaires.

6.1.1 Describe the characteristics of the study population

The study population consisted of (+12,000) male and female Jordanian bank employees. (350) questionnaires were distributed to the study sample banks, 334 were retrieved, and 25 were excluded due to filling errors, leaving 309 valid

questionnaires for analysis. The research questionnaire comprised six demographic factors (gender, age, educational, Academic Speciality, Years of Banking Experience, Job Title) as indicated in Table 1-4:

Table 1-4: Distribution of the Study Sample According to Personal and Job Characteristics

Variable	Category	Frequency	Percentages (%)
Gender	Male	141	45.6
	Female	168	54.4
Age	Less than 30 years	162	52.4
	30-39	61	19.7
	40-49	67	21.7
	+50	19	6.1
Education	Intermediate Diploma	51	16.5
	Bachelor degree	173	56
	M.A and above	85	27.5
Academic Specialty	Economics, Financial & Banking	95	30.7
	Business Administration	86	27.8
	IT	38	12.3
	Accounting	80	25.9
	Other	10	3.2
Years of work in Banking	Less than 5 years	140	45.3
	5-9 years	75	24.3
	10-14	59	19.1
	+15	35	11.3
Job Title	GM/deputy GM	6	1.9
	Assistant GM	6	1.9
	Department Head	16	5.2
	Branch/Office Manager	21	6.8
	Branch Supervisor	39	12.6
	Section Head	72	23.3
	Employee	149	48.2

Prepared by the researcher based on the results of the SPSS.

From the table, the research sample favoured females, with 168 people (54.4%). Men comprised 45.6% of the sample with 141 participants. Most respondents were under 30, with 162 making up 52.4% of the sample. Then came those aged 40–49, with 67 people (21.7%), and those aged 30-39, with 61 people (19.7%). Only 19 respondents over 50 comprised 6.1% of the sample.

The research sample included 173 Bachelor's degree holders, 56%. A total of 85 people with an M.A. or higher degree made up 27.5% of the sample, while 51 people with an Intermediate Diploma made up 16.5%. Economics, Financial & Banking was the most prevalent academic speciality, with 95 responders (30.7%). Business Administration followed with 86 people and 27.8%, and Accounting with 80 people and 25.9%. Only 38 of the sample had an IT speciality, 12.3%, while "Other" had the lowest proportion at 3.2% and a frequency of 10. For years of banking experience, 140 people (45.3% of the sample) had fewer than 5 years. This was followed by 75 people with 5-9 years of experience, 24.3% of the sample. The sample included 59 bankers with 10-14 years of experience, 19.1%. With 35 people and 11.3%, the minority had over 15 years of experience. Employees made up 48.2% of the sample with 149 people. Section leaders had 72 people and 23.2%, followed by branch supervisors with 39 people and 12.6%. Meanwhile, 21 branch/office managers made up 6.8% of the sample, while 16 department heads made up 5.2%. Finally, GM/deputy GM

& Assistant GM had the lowest proportion at 1.9% and a frequency of 6.

6.1 Data Collection Methods

This research included data from two sources. The main data source was a questionnaire, utilised in survey research. The questionnaire, based on previous studies, included axes for "Business Intelligence" (online analytical processing, performance management, competitive intelligence) and "Human Resources Development" (knowledge of employee). The theoretical basis of the study was strengthened by earlier investigations and books and volumes on the issue.

Hypothesis

H1: There is no a statistical significance impact of the business intelligence on develop human resources in Jordanian banks.

H2: There is a statistical significance impact of the business intelligence on knowledge of employees in human resources in Jordanian banks.

Conceptual Model

This study will examine how business intelligence affects

online analytical processing, business performance management, and competitive intelligence in Jordanian banks using a model.

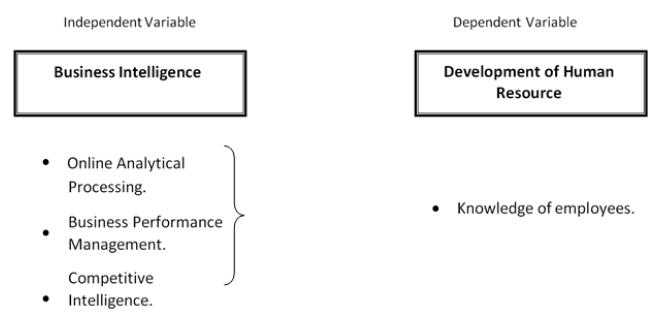


Fig 1: The Conceptual Model of the Research

Results

In regards to the items related to Business Performance Management, Table (3-4) displays the arithmetic mean and standard deviations for each item along with their corresponding degree of practice.

Table (3-4): level practice in Business Performance Management in Jordanian banking

Rank	Number of content	Business Performance Management	Mean	S.D	practice
1	7	Business intelligence systems provide preciseness in retrieving data and information.	3.69	0.95	High
2	3	The capabilities of business intelligence systems are sufficient to achieve the basic objectives associated with the performance of our business.	3.63	0.97	Medium
3	8	Using business intelligence systems have become critical factor to establish and implement business strategy	3.61	0.95	Medium
4	5	Business intelligence systems enable accessing data by the organization working members at the appropriate time.	3.59	0.92	Medium
5	6	Business intelligence systems raise the operational efficiency and support innovative process.	3.57	0.99	Medium
6	2	Business intelligence systems contribute in reducing errors committed during work implementation.	3.56	0.91	Medium
7	4	The capabilities of business intelligence systems are important to obtain operational information in real time.	3.54	0.97	Medium
8	1	Business intelligence systems contribute in achieving all practical phases at one working place.	3.48	0.98	Medium
9	9	Business intelligence systems works efficiently within the fields related to strategic planning and objectives.	3.42	1.21	Medium
Total			3.56	0.98	Medium

Prepared by the researcher based on the results of the SPSS.

The Business Performance Management paragraph arithmetic means and standard deviations are shown in Table 3-4. Paragraph 7 had the greatest arithmetic mean, 3.69, a standard deviation of 0.95, and high practise. Paragraph (9), however, had the lowest arithmetic mean of 3.42, standard deviation of 1.21, and average practise. Arithmetic mean for

the axis was 3.56, standard deviation 0.96, and average practise.

As for the Competitive Intelligence paragraphs, the results of the Arithmetic mean and standard deviations for each item and their respective level of practice are presented in Table (4-4).

Table (4-4): level practice in Competitive Intelligence in Jordanian banking

Rank	Number of content	Competitive Intelligence	Mean	S.D	practice
1	2	Competitive intelligence provides the organization with relatively clear picture about the future business environment in which the organization operates.	3.76	1.19	High
2	3	Competitive intelligence helps executives to evaluate competitors and this in turn translates into fewer competitive surprises	3.71	0.98	High
3	5	Competitive intelligence allows the executives to predict changes in the business relations.	3.66	1.04	High
4	10	Using Competitive intelligence in the organizations provide several tools of	3.65	1.16	Medium

		prediction in the work.			
5	6	Competitive intelligence teaches us about the new technologies which may impact the organization.	3.59	1.09	Medium
6	7	Competitive intelligence helps to predict the competitors' strategy.	3.46	1.08	Medium
7	1	Competitive intelligence protects the organization against potential threats of the competitors.	3.46	1.07	Medium
8	4	Competitive intelligence helps understanding the strategies used by the competitors to gain competitive edge.	3.41	0.94	Medium
9	8	Competitive intelligence helps in detecting new or potential competitors.	3.40	1.11	Medium
10	9	Competitive intelligence enhances the readiness of the bank to respond early and effectively to events and opportunities.	3.36	1.19	Medium
Total			3.55	1.09	Medium

*Prepared by the researcher based on the results of the SPSS.

Competitive Intelligence paragraph mean values and standard deviations are shown in Table 4-4. Paragraph (2) received the highest mean value, 3.76, with a standard deviation of 1.19, suggesting exceptional proficiency. Paragraph (9) received the lowest mean score of 3.36 and a

standard deviation of 1.19, suggesting mediocre proficiency. The mean score for all paragraphs was 3.55, with a standard deviation of 1.09 and an average competency. Table (5-4) shows the mean values, standard deviations, and proficiency levels for each Business Intelligence sub-axis of the independent variable.

Table (5-4): level practice the independent variable (Business Intelligence) in Jordanian banking

Rank	Number	Variable	Mean	S.D	practice
1	2	Business Performance Management	3.56	0.98	Medium
2	3	Competitive Intelligence	3.55	1.09	Medium
3	1	Online Analytical Processing	3.54	1.06	Medium
Independent Variable (Business Intelligence)			3.55	1.04	Medium

*Prepared by the researcher based on the results of the SPSS.

Table 5-4 shows the mean and standard deviation of each independent variable and subcategory. The Business Performance Management axis had the greatest mean of 3.56 and standard deviation of 0.98, indicating average practise. The Competitive Intelligence axis followed closely with a mean of 3.55, standard deviation of 1.09, and middling practise. The lowest mean, 3.54, with a standard deviation of 1.06, was reported for the Online Analytical Processing axis, indicating modest practise. The independent variable, Business Intelligence, had a mean of 3.55, a standard

deviation of 1.04, and middling practise. Furthermore, the mean and standard deviation for the dependent variable, Development of Human Resource, were extracted from the paragraphs related to the variable in Jordanian banks, including its dimensions: Knowledge of employees, Staff experience, Skill staff, Training, Innovation, and Renewal. Table 6-4 displays the mean and standard deviation for the Knowledge of employee's items and their respective practice levels.

Table (6-4): level practice in Knowledge of employees in Jordanian banking

Rank	Number of content	Knowledge of employees	Mean	S.D	practice
1	3	Employees don't feel the need to look for the required knowledge to perform their tasks.	3.72	1.08	High
2	4	Employees possess the full and updated knowledge to continue providing the bank services.	3.65	1.04	High
3	6	The bank management seeks to transform the knowledge of the employees to implemented efficient programs.	3.53	1.03	High
4	5	The bank attracts individual who have knowledge and high academic and professional certificates.	3.51	1.03	High
5	2	Employees share knowledge through experiences provided the seniors to the new employees.	3.35	1.16	High
6	1	Employees have knowledge and skills required to perform their tasks at the best.	3.34	1.12	Medium
Total			3.52	1.08	Medium

*Prepared by the researcher based on the results of the SPSS.

Table 6-4 shows the average and standard deviations of employee knowledge paragraphs. Paragraph (3) had the greatest average value of 3.72, a standard deviation of 1.08, and high practise. However, paragraph (1) had the lowest average value of 3.34, a standard deviation of 1.12, and an average degree of practise. All paragraphs averaged 3.54 with a standard deviation of 1.08 and an average degree of

practise.

Statistical Analysis and Tests Hypothesis

Diagnostic tests (Variance Inflation Factor and Tolerance) Diagnostic tests assessed the independent variable's axes' internal correlations. The tolerance and variance inflation factor (VIF) coefficients were calculated to verify that all

independent variables had VIF values less than 10 and tolerance values larger than 0.05. In 2006, Sekaran published these test findings in Table 12-4.

Table (12-4): Tolerance and the Variance Inflation Factor (VIF) values for Independent Variables

Variable	Tolerance	VIF
Online Analytical Processing	0.64	1.56
Business Performance Management	0.59	1.71
Competitive Intelligence	0.80	1.25

*Prepared by the researcher based on the results of the SPSS.

In Table 12-4, the Variance Inflation Factor (VIF) values for each dimension of the independent variable were below (2), and the Variance Tolerance values for all dimensions were above 0.05. These findings indicate no association among independent variables, allowing their use in multiple regression models. Identifying qualities that statistically affect the dependent variable is crucial.

Test Hypothesis

• Test Main Hypothesis

This study tests the hypothesis that business intelligence does not statistically influence Jordanian bank HR development. Multiple linear regression will be used to test this hypothesis for Online Analytical Processing, Business Performance Management, Competitive Intelligence, and Jordanian bank human resource development. The analytical data are given in Table 13-4.

Table (13-4): Multiple Regression for independent variables on Development of Human Resources

Variable	Beta Value	Sig	t-value	R2	F value
online Analytical Processing	0.150	0.031**	2.132	0.335	12.891
Business Performance Management	0.165	0.020**	2.340		
Competitive Intelligence	0.220	0.000***	3.642		
Dependent Variable: Development of Human Resources					

Prepared by the researcher based on the results of the SPSS.

** at significance level 5%

*** at significance level 1%

Research indicates that online analytical processing (OLAP) has a considerable impact on human resource development ($\alpha \leq 0.05$) with a value of 0.15. The statistical significance value was 0.031. Increasing OLAP by one unit while holding other parameters unchanged decreased the dependent variable by 0.15 units. A positive and significant impact of Business Performance Management (BPM) was seen at a level of $\alpha \leq 0.05$ with a value of 0.165. Increasing BPM by one unit while holding other parameters constant increased the dependent variable by 0.165 units. A positive and substantial impact of competitive intelligence (CI) was seen at a level of $\alpha \leq 0.01$ with a value of 0.22. Increasing CI by one unit while holding other parameters fixed increased the dependent variable by 0.22 units.

The model explained 33.5% of the dependent variable's variation with an R2 of 0.335. The estimated model was statistically valid since the F value was 12.9 for the calculation. Thus, we support the alternative premise that business intelligence affects Jordanian bank human resource development statistically.

A simple regression model tested the first sub-hypothesis on business intelligence and employee knowledge in Jordanian banks' human resources departments. The analysis findings are in the table:

Table (14-4): Simple Regression for business intelligence on knowledge of employees

Variable	Beta Value	R2	F value	Sig
Constant	1.519	0.425	67.801	0.000**
business Intelligence	0.563			0.000***
Dependent Variable Knowledge of Employees				

Prepared by the researcher based on the results of the SPSS.

*** at significance level 1%

A basic regression study of business intelligence analysis and employee expertise in human resources across Jordanian banks is shown in Table 14. The R2 result of 0.425 shows that business intelligence explains 42.5% of employee knowledge variance. A unit increase in business intelligence increases employee knowledge by 0.563, according to the independent variable coefficient. The independent variable was statistically significant, supporting the premise that business intelligence affects Jordanian bank HR development.

Discussion

In the final analysis, the result of our study shown that the variable Online Analytical Processing had a mean practice of 3.54, with a standard deviation of 1.06, indicating a medium degree of practice.

Also, the variable Business Performance Management had a mean practice of 3.56, with a standard deviation of 0.98, indicating a medium degree of practice. Evenmore the variable Competitive Intelligence had a mean practice of 3.55, with a standard deviation of 1.09, indicating a medium degree of practice. in addition, The variable Employees Knowledge had a mean practice of 3.52, with a standard deviation of 1.08, indicating a medium degree of practice. Although, the independent variable Business Intelligence had a mean practice of 3.55, with a standard deviation of 1.04, indicating a medium degree of practice. the dependent variable Human Capital Development had a mean practice of 3.47, with a standard deviation of 1.06, indicating a medium degree of practice. Additionally, the simple regression analysis indicated a statistically significant positive effect of the independent variable Business Intelligence on the dependent variable Knowledge of Employees, with an effect value of 0.563. The overall model was statistically acceptable, with an F value of 67.8. as well as, the multiple regression analysis indicated that the independent variables Online Analytical Processing, Business Performance Management, and Competitive Intelligence all had a statistically significant positive effect on the dependent variable Human Capital Development, with effect values of 0.15, 0.165, and 0.22, respectively. The overall model was statistically acceptable, with an F value of 12.9.

Conclusion and Recommendations

The objective of this study is to examine the implementation and usage of business intelligence systems within the banking sector in Jordan, specifically focusing on their application in human resource management. Furthermore, the research aimed to ascertain efficacious approaches for enhancing the

human resources of these financial institutions. This study highlights the significance of business intelligence systems in augmenting the development of human capital as a strategic necessity. The present study employed a descriptive and analytical methodology to gather data from male and female bank employees in the country of Jordan. To procure the requisite data, the researcher disseminated a questionnaire among the study participants. A total of 350 surveys were distributed. The collected data was subsequently subjected to analysis using the SPSS software. The study's findings indicate that the utilization of online analytical processing, business performance management, and competitive intelligence was reported to have a moderate prevalence. According to the viewpoints of employees, there was a discernible degree of implementation observed with regards to employee knowledge, experience, skills, value, training, as well as invention and innovation. The study additionally revealed that there was a moderate level of engagement observed with the independent variable, business intelligence, as well as the dependent variable, human capital development. The researcher suggests the following based on the literature review, previous studies, and findings of this study. So, it is recommended to focus on continuous evaluation of the efficiency of business intelligence competencies in Jordanian banks to enhance their development, as they play a crucial role in Human Resources development. Also, further research should be conducted, particularly in the Middle Eastern context, to gain a comprehensive understanding of the successful implementation and utilization of business intelligence in the financial sector. In addition, encouraging Jordanian banks and researchers to investigate success factors of business intelligence strategies in developing human resources in Jordanian banks.

References

- Trullen J, Bos-Nehles A, Valverde M. From intended to actual and beyond: A cross-disciplinary view of (human resource management) implementation. *International Journal of Management Reviews*. 2020;22(2):150-176.
- Dedić N, Stanier C. Measuring the success of changes to existing business intelligence solutions to improve business intelligence reporting. In: *Research and Practical Issues of Enterprise Information Systems: 10th IFIP WG 8.9 Working Conference, Confenis; c2016, Vienna, Austria, December 13–14, 2016, Proceedings*. 2016;10:225-236. Springer International Publishing.
- Chukwunonso F. The development of human resource management from a historical perspective and its implications for the human resource manager. In: *Strategic Human Resource Management at Tertiary Level*. Rivers Publishers; c2013. p. 87-101.
- Armstrong M. *Strategic Human Resource Management: A Guide to Action*. Kogan Page; c2020.
- Mazur K, Tomashuk I. Governance and regulation as an indispensable condition for developing the potential of rural areas. *Baltic Journal of Economic Studies*. 2019;5(5):67-78.
- Dedić N, Stanier C. Measuring the success of changes to existing business intelligence solutions to improve business intelligence reporting. In: *Research and Practical Issues of Enterprise Information Systems: 10th IFIP WG 8.9 Working Conference, CONFENIS 2016, Vienna, Austria, December 13–14, c2016, Proceedings*. 2016;10:225-236. Springer International Publishing.
- Rud O. *Business Intelligence Success Factors: Tools for Aligning Your Business in the Global Economy*. Hoboken, NJ: Wiley & Sons; c2009. ISBN 978-0-470-39240-391249.
- Abdullah A. Analysis of mealybug incidence on the cotton crop using ADSS-OLAP (Online Analytical Processing) tool. *Computers and Electronics in Agriculture*. 2009;69(1):59-72.
- Apostolos B. *Business Process Management: A Data Cube to Analyze Business Process Simulation Data for Decision Making*. VDM Verlag Dr. Müller E.K; c2010. p. 204.
- Deepak P. *Business Intelligence for Telecommunications*. CRC Press; c2007. p. 294. ISBN 978-0-8493-8792-0.
- Frolick M, Ariyachandra T. Business performance management: One truth. *Information Systems Management*. 2006;23(1):41-48.
- Sana M. Technology-enabled Business Performance Management: Concept, Framework, and Technology. In: *3rd International Management Conference; c2005*. p. 1-9. Archived from the original (PDF) on 2011-07-22. Retrieved 2010-02-21.
- Van Rooij MC, Lusardi A, Alessie R. Financial literacy and stock market participation. *National Bureau of Economic Research Working Paper Series; c2007; No. 13565*.
- Štefániková E, Masárová G. The need of complex competitive intelligence. *Procedia - Social and Behavioral Sciences*. 2014;110:669-677.
- Singh A. Collecting competitive intelligence at conferences. *Life Science Leader; c2019*. Available from: <https://www.lifescienceleader.com/doc/collecting-competitive-intelligence-at-conferences-0001>
- Koriyow OI, Karugu L. Competitive intelligence strategies and performance of commercial banks in Garissa County, Kenya. *International Academic Journal of Human Resource and Business Administration*. 2018;3(1):371-394.
- Maddocks J, Beaney M. See the invisible and intangible. *Knowledge Management*. 2002;16-17.
- Alfawaire F, Atan T. The effect of strategic human resource and knowledge management on sustainable competitive advantages at Jordanian universities: The mediating role of organizational innovation. *Sustainability*. 2021;13(15):8445.
- AL-Mafraji A, Saleh A. *Intellectual Measurement and Preservation Methods*. Arab Administrative Development; c2003.
- Halder N. Investing in human capital: Exploring causes, consequences and solutions to nurses' dissatisfaction. *Journal of Research in Nursing*. 2018;23(8):659-675.
- Bhatt M, Shah P. Acceptance of artificial intelligence in human resource practices by employees. In: *The Adoption and Effect of Artificial Intelligence on Human Resources Management, Part B*. Emerald Publishing Limited; c2023. p. 13-30.
- Binzafrah F, Taleedi F. The effect of business intelligence practices on job satisfaction in the Saudi Electricity Company in the Asir Region. *Journal of Money and Business*. c2022; (ahead-of-print).
- Bany Mohammad A, Al-Okaily M, Al-Majali M,

- Masa'deh RE. Business intelligence and analytics (BIA) usage in the banking industry sector: An application of the TOE framework. *Journal of Open Innovation: Technology, Market, and Complexity*. 2022;8(4):189.
24. Tavera Romero CA, Ortiz JH, Khalaf OI, Ríos Prado A. Business intelligence: Business evolution after industry 4.0. *Sustainability*. 2021;13(18):10026.
25. Mas'ad FM. The effect of human resource management practices on organizational intelligence in Jordanian commercial banks. *PalArch's Journal of Archaeology of Egypt/Egyptology*. 2020;17(6):1395-1410.
26. Dias I, Sousa M. Business intelligence applied to human resources management. In: *New Contributions in Information Systems and Technologies*. 2015;2:105-113. Springer International Publishing.
27. Hmoud B, Laszlo V. Will artificial intelligence take over human resources recruitment and selection? *Network Intelligence Studies*. 2019;7(13):21-30.