Data-driven transformation: The influence of analytics on organizational behavior in IT service companies

Ahmad Hanandeh[a], Qais Hammouri[b*], Anas Al Tweijer[c], Qais Kilani[b], Ghaith Abualfalayeh[b] and Mohamad Ahmad Saleem Khasawneh[d]

[a]Applied Science Private University, MEU Research Center, Middle East University, Jordan
[b]Applied Science Private University, Jordan
[c]Lecturer in Management Business Administration Department, Tafila Technical University, Jordan
[d]King Khalid University, Saudi Arabia

CHRONICLE	ABSTRACT
	The main goal of this research is to study and investigate the impact of data management and analysis tools on improving organizational behavior within three IT service firms in Jordan. This research focuses on choosing three data management and analysis tools: Database analysis tool, data processing tool, and big data processing tool and how these tools could positively influence enhancing employee performance and organizational behavior. It accomplishes this within the distinct framework of three Jordanian IT service firms. The research supposed that combining big data analysis, integrated data processing, and database analysis is necessary to enhance organizational behavior and employee performance, as indicated by the findings. Furthermore, the research highlights the potential for IT service firms in Jordan to benefit from emerging database analysis technologies, promote the use of integrated data processing techniques, and leverage big data analysis for their own benefit. This can enhance corporate behavior and employee performance. Data was distributed and collected from three Jordanian IT service firms, and all collected data was analyzed using AMOS. The study's findings offer valuable recommendations for enhancing the operational efficiency of IT service firms in similar business environments, emphasizing the crucial importance of comprehending and purposefully employing database-related technologies for sustained prosperity.

1. Introduction

The global IT service industry thrives on its ability to adapt, innovate, and deliver value in a constantly evolving digital landscape. As competition intensifies and customer expectations rise, IT service companies are increasingly recognizing the need to optimize not just their technological prowess, but also their organizational behavior – the human element that underpins their success (Hammouri et al., 2023). This research delves into the burgeoning role of data management and analysis tools in shaping this human element, investigating their potential to improve organizational behavior and drive positive change within IT service companies. While the transformative potential of data is widely acknowledged, research specifically exploring its impact on organizational behavior within IT service companies remains limited. This study addresses this gap, providing valuable insights into how data-driven approaches can be leveraged to enhance communication, foster collaboration, improve decision-making, and cultivate a more positive and productive work environment. This research investigates the following key question: **How do data management and analysis tools impact organizational behavior within IT service companies?** This overarching question encompasses various dimensions, including the specific tools being

utilized, the perceived benefits and challenges of implementation, the influence of organizational factors, and the ethical considerations surrounding data-driven approaches to managing human behavior.

This research contributes to several theoretical frameworks, including organizational behavior theory, information systems management, and data analytics. By examining the interplay between these fields, the study sheds light on how data-driven insights can be integrated into existing organizational structures and processes to achieve desired behavioral outcomes. The findings of this research will provide IT service companies with actionable insights and practical recommendations for leveraging data management and analysis tools to improve organizational behavior (Abualoush et al., 2022). This includes guidance on selecting appropriate tools, addressing implementation challenges, fostering a data-driven culture, and mitigating ethical concerns. By harnessing the power of data, IT service companies can create a more engaged, productive, and fulfilling work environment for their employees, ultimately driving enhanced organizational performance and sustainable growth (Mansour et al., 2024).

2. Theoretical Background

2.1 Database Analysis

Database analysis employs a variety of processes utilizing structured information to optimize operations, provide important insights, and improve decision-making (Khan et al., 2023). According to Zhang et al. (2023), database analysis refers to the systematic examination of data within databases in order to identify trends, patterns, and correlations. This facilitates the development of well-informed company strategies and enhances operational effectiveness. The objective is to enhance data-driven decision-making and acquire a more comprehensive understanding of organizational processes by systematically employing analytical tools and techniques to vast datasets (Mądziel & Campisi, 2023). Database analysis surpasses conventional data handling approaches in the field of business intelligence by employing relational databases, advanced algorithms, and statistical models (Arai et al., 2023). Database analysis seeks to enhance firm performance and gain a competitive edge by optimizing the management, retrieval, and interpretation of data (Ogami et al., 2023). Elder et al. (2024) the purpose of database analysis is to enhance the quality of data, ensure its integrity, and obtain important insights that can drive innovation and strategic initiatives (Hammouri et al., 2022). Database analysis involves several methodologies employed to uncover patterns and extract information from datasets. The techniques encompassed in this set include data mining, query optimization, predictive modeling, and statistical analysis (Singh et al., 2023). It functions as a versatile and adjustable approach for engaging with the expanding realm of data, fulfilling the evolving requirements of businesses in the era of digitalization (Saidov et al., 2023). Database analysis offers advantages that extend beyond traditional data management methods, much like the efficiency improvements seen in contemporary data processing systems (Emile et al., 2023). Khan et al. (2023) identified several benefits, namely enhanced data accuracy, improved decision-making, streamlined operations, and the opportunity to uncover valuable insights for future strategic planning. To remain competitive in a rapidly evolving data environment, companies must understand the intricacies of database analysis in order to develop effective data strategies (Zhang et al., 2023).

2.2 Integrated Data Processing

El-Sayed et al. (2023) define integrated data processing as a multifaceted field that involves several techniques and systems collaborating to efficiently handle, examine, and comprehend data across diverse applications and platforms. Integrated data processing enables the efficient management, analysis, and extraction of valuable insights from diverse datasets by employing interconnected systems and technologies (Sadriddinovich, 2023). This entails leveraging integrated platforms and advanced technology to meticulously analyze data, ensuring seamless data flow and facilitating informed decision-making (Wang et al., 2024). Integrated data processing is a comprehensive approach to data management that involves merging data from several sources to enhance data accessibility, accuracy, and utilization (Shahbazi & Byun, 2021). This comprehensive approach includes data integration, transformation, and loading (ETL), real-time data processing, and compatibility with several databases and applications. The objective of these meticulously orchestrated procedures is to enhance the uniformity of data, streamline operations, and provide a unified overview to facilitate more informed decision-making (Yang et al., 2020a; Al-Qudah et al., 2020).

Integrated data processing surpasses ordinary data handling procedures in organizational operations by using the synergy of associated systems and technology (Yang et al., 2020b). The objective is to improve the quality of data, optimize the flow of data, and increase organizational efficiency through efficient data sharing, tailored processing, and data-driven analysis (Jabbar et al., 2020). Integrated data processing encompasses a range of methods, including as data consolidation, master data management, real-time analytics, and application and database interoperability (Rana et al., 2022). According to El-Sayed et al. (2023), a flexible and responsive strategy is necessary in today's data ecosystem to make well-informed strategic decisions and obtain comprehensive insights from diverse data sources. Integrated data processing offers advantages over traditional approaches due to the observed efficiency improvements in improved data operations (Sadriddinovich, 2023). The benefits encompass enhanced data accuracy, improved decision-making capabilities, streamlined operations, and a holistic perspective of the organization's data (Wang et al., 2024). To succeed in the modern era of complex data ecosystems, firms need to have

a deep understanding of integrated data processing. This knowledge is crucial for developing effective data strategies and staying abreast of the constantly evolving digital environment (Shahbazi & Byun, 2021; Raed et al., 2023).

2.3 Big data

The field of big data analysis employs advanced techniques to efficiently handle and derive valuable insights from massive datasets, ushering in a new era of decision-making based on data (Leiras & Eusébio, 2023). Big data analysis refers to the systematic examination of extensive and intricate datasets using advanced technology and analytical techniques to identify trends, patterns, and correlations (Miao et al., 2023; Al-Zagheer et al., 2024). The strategic utilization of diverse data kinds and advanced analytics is employed to extract valuable insights and enhance decision-making in several domains (Chen et al., 2023a). Big data analysis, as defined by Liu et al. (2023), refers to the utilization of advanced computer techniques to effectively handle, examine, and comprehend vast quantities of data with the purpose of extracting significant insights. Data mining, statistical modeling, machine learning, and predictive analytics are integral components of a comprehensive approach to effectively handle complex, large, and diverse datasets (Jaber & Csonka, 2023). To have a thorough understanding of trends and occurrences, it is necessary to integrate and analyze both structured and unstructured data from many sources, including social media, sensors, and transactional records (Pynadath et al., 2023). Big data analysis employs distributed and scalable computer frameworks to surpass conventional data processing methods within the context of organizational operations (Liu, 2024). The ultimate objective is to enhance the storage, processing, and analysis of data in order to utilize data-driven insights to foster innovation, efficiency, and gain a competitive edge (Kurup & Jeba, 2024). Leiras and Eusébio (2023) state that organizations can quickly obtain valuable insights by employing several approaches in big data analysis, such as data warehousing, parallel processing, and real-time analytics. The challenges presented by the large amount, speed, and diversity of data in the current data environment require a flexible and dynamic approach (Miao et al., 2023). The advantages of big data analysis surpass those of traditional methods due to its superior efficiency in handling massive datasets (Chen et al., 2023b). The advantages include enhancements in operational efficiency, decision support, and the ability to uncover previously unidentified insights that can drive strategic initiatives (Liu et al., 2023). In order to thrive in the rapidly evolving digital environment, organizations need to comprehend the intricacies of big data analysis and formulate effective data strategies among the overwhelming abundance of information (Jaber & Csonka, 2023; Hanandeh et al., 2023).

2.4 Employee Performance

Employee performance encompasses a range of activities and strategies that are fundamental to the functioning of firms (Anakpo et al., 2023). The objective is to optimize the efficiency, involvement, and output of every employee. Hartika et al. (2023) state that when a firm endeavors to enhance and evaluate the performance of its personnel, it aims to achieve its goals and objectives. To effectively promote, supervise, and cultivate staff, it is imperative to employ a diverse range of management strategies and resources (Rivaldo & Nabella, 2023). This will ultimately lead to enhanced job performance and overall organizational success. Employee performance encompasses the strategic planning and execution of an organization's attempts to enhance efficiency, job satisfaction, and overall financial performance (Salim et al., 2023). The Persada & Nabella (2023) framework presents a holistic strategy that encompasses performance management systems, explicit expectations, constructive feedback, and opportunities for skill enhancement and professional advancement. As per Al-kharabsheh et al. (2023), this approach involves methodically utilizing performance measurements, key performance indicators (KPIs), and employee assessments to assess and enhance an individual's contribution towards reaching corporate objectives. Abdelwahed et al. (2023) argue that in the context of corporate operations, effectively managing employee performance involves more than just traditional people management. This is because it recognizes the importance of employee engagement and motivation in achieving organizational success. By employing effective leadership, implementing well-crafted training programs, and providing continuous feedback, the objective is to optimize individual capabilities, promote job satisfaction, and improve overall organizational performance (Rijanto, 2023; Ahmad et al., 2024). Performance appraisals, goal-setting frameworks, employee development plans, and incentive systems are all components utilized in the management of employee performance (Wulandari et al., 2024). In the modern workplace, when satisfied and motivated employees are crucial for a company's success, this strategy serves as a flexible and adaptable method of engaging with workers (Yulfa et al., 2024). The advantages of performance management, such as increased productivity, greater job satisfaction, less employee turnover, and improved organizational effectiveness, surpass traditional personnel methods (Laelawati, 2024). As per Anakpo et al. (2023), the benefits encompass a conducive work environment, heightened staff morale, enhanced decision-making, and adaptability to changing company circumstances. Contemporary businesses must comprehend the intricacies of performance management to devise efficacious tactics and foster a contented and industrious work environment (Hartika et al., 2023).

2.5 Organizational Behavior

Bankins et al. (2023) assert that the field of organizational behavior encompasses several subjects, such as the dynamics of interactions and behaviors among different groups and individuals within an organization, and their influence on the overall performance and functioning of the institution. Organizational behavior refers to the examination of the dynamics and interactions among individuals within a group in an organization, and how these interactions impact the group's culture and effectiveness (Banks et al., 2023). Wang et al. (2023) explore the study of organizational behavior, focusing on the structural,

social, and psychological factors that influence group dynamics and individual performance. The objective of studying organizational behavior is to enhance organizational outcomes and employee welfare by examining the attitudes, behaviors, and performance of individuals and groups in a workplace environment (Vem et al., 2023). To comprehend the factors that shape employee behavior and interactions, a comprehensive approach is employed, which entails examining several components such as leadership styles, decision-making processes, company culture, and communication patterns (Jiang et al., 2023). Gravina et al. (2023) propose that this strategy seeks to establish a positive work environment and achieve organizational goals by incorporating principles from organizational psychology, sociology, and management. Organizational behavior enhances management in corporate operations by emphasizing the significance of individuals (Ahmed & Khan, 2023). The primary objective of this initiative is to enhance organizational performance, job satisfaction, and employee engagement using effective communication, teamwork, and leadership strategies (Chen et al., 2023a). Yavuzaslan et al. (2023) define organizational behavior as encompassing many strategies such as team-building techniques, leadership development programs, conflict resolution tactics, and performance management systems. According to Bankins et al. (2023), employee satisfaction and motivation play a crucial role in determining an organization's performance. They argue that this approach is both responsive and adaptive, allowing organizations to effectively engage with the modern workforce. The advantages observed in increased morale, reduced employee turnover, and enhanced organizational efficiency indicates that organizational behavior surpasses traditional management practices (Banks et al., 2023). The advantages encompass the capacity to adjust to evolving organizational circumstances, improved decision-making, greater employee interactions, and heightened productivity (Wang et al., 2023). Vem et al. (2023) highlighted the need of organizations comprehending organizational behavior to develop efficient strategies and foster a robust and fruitful work environment. Fig. 1 presents the results of the proposed study.
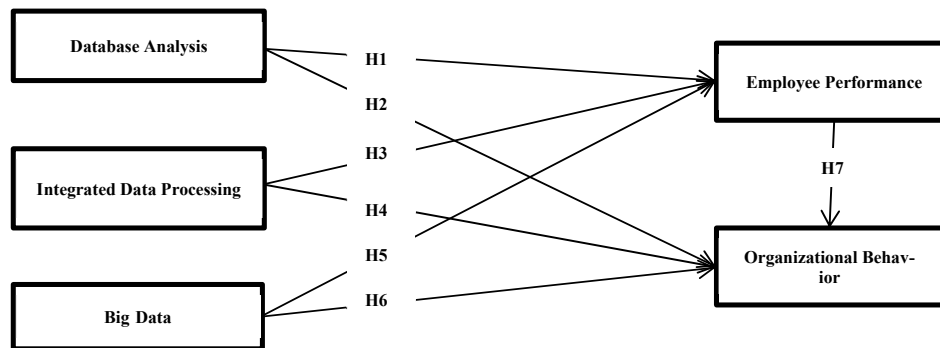

Fig. 1. Research Model

3. Research Methodology

3.1 Research Design

This article employs quantitative research approaches to examine the impact of big data, integrated data processing, and database analysis on the relationship between organizational behavior and employee performance in IT service firms in Jordan. This study gathers primary data through the use of a well-organized questionnaire and supplementary qualitative data, providing comprehensive and in-depth insights.

3.2 Research Sample

The research accurately selected respondents using a stratified random sampling technique. In this way, we know that the sample accurately reflects the whole population of interest, which comprises all employees of Jordanian IT service firms.

3.3 Data Analysis

3.3.1 Quantitative Data Analysis

The quantitative data collected from the survey was the focus of this study, which employed statistical methods such descriptive statistics, regression analysis, and correlation analysis. We used a subjective, comprehensive statistical analysis to find trends, correlations, and patterns so that we could test our ideas and achieve our aims.

4. Research Design

With these objectives in consideration, we developed an internet-based questionnaire that was filled out by IT service firms in Jordan. The survey comprises a total of thirty questions and encompasses eight unique categories of structures. The research questionnaire encompasses variables pertaining to database analysis (DA), integrated data processing (IDP), big data analysis (BDA), organizational behavior (OB), and employee performance (EP). The research model and hypotheses were tested using the primary data in conjunction with the Smart PLS (3.3.9) tool. Each participant had the option to select one of five potential responses on the research questionnaires: strongly disagree, disagree, neutral, agree, and strongly agree.

5. Research Analysis

The initial and main stage in performing analysis on survey data is to convert the items into significant codes. The data was subsequently incorporated into the database using SPSS V.25 and SMARTPLS-SEM V.3.3. We conducted a thorough examination of the data entry technique to identify any errors and then rectified them. In addition, every response has been carefully considered. The data analysis section presents a concise overview of the replies, along with the results of the Measurement Model Assessment and the Structural Model Assessment. The PLS-SEM method requires two models: one for assessing and confirming the variables and hypotheses of the investigation, and another for all other aspects. Before conducting the primary evaluation, we rigorously verified and cleaned inconsistent or missing data using the cleanup and verification techniques of the SPSS initiative. Regarding unusual sums, we subjected the Mahalanobis analysis to testing in this investigation, employing the necessary level of independence and a Chi-square ($\chi 2$) score at a significant level of 0.001. According to this approach, a minimum acceptable Chi-square value of 15.24 with a degree of freedom of 4 is mandated at $p < 0.001$. This necessitates the exclusion of outliers with closeness scores exceeding 15.24 from the analysis. In this particular case, a total of 293 valid and sanitized responses were aggregated for the final review. Additionally, prior to the evaluation, we conducted a normalcy test and utilized the results of kurtosis parameters. These parameters exhibited fluctuations within the acceptable range of ±2, suggesting that the study data do not significantly deviate from the normal distribution. The evaluation of a research model involves two key aspects: measuring it and constructing structural models. To begin, the confirmatory tetrad analysis (CTA) test must be executed. This test is based on the concept of tetrads τ, adjusting the connection between pairs using the Bonferroni equation. Essentially, this method assists researchers in verifying the appropriateness of their choice between a formative or reflective model. It serves as a secondary defense for introspective guidance, building on the theoretical background employed before the assessment of reliability and validity. The confirmation that no zero value falls within the confidence range affirms, both theoretically and statistically, that the reflective model is the appropriate selection based on the results of this study.

5.1 Measurement Model Assessment

The investigation employs a paradigm comprising 30 questions that examine 5 fundamental components.

Table 1
Measurement Model

Construct- Item	Outer Loading	Average Variance extracted (AVE)	Indicator Reliability	Composite Reliability (rho_a)	Composite Reliability (rho_c)	Cronbach's Alpha		HTMT
Threshold Interval Does	> 0.7	>0.5	>0.6	>0.6	>0.6	>0.6	>0.6	Confidence
Database Analysis								
Q1.	0.845							
Q2.	0.951							
Q3.	0.932	0.938		0.928	0.936	0.917		Yes
Q4.	0.959							
Q5.	0.927							
Q6.	0.986							
Integrated Data Processing								
Q7.	0.814							
Q8.	0.862	0.830		0.721	0.716	0.718		Yes
Q9.	0.813							
Q10.	0.849							
Q11	0.817							
Q12	0.831							
Big Data Analysis								
Q13.	0.826							
Q14.	0.879							
Q15.	0.825							
Q16.	0.865							
Q17.	0.832	0.844		0.821	0.827	0.832		Yes
Q18.	0.847							
Organizational Behavior								
Q19.	0.912							
Q20.	0.819	0.861		0.825	0.842	0.865		Yes
Q21.	0.868							
Q22.	0.843							
Q23.	0.783							
Q24.	0.942							
Employee Performance	0.778							
Q25.	0.862							
Q26.	0.951							
Q27.	0.804	0.844		0.758	0.825	0.818		Yes
Q28.	0.876							
Q29.	0.899							
Q30.								

Before conducting the theoretical analysis, it is advisable to preprocess the measures to ensure their accuracy and reliability. The external loading of an item within a structure indicates its consistency with other elements. Higher external loadings

indicate greater correlation and comparability among items (Hair et al., 2021). Hair et al. (2021) set a standard for the Average Variance Extracted (AVE) by establishing a benchmark value of 0.50 that should be surpassed. This statistic is used to evaluate the dependability of the concept's convergence and to confirm that the underlying structure explains more than 50% of the average difference in its relevant warning signs. Convergent reliability, a form of construct validity, is evaluated by analyzing the statistical significance of the Average Variance Extracted (AVE). Statistical analysis is used to investigate concurrent rates for variables that assess the same component. Evaluating the specific approach also entails analyzing any discrepancies or deviations among these components or metrics. The evaluation of convergence validity is mostly based on the correlations between the commodities of the parameters, as assessed by diverse statistical approaches and theories. To achieve and execute this level of precision, the primary method is to factorize the components. The preceding sections examine two further essential methods for validating this specific type of authenticity: Composite Reliability (CR) and Average Variance Extracted (AVE).

5.2 Structure Model Test

Following the assessment of the accuracy and reliability of the measuring paradigm, the next step in the process of structural equation modeling (SEM) involves analyzing the fundamental assumptions of the research. To accomplish this, it is strongly advised to follow the protocols outlined by Hair (2010). These stages will enable the creation of a structure for assessment. Evaluations of the study hypothesis involve the use of assessments such as goodness of fit (GoF), path coefficient, impact size (f2), predictive relevance (Q2), and coefficient of determination (R2). Furthermore, each analysis is assessed separately for the presence of multi-collinearity in the following subsections.

Effect Size (f^2)

After doing calculations and analyzing the R2 value, the next step is to assess the impact of a specific external or independent parameter on a dependent variable by calculating the effect size (f2). Therefore, equation 4.3 is a commonly used approach to measure the size of an effect.

Table 2

Exogenous Constructs

Constructs	Effect size (f^2)	Effect size (f^2)	Result
	OB	EP	
Database Analysis (DA)	0.011	0.004	Small Effect
Integrated Data Processing (IDP)	0.006	0.116	Medium
Big Data Analysis (BDA)	0.285	0.271	Large Effect
Organizational Behavior (OB)			
Employee Performance (EP)			

5.3 Research hypotheses Test

To analyze the study hypotheses, the second step involves examining the moderating influence of the relationships identified in chapter two. The investigation of this effect is currently being hypothesized. A moderator variable (M) has the ability to modify the intensity of the association between two variables by affecting the interaction between the independent and dependent variables. The recommended route coefficients to assess the moderating research hypotheses (or moderation hypotheses) are shown in Table 3.

Table 3

Analysis Results Paths in Smart-PLS4

Hypotheses		Beta	P values	Results
H.1	DA → OB	0.552	0.001	Supported
H.2	DA → EP	0.510	0.001	Supported
H.3	IDP → OB	0.529	0.000	Supported
H.4	IDP → EP	0.767	0.000	Supported
H.5	BDA→ OB	0.520	0.002	Supported
H.6	BDA→ EP	0.473	0.002	Supported
H.7	OB → EP	0.441	0.000	Supported

6. Research Discussions

To effectively respond to the dynamic economic environment, it is imperative for IT service firms in Jordan to examine the impact of database administration, integrated data processing, and big data analysis on organizational behavior and staff performance. This research aims to shed light on the impact of technology components on organizational dynamics inside IT service firms in Jordan. In light of the rapid evolution of the corporate landscape, it is imperative to comprehend the interrelatedness of database administration, integrated data processing, and big data analysis. This study aims to examine the impact of these factors on organizational behavior and employee performance in IT service firms in Jordan. Comprehending the intricate relationship between database management, integrated data processing, and big data analysis is

essential for companies adopting a data-driven approach. These technical characteristics are expected to significantly enhance organizational efficiency, decision-making, and staff performance. This project aims to investigate the intricate impact of database management systems on organizational behavior inside IT service firms in Jordan. It will specifically focus on how these systems streamline operations, facilitate information interchange, and foster a culture of continuous learning. This analysis will focus on the role of integrated data processing in improving communication channels, optimizing corporate processes, and fostering an environment conducive to ongoing skill development. Furthermore, the study will investigate the impact of big data analysis on employee performance within the context of Jordanian SMEs. Enhancing staff productivity and job satisfaction can be accomplished by acquiring a pragmatic comprehension of how these technological advancements influence day-to-day operations and decision-making procedures. Like research on the implementation of novel technologies, this study acknowledges potential barriers with potential benefits. The findings may pertain exclusively to the distinct culture and practices of IT service firms in Jordan. Given the perpetual evolution of technology, the ability to adapt is crucial for being pertinent. This study's findings should be acknowledged by researchers, lawmakers, and business leaders alike. SMEs can leverage big data analysis, integrated data processing, and database management to enhance corporate behavior and optimize staff performance. In order to thrive in the dynamic realm of technology-driven organizational behavior and employee performance in IT service firms in Jordan must cultivate a culture that promotes innovation and excellence. The recommendations provided by the study could be crucial in achieving this goal. In order to achieve sustained success in this domain, it is imperative to consistently engage in research and actively adjust to the evolving digital landscape.

7. Conclusion

The primary aim of this study is to investigate the utilization of big data analysis, integrated data processing, and database analysis by IT service firms in Jordan to enhance both organizational performance and employee behavior. Specifically, we are keen on understanding the utilization of these technological elements by IT service firms in Jordan. The primary objective is to acquire comprehensive knowledge regarding the ways in which these sophisticated technologies facilitate enhancements in operational dynamics, organizational behavior, and personnel performance for IT service firms in Jordan. The study is grounded on five hypotheses, with the initial three asserting that database analysis, integrated data processing, and big data analysis significantly impact the correlation between organizational behavior and employee performance in IT service firms in Jordan. Conversely, these technical components play a significant role in enhancing organizational behavior (hypotheses 1, 3, and 5), as well as shaping effective employee performance (hypotheses 2, 4, and 6) within the context of SMEs. The objective of the forthcoming data analysis is to identify robust correlations, providing insights into the impact on organizational dynamics and employee performance within the particular setting of IT service firms in Jordan. Conducting a thorough examination of the impact of intelligent technologies, social media, and big data on the overall effectiveness of IT service firms in Jordan is of utmost importance. These findings have the potential to significantly enhance the ongoing efforts of these organizations to adjust and thrive in the constantly evolving technological landscape. The studies conducted by Hartika et al. (2023), Rivaldo & Nabella (2023), Salim et al. (2023), Persada & Nabella (2023), Al-kharabsheh et al. (2023), Abdelwahed et al. (2023), Rijanto (2023), Wulandari et al. (2024), Yulfa et al. (2024), Yulfa et al. (2024), and Laelawati (2024) are all in accordance with this study. Moreover, the study establishes connections to comparable studies in similar fields carried out in government organizations and comparable situations. This research examines the impact of these technological advancements on the communication tactics, brand administration, and customer involvement of IT service firms in Jordan. The report also explores how these smaller organizations might leverage big data to enhance creativity, streamline operational procedures, and improve decision-making efficiency. The key objectives of the data mining study are to utilize predictive analytics, enhance organizational learning, and gather crucial insights. Bankins et al., (2023), Banks et al.,(2023), Wang et al., (2023), Vem et al., (2023), Jiang et al.,(2023), Gravina et al., (2023) are all studies that are in agreement with this one and have made comparisons to relevant research in various contexts. The objective of this study is to offer a thorough understanding of how the impacts of database analysis, integrated data processing, and big data analysis may differ based on the distinct attributes of IT service firms in Jordan. It considers issues such as legislative dynamics, market competition, and technology improvements. The study will meticulously establish and quantify these variables, while accounting for any subjective elements that may introduce inconsistency in the results. The methodological considerations of prior works in comparable disciplines, such as Ahmed & Khan (2023), Chen et al. (2023b), and Yavuzaslan et al. (2023), align with the technique used in this study. In essence, this research aims to offer valuable insights into the evolving digital environment of IT service firms in Jordan. It does so by examining the impact of database analysis, integrated data processing, and big data analysis on organizational behavior and employee performance.

8. Research Implications

The study's findings have the potential to significantly benefit all stakeholders, including IT service firms in Jordan their workforce and the broader business community. This study seeks to elucidate the impact of database administration, integrated data processing, and big data analysis on the organizational behavior and employee performance at IT service firms in Jordan. An important finding of this research at IT service firms in Jordan is the significance of comprehending the intricate connections among database administrations, integrated data processing, and big data analysis, and how these factors influence organizational dynamics and employee productivity. The study has the potential to assist IT service firms in enhancing their operational efficiency and fostering a work environment that promotes improved employee performance. The study's findings can be utilized by IT service firms in Jordan to enhance their database management, optimize data

processing, and leverage big data for improved decision-making and organizational efficiency. IT service firms can leverage the study's findings to their benefit by fostering a work atmosphere that prioritizes innovation, teamwork, and continuous education. This approach is expected to enhance both employee morale and productivity. In order to maintain a competitive edge in the contemporary business landscape, IT service firms in Jordan have the opportunity to leverage data-driven initiatives and position themselves as frontrunners in their respective industries. IT service firms in Jordan can enhance organizational behavior and employee performance by incorporating database management, efficient data processing, and intelligent big data analysis. Furthermore, this study carries significant implications for pertinent entities in Jordan, including legislators and industry regulators. The research's findings can aid in the more effective formulation of policies and laws that promote the adoption of digital technology by IT service firms in Jordan. This encompasses data security, privacy, and the advancement of state-of-the-art digital methodologies. Optimal conditions for growth and sustained achievement can be attained by adapting legislative frameworks to align with the evolving digital landscape. IT service firms in Jordan can explore collaborations with other firms, technology providers, and business networks, given that they comprehend the interdependence between database administration, integrated data processing, and big data analysis. By exchanging and implementing best practices, IT service firms in Jordan have the potential to enhance their digital skills and contribute to the growth of the country's economy. Ultimately, this study has broader implications for the overall business environment in Jordan that extends beyond the specific impact on any individual IT service firms in Jordan. The paper emphasizes the significance of database management, integrated data processing, and big data analysis, and their potential to facilitate company success in the rapidly evolving digital economy. In the realm of technological progress, the expansion and long-term viability of IT service firms in Jordan can be accomplished by the collaborative endeavors of policymakers, industry stakeholders, and the workforce.

9. Research Limitations

The findings of this study may not be relevant or transferable to other situations beyond the specific scope of this research, which examines the impact of database management, integrated data processing, and big data analysis on organizational behavior and employee performance in IT service firms in Jordan. Due to the specific contextual elements of Jordanian SMEs, the conclusions of this study may not be directly transferable to other industries or locations. The study's applicability is limited to the SME sector in Jordan, as organizational behavior and employee performance are intricate subjects that exhibit significant variations between industries. The study's conclusions are influenced by the rapid pace of technological advancements, which introduces a temporal aspect. Conclusions can rapidly become outdated as a result of the continuous advancements in database administration, integrated data processing, and big data analysis. Given the dynamic nature of technology components and their impact on organizational dynamics, a consistent commitment to flexibility is essential. Due to its focus on IT service firms in Jordan, the findings of this case study may not be relevant or transferable to other businesses or sectors within the country. Entities that possess similar structures, sizes, and aims are more likely to align closely with the study's findings. An essential aspect of comprehending the influence of digital initiatives on leadership and performance is to analyze diverse case studies from various industries. The potential drawback of this study's replies, as well as any survey or case study, is the presence of social desirability bias. This bias occurs when individuals intentionally present themselves in a manner that aligns with societal or organizational norms and expectations. This potential bias has the potential to impact the veracity of data, especially in relation to leadership ability and variables connected to performance optimization. The viability and widespread acceptance of digital projects are often contingent upon legal considerations. The research may not have included all prospective legislative changes that could affect these programs. In order to comply with legal obligations, it is crucial to periodically assess and examine new legislation. Although the study has the potential to demonstrate connections between digital activities and leadership/performance results, establishing a causal relationship will be challenging. It is important to be cautious when determining causal relationships and to carefully analyze potential confounding factors, as unaccounted external events or variables could be responsible for the observed effects. The conclusions derived from this case study regarding the impact of database management, Integrated Data Processing, and Big Data Analysis on the operations and outcomes of IT service firms in Jordan are informative. However, it is important for academics and practitioners to recognize and address these limitations. To enhance the practical relevance of the findings, it is imperative to maintain constant vigilance, adapt to new technologies, acknowledge the diversity within the firm, and be aware of one's own prejudices. In order for research findings to be utilized effectively by policymakers, and industry leaders a sophisticated and contextually aware strategy is necessary.

References

Abdelwahed, N. A. A., Soomro, B. A., & Shah, N. (2023). Predicting employee performance through transactional leadership and entrepreneur's passion among the employees of Pakistan. *Asia Pacific Management Review, 28*(1), 60-68.

Abualoush, S., Obeidat, A., Aljawarneh, N., Al-Qudah, S., & Bataineh, K. (2022). The effect of knowledge sharing on the relationship between empowerment, service innovative behavior and entrepreneurship. *International Journal of Data and Network Science, 6*(2), 419-428.

Ahmad, H., Kilani, Q., Al-Zrigat, Z., Alnajdawi, S., Mansour, A., Khasawneh, Z., & Hammouri, Q. (2024). The role of key work-place elements in determining individual and organizational success in Jordan Tourism Board. *Uncertain Supply Chain Management, 12*(1), 263-272.

Ahmed, M., & Khan, M. I. (2023). Beyond the universal perception: Unveiling the paradoxical impact of ethical leadership on employees' unethical pro-organizational behavior. *Heliyon, 9*(11).

Al-kharabsheh, S., Attiany, M., Alshawabkeh, R., Hamadneh, S., & Alshurideh, M. (2023). The impact of digital HRM on employee performance through employee motivation. *International Journal of Data and Network Science, 7*(1), 275-282.

Al-Qudah, S., Obeidat, A. M., & Shrouf, H. (2020). The impact of strategic human resources planning on the organizational performance of public shareholding companies in Jordan. *Problems and Perspectives in Management, 18*(1), 219.

Al-Zagheer, H., AlDa'jah, A. K., Hammouri, Q., & ALShawabkeh, H. A. (2024, February). The Role of Internal Knowledge Management Capabilities with the Internet of Things. *In 2024 2nd International Conference on Cyber Resilience (ICCR) (pp. 1-5)*. IEEE.

Anakpo, G., Nqwayibana, Z., & Mishi, S. (2023). The Impact of Work-from-Home on Employee Performance and Productivity: A Systematic Review. *Sustainability, 15*(5), 4529.

Arai, J., Aoki, T., Hayakawa, Y., Niikura, R., Ishibashi, R., Suzuki, N., ... & Fujishiro, M. (2023). Risk and preventive factors of early-onset colorectal neoplasms: endoscopic and histological database analysis. *Journal of Gastroenterology and Hepatology, 38*(2), 259-268.

Bankins, S., Ocampo, A. C., Marrone, M., Restubog, S. L. D., & Woo, S. E. (2024). A multilevel review of artificial intelligence in organizations: Implications for organizational behavior research and practice. *Journal of Organizational Behavior, 45*(2), 159-182.

Banks, G. C., Woznyj, H. M., & Mansfield, C. A. (2023). Where is "behavior" in organizational behavior? A call for a revolution in leadership research and beyond. *The Leadership Quarterly, 34*(6), 101581.

Chen, K., Abtahi, F., Carrero, J. J., Fernandez-Llatas, C., & Seoane, F. (2023a). Process mining and data mining applications in the domain of chronic diseases: A systematic review. *Artificial Intelligence in Medicine*, 102645.

Chen, M., Chen, C. C., & Schminke, M. (2023b). Feeling guilty and entitled: paradoxical consequences of unethical pro-organizational behavior. *Journal of Business Ethics, 183*(3), 865-883.

Elder, J., Lafrenière, N., McNicholas, E., Striker, J., & Welch, A. (2024). Homomesies on permutations: An analysis of maps and statistics in the FindStat database. *Mathematics of Computation, 93*(346), 921-976.

El-Sayed, W. M., El-Bakry, H. M., & El-Sayed, S. M. (2023). Integrated data reduction model in wireless sensor networks. *Applied Computing and Informatics, 19*(1/2), 41-63.

Emile, S. H., Horesh, N., Freund, M. R., Garoufalia, Z., Gefen, R., Silva-Alvarenga, E., ... & Wexner, S. D. (2023). Trends in the characteristics, treatment, and outcomes of rectal adenocarcinoma in the US from 2004 to 2019: a national cancer database analysis. *JAMA oncology, 9*(3), 355-364.

Gravina, N., Nastasi, J., Espericueta Luna, W., & Simmons, D. (2023). Instructional activities to enhance teaching organizational behavior management. *Journal of Organizational Behavior Management*, 1-17.

Hammouri, Q., Al-Gasawneh, J. A., Nusairat, N. M., Aloqool, A., Al-Amayreh, E., & Anuar, M. M. (2023, March). Empowering SMEs using New Forms of Digital Innovation: An Empirical Study on Fashion and Clothing Sector. *In 2023 International Conference on Business Analytics for Technology and Security (ICBATS) (pp. 1-5)*. IEEE.

Hammouri, Q., Atobishi, T., Altememi, A., Al-Zagheer, H., & Khataybeh, H. (2022). The impact of investing in Big Data Analytics (BDA) in enhancing organizational agility and Performance. *CEMJP, 30*(4), 1090-1093.

Hanandeh, A., Altaher, A., Halim, M., Rezk, W., Mahfoudh, N., Hammouri, Q., & Darawsheh, S. (2023). The effects of digital transformation, digital leadership, and entrepreneurial motivation on business decision making and business process performance: Evidence from greater Amman municipality. *International Journal of Data and Network Science, 7*(2), 575-582.

Hartika, A., Fitridiani, M., & Asbari, M. (2023). The Effect of Job Satisfaction and Job Loyalty on Employee Performance: A Narrative Literature Review. *Journal of Information Systems and Management (JISMA), 2*(3), 9-15.

Jabbar, A., Akhtar, P., & Dani, S. (2020). Real-time big data processing for instantaneous marketing decisions: A problematization approach. *Industrial Marketing Management, 90*, 558-569.

Jaber, A., & Csonka, B. (2023). Investigating the temporal differences among bike-sharing users through comparative analysis based on count, time series, and data mining models. *Alexandria Engineering Journal, 77*, 1-13.

Jiang, W., Liang, B., & Wang, L. (2023). The double-edged sword effect of unethical pro-organizational behavior: The relationship between unethical pro-organizational behavior, organizational citizenship behavior, and work effort. *Journal of Business Ethics, 183*(4), 1159-1172.

Khan, W., Kumar, T., Zhang, C., Raj, K., Roy, A. M., & Luo, B. (2023). SQL and NoSQL Database Software Architecture Performance Analysis and Assessments—A Systematic Literature Review. *Big Data and Cognitive Computing, 7*(2), 97.

Kurup, P. S., & Jeba, S. A. (2024). A Secure and Efficient Student Performance Prediction System Based on Blockchain and Data Mining Technologies. *Blockchain Intelligent Systems: Protocols, Application and Approaches for Future Generation Computing, 209*.

Laelawati, K. (2024). What Is The Influence Of Compensation And Workload On Employee Performance. *International Journal of Management Research and Economics, 2*(1), 67-74.

Leiras, A., & Eusébio, C. (2023). Perceived image of accessible tourism destinations: a data mining analysis of Google Maps reviews. *Current Issues in Tourism,* 1-19.

Liu, J. (2024). *The Impact of Data Mining on Management and Digital Marketing in the Age of Big Data.*

Liu, Y., Alzahrani, I. R., Jaleel, R. A., & Al Sulaie, S. (2023). An efficient smart data mining framework based cloud internet of things for developing artificial intelligence of marketing information analysis. *Information Processing & Management, 60*(1), 103121.

Mądziel, M., & Campisi, T. (2023). Energy Consumption of Electric Vehicles: Analysis of Selected Parameters Based on Created Database. *Energies, 16*(3), 1437.

Mansour, A., Al-Qudah, S., Siam, Y., Hammouri, Q., & Hijazin, A. (2024). Employing E-HRM to attain contemporary organizational excellence at the Jordan social security corporation. *International Journal of Data and Network Science, 8*(1), 549-556.

Miao, D., Lv, Y., Yu, K., Liu, L., & Jiang, J. (2023). Research on coal mine hidden danger analysis and risk early warning technology based on data mining in China. *Process Safety and Environmental Protection, 171*, 1-17.

Ogami, T., Zimmermann, E., Zhu, R. C., Zhao, Y., Ning, Y., Kurlansky, P., ... & Takayama, H. (2023). Proximal aortic repair in dialysis patients: a national database analysis. *The Journal of Thoracic and Cardiovascular Surgery, 165*(1), 31-39.

Persada, I. N., & Nabella, S. D. (2023). The influence of compensation, training, competence and work discipline on employee performance pt. Luas retail Indonesia. *International Journal of Accounting, Management, Economics and Social Sciences (IJAMESC), 1*(4), 291-303.

Pynadath, M. F., Rofin, T. M., & Thomas, S. (2023). Evolution of customer relationship management to data mining-based customer relationship management: a scientometric analysis. *Quality & Quantity, 57*(4), 3241-3272.

Raed, H., Qawasmeh, E., Alserhan, A., Ahmad, H., Hammouri, Q., Halim, M., & Darawsheh, D. (2023). Utilizing business intelligence and digital transformation and leadership to enhance employee job satisfaction and business added value in greater Amman municipality. *International Journal of Data and Network Science, 7*(3), 1077-1084.

Rana, N. P., Chatterjee, S., Dwivedi, Y. K., & Akter, S. (2022). Understanding dark side of artificial intelligence (AI) integrated business analytics: assessing firm's operational inefficiency and competitiveness. *European Journal of Information Systems, 31*(3), 364-387.

Rijanto, R. (2023). The Effect of Work Stress on Employee Performance. *JURNAL EMA, 1*(01), 17-24.

Rivaldo, Y., & Nabella, S. D. (2023). Employee performance: Education, training, experience and work discipline. *Calitatea, 24*(193), 182-188.

Sadriddinovich, J. T. (2023). Capabilities of SPSS Software in High Volume Data Processing Testing. *American Journal of Public Diplomacy and International Studies (2993-2157), 1*(9), 82-86.

Saidov, J. D., Qudratov, A. N., Islikov, S. X., Normatova, M. N., & Monasipova, R. F. (2023). Problems of Competency Approach in Developing Students' Creativity Qualities for Creating a Database. *Journal of Higher Education Theory & Practice, 23*(1).

Salim, N. A., Sutrisno, S., Maango, H., Yusuf, M., & Haryono, A. (2023). Employee performance and the effects of training and the workplace. *Jurnal Darma Agung, 30*(2), 549-558.

Shahbazi, Z., & Byun, Y. C. (2021). Improving transactional data system based on an edge computing–blockchain–machine learning integrated framework. *Processes, 9*(1), 92.

Singh, R. B., Parmar, U. P. S., Kahale, F., Agarwal, A., & Tsui, E. (2023). Vaccine-associated uveitis after COVID-19 vaccination: vaccine adverse event reporting system database analysis. *Ophthalmology, 130*(2), 179-186.

Vem, L. J., Cheah, J. H., Ng, S. I., & Ho, J. A. (2023). Unethical pro-organizational behavior: how employee ethical ideology and unethical organizational culture contribute. *International Journal of Manpower, 44*(4), 577-598.

Wang, H., Zhang, Y., Li, P., & Henry, S. E. (2023). You raise me up and I reciprocate: linking empowering leadership to organizational citizenship behavior and unethical pro-organizational behavior. *Applied psychology, 72*(2), 718-742.

Wang, J., Niu, X., Zhang, L., Liu, Z., & Huang, X. (2024). A wind speed forecasting system for the construction of a smart grid with two-stage data processing based on improved ELM and deep learning strategies. *Expert Systems with Applications, 241*, 122487.

Wulandari, R. A., Brahmasari, I. A., & Ratih, I. A. B. (2024). The Influences of Job Design, Competence and Rewards on Job Satisfaction and Employee Performance of PDAM Delta Tirta Sidoarjo Regency. *International Journal of Economics (IJEC), 3*(1), 109-122.

Yang, R., Wakefield, R., Lyu, S., Jayasuriya, S., Han, F., Yi, X., ... & Chen, S. (2020a). Public and private blockchain in construction business process and information integration. *Automation in construction, 118*, 103276.

Yang, Y., Lu, X., & Wu, L. (2020b). Integrated data-driven framework for fast SCUC calculation. *IET Generation, Transmission & Distribution, 14*(24), 5728-5738.

Yavuzaslan, A., BARIŞÇIL, A., & Kamau, C. G. (2023). A Study of The Aspects of Turkey's Organizational Behavior. *Qubahan Academic Journal, 3*(4), 21-29.

Yulfa, L. I., Violinda, Q., & Utami, R. H. (2024). Influence of Teamwork, Occupational Safety and Health, and Work Discipline on Employee Performance at the Ungaran Post Office. *Journal of Business Management and Economic Development, 2*(01), 111-126.

Zhang, Y., Cao, Y., Zhang, J., Huang, M., Roy, P., Huang, B., ... & Li, H. (2023). Lymph node ratio improves prediction of overall survival in esophageal cancer patients receiving neoadjuvant chemoradiotherapy: A national cancer database analysis. *Annals of Surgery, 277*(6), e1239-e1246.