

## The impact of digital transformation on the adoption of modern management accounting methods in commercial bank governance



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### ABSTRACT

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With the rapid advancement of digital technologies, financial institutions are increasingly required to upgrade their management accounting practices to stay competitive and meet evolving regulatory demands. This study examines the influence of digital transformation (DT) on modern management accounting techniques within Jordanian commercial banks. Adopting a descriptive-analytical methodology, the research focuses on how the main dimensions of DT technology, processes, and people affect accounting practices in the banking sector. Primary data were gathered through a questionnaire distributed to 228 accounting professionals across 12 major Jordanian commercial banks. The collected data were analyzed using SPSS to assess the relationship between DT and innovations in management accounting. Findings reveal that DT significantly affects all areas of management accounting, particularly by enhancing data accessibility, promoting real-time reporting, and supporting timely, informed decision-making. These improvements are driven by digital tools, automation, and process integration, all of which are essential for achieving strategic advantage and operational efficiency. This research contributes to the growing body of literature by providing empirical evidence from the Middle Eastern financial sector, specifically Jordan. It emphasizes the importance of investing in digital infrastructure and human capital to strengthen accuracy, responsiveness, and profitability in banking operations under increasing digital and competitive pressures.

**Contribution/ Originality:** The proposed study is a unique one that allows focusing on the impact of the threefold effect of digital transformation in terms of technologies, processes, and people on the transition to modern management accounting practices in Jordanian commercial banks based on empirical evidence. Empirical research on such integration has not been studied before in the case of the banking industry in the Middle East.

### 1. INTRODUCTION

Digital revolutions have impacted several industries, but the business sector has been particularly affected (Zohry, Ibrahim Fadel, & Khamis, 2021). The widespread availability of digital resources has dramatically shifted the scope of information provision and transfer, with occurrences reported instantaneously from one side of the world to the other (Kallab & Abutaber, 2024). Furthermore, digital representations have significantly supplanted printed and tangible images. The concept of digital transformation, often abbreviated as DT, has influenced numerous organizations, enterprises, financial institutions, and others to adopt this approach.

The DT of banking institutions during the last decade has significantly affected every aspect of operational strategy and reporting systems within financial institutions. The findings of Chauhan, Singh, Dahiya, and Singh (2024) and Rakipi, Shurdi, and Imami (2023) demonstrate the important effects of retail banking digitalization, and

digital ecosystem risks as well as data mining and machine learning applications in banking systems. Major changes in banking practices across the world have forced Jordanian financial institutions to adopt new operational approaches.

Currently, all sectors are able to deliver reports and outputs in digital formats that are visually accessible and easily understood by stakeholders. This enhances the accessibility and appeal of information (Alrawashedh & Shubita, 2024). DT in the banking sector has significantly influenced the operations of financial institutions, reporting, and strategies. Banks, today, with the advancement of technologies, are embracing modern innovations to further make their operations smooth and enhance service delivery (Alrawashedh & Shubita, 2024). DT allows real-time reporting and data transparency, which are essential in the globalized monetary world to sustain a competitive advantage and management accounting methods. This integration of digital tools has made it easier for banks to present even the most complicated monetary data in simplified and accessible formats that improve stakeholder understanding and decision-making (Firdaus & Tobing, 2022). For Jordanian commercial and Islamic banks, this shift to a digital format presents an opportunity to enhance management accounting methods while supporting their role as stable sources of financing for economic recovery (Kallab & Abutaber, 2024).

Furthermore, digitalization in the banking sector has facilitated the widespread adoption of modern management accounting methods, which are crucial for effective cost control, resource optimization, and profit sustainability. Digital platforms that support modern methods of cost accounting enable banks to observe and manage their costs in real-time, reduce waste, and enhance monetary forecasting (Zohry et al., 2021). These techniques are very useful in today's economic turmoil, where the accuracy of accounting and management of resources becomes a key factor during monetary tumult. A long-term view of profitability would thus be developed in Jordanian banks by responding to economic flux and fulfilling the demands of both shareholders and regulatory bodies through adaptation to digitalized management accounting practices (Agustia, Wibowo, Laila, Sridadi, & Anridho, 2024).

Considering that banks are the most important players in the private and public sectors in Jordan, the inclusion of DT within management accounting is urgently needed as a tool for sustainable growth. As these digital technologies continue their unprecedented development process, they simultaneously enable increasingly sophisticated and reliable accounting practices that, in turn, equip Jordanian banks with appropriate data analytics capabilities. These capabilities could be crucial in helping banks optimize their cost structures in support of their long-term profitability (Al Shanti & Elessa, 2023). This helps not only to consolidate banks internally but also to enhance their role in maintaining national economic stability and continuing development, placing them at the heart of Jordan's journey toward a stable, digitally enabled monetary sector (Bhimani, 2021).

Research on digital banking change has remained limited in its scope regarding its effect on bank management accounting practices without specific consideration of the Jordanian banking industry. Research on DT has been mainly centered on its general effects on financial performance and operational effectiveness without examining its direct effect on accounting practices. The present study identifies a key gap regarding the research on drivers of DT integrated with management accounting systems in Jordanian commercial banks. The literature suggests there is an urgent research gap to explore these dimensions together because they provide essential information about DT effects on management accounting in this region.

The theoretical foundation of this study is based on the Technology-Organization-Environment (TOE) framework, which examines the influence of technological, organizational, and environmental factors on the adoption of technological innovations. This framework was used to explore the contextual factors that may impact the decision-making processes of Jordanian banks and their subsequent adoption of new management accounting methods. Additionally, the Innovation Diffusion Theory was applied to investigate how the innovations central to DT are adopted and implemented within these banks. This approach offered a comprehensive view of both internal and external influences on accounting practices.

Modern digital technology has created challenges that Jordanian commercial banks must address while seizing the opportunities to modify their management accounting systems. If banks fail to understand how these three fundamental digital dimensions influence their managerial procedures, such institutions may become less efficient in operational management and regulatory compliance, while also facing difficulties with financial transparency. When digital innovation is not integrated with management accounting systems, decreased performance, increased costs, and strategic decision-making shortcomings are observed. This research investigates the effects of digital transformation on management accounting systems within Jordanian commercial financial institutions to generate specific recommendations for strategic implementation. The study's problem can be described by answering the following questions:

What is the impact of DT, with all its associated dimensions: technologies, processes, and people, on the adoption of modern management accounting methods in Jordanian commercial banks?

This main question initiates the subsequent further questions:

1. Do DT applications addressed in technologies have an impact on the adoption of modern management accounting methods in Jordanian commercial banks?
2. Do DT applications addressed in processes have an impact on the adoption of modern management accounting methods in Jordanian commercial banks?
3. Do DT applications addressed to people have an impact on the adoption of modern management accounting methods in Jordanian commercial banks?

The present study aims to explore how DT, through its three important dimensions: people, processes, and technologies, impacts the adoption of contemporary management accounting techniques in Jordanian commercial banks. It evaluates the role each of these dimensions plays in assessing the impact and reaching an in-depth understanding of how DT can facilitate or hinder the adoption of advanced management accounting procedures in these banks.

This research explores how digital technology (DT) can enhance the efficiency and strategic capabilities of accounting practices in Jordanian banks by providing an evidence-based description of how digital technology improves the current state of accounting. Additionally, the findings will contribute to the implementation of effective management accounting practices that comply with international standards, thereby strengthening the competitive position of these institutions in an increasingly digital global economy. Finally, this research may help banks overcome potential barriers and further refine their DT strategies to improve organizational efficiency by analyzing the impacts of technology, processes, and people. This study is significant as it assesses the extent to which Jordanian commercial banks are utilizing advanced management accounting techniques, considering the ongoing changes in the country's banking sector due to globalization. These changes have increased competition across various industries, particularly in banking, a key pillar of the Jordanian economy.

In this paper, the method used for investigation is a descriptive-analytical approach that best explains the prevailing state of affairs and interrelations between DT and management accounting methodologies. Data were gathered from a structured questionnaire circulated among professional accountants working in twelve major commercial banks in Jordan. Responses were analyzed using SPSS for quantitative analysis, focusing on statistical measures that included means and standard deviations, using linear regression across the DT dimensions impacting management accounting practices. Analysis of this nature offers a structured way to reduce and interpret primary data.

This paper is organized as follows: Section 1 introduces the issues of digital transformation (DT) in Jordanian commercial banks, states the gaps, aims, and objectives of the research in general, and provides an overview of the theoretical frameworks and methodologies used to understand the influence of digital technologies on management accounting methods. Section 2 reviews the literature on DT and its impact on management accounting, forming the backdrop to understand the theoretical and empirical foundations of the study. Section 3 describes the research

methodology, including detailed information on data collection and analysis. Section 4 presents the findings of data analysis, interpreting the impact of DT on management accounting methods within Jordanian banks. The implications of these findings are discussed in Section 5 concerning existing literature, focusing on the theoretical and practical implications of the study. Section 6 concludes the paper by summarizing key findings, discussing limitations, and suggesting areas for future research.

**Study contribution:** This research adds to existing literature by examining how digital transformation (DT) dimensions influence management accounting practices in Jordanian commercial banks, a topic that has been largely overlooked in the region. It offers valuable insights into financial governance and digital strategies within emerging economies.

## 2. LITERATURE REVIEW

The Jordanian banking sector still plays a pivotal role in national economic development and stability because it serves as a core financial network for both transactional activities and economic evolution. The Jordanian banking system consists of the main commercial banks and Islamic banks that are exposed to growing challenges from technological changes as well as global financial regulations. Modern financial technologies are central to this sector because banks use them to deliver services more effectively while satisfying both regulatory and market demands. Possibilities for financial success depend largely on DT efforts through which businesses can maintain a competitive edge. Insights into DT developments help to analyze changes in how Jordanian banks handle management accounting activities to enhance operating efficiency and strategic decision-making.

The term “DT” refers to the process of integrating different parts of an organization with digital technologies to bring about significant changes in organizational operations, the delivery of services, and the creation of value. As stated by Vial (2021) DT is also considered a method that involves the utilization of technology to improve processes and generate superior business models that enhance consumer experiences. This approach is particularly effective in industries such as banking, where real-time data access and automation increase the efficiency of services and operations (Hamdan, Alareeni, & Khamis, 2024; Khin & Ho, 2019).

Firdaus and Tobing (2022) present valuable information about banking institutions confronting digital challenges in their risk management operations. The research by Chauhan et al. (2024) investigates the sequential pathway through which eCRM and eService quality affect financial results in banking institutions. Rakipi et al. (2023) demonstrate how data analytics tools have started to boost digital payment systems present in banks. Banks worldwide, especially those operating in Jordan, need to build strong digital systems based on academic research findings to achieve competitive benefits and sound financial operations.

### 2.1. Dimensions of DT

- **Technologies:** This dimension involves the use of new technologies: AI, data analytics, blockchain, and cloud computing. Such technologies have provided a route for banks to manage their accounting functions effectively and to provide real-time access to updated information, thus supporting sound decision-making and operational transparency (Mhlanga, 2020).
- **Processes:** DT renovates traditional processes within banks by automating, reducing errors, and enabling effective resource allocation. For example, accounting processes for the cost of goods can be automated to enable banks to track expenditure and reduce resource wastage (Al Khassawneh, 2024) hence aligning operations into conformity with the specific basics of modern management accounting (Bouwman, Nikou, & De Reuver, 2019).
- **People:** Human capital refers to the reskilling and upskilling of the workforce in digital technologies for more productive application. In banks, digital transformation (DT) requires accountants to master digital tools.

This enhances practice efficiency and strategically positions the accounting professional in a decision-making role within organizations (Hess, Matt, Benlian, & Wiesböck, 2016).

Management accounting was introduced to the organization to help managers make decisions by providing monetary and operational data. Advanced management accounting techniques, such as Activity-Based Costing, Target Costing, and the Balanced Scorecard, rely on accurate cost management, performance appraisal, and strategic planning. Kaplan (2007) discusses how DT modernizes management accounting by using advanced data analytics to improve cost allocation, forecasting, and reporting quality.

## 2.2. Modern Management Accounting Methods

- Activity-Based Costing (ABC): Allocates expenses to particular activities according to resource consumption, thus making it feasible to understand the costs in detail and enhance the strategic decision-making process (Kaplan, 2007).
- Target Costing: Requires establishing the cost envelope in order to optimize profitability and assist firms in fulfilling production costs in line with what the customers are willing to pay (Ellram, 2006).

DT significantly reshapes how costs are monitored, forecasting models are developed, and provides swift access to the required data (Abhishek et al., 2024). There is a widespread understanding that such tools enable the practice of accounting to be participatory and data-driven, and they facilitate more cost-effective resource use and decision-making (Arkhipova, Montemari, Mio, & Marasca, 2024). As such, while Jordanian banks incorporate digital technology, they will be more capable of achieving sustainability as fewer resources will be applied, hence greater profit margins obtained.

Commercial banks are crucial to the process of gathering and allocating national savings in line with the demands of economic growth. Commercial banks are regarded as one of the most significant sectors on which the economy relies to drive development. In the same manner, numerous reliable studies have shown how the adoption of modern management accounting methods has been able to improve such management systems at the level of a commercial bank (Fraihat, Fraihat, & Qudah, 2024). Therefore, efforts should focus on applying improved management accounting methods in this sector.

## 2.3. Related Studies

Kallab and Abutaber (2024) conducted a comparative study between Islamic and commercial banking institutions to examine how modern cost accounting techniques influence profit sustainability in Jordanian banks. A descriptive-analytical methodology was applied, targeting employees in all Jordanian commercial and Islamic banks, comprising three Islamic and thirteen commercial banks. A sample of 200 employees from various positions was selected to provide representative insights into the adoption of modern cost accounting practices. The data were analyzed using multiple regression. Key findings revealed that the application of modern cost accounting techniques had a stronger impact on sustaining earnings in Islamic banks compared to commercial ones. Based on these findings, the study recommended that both banking types further implement contemporary cost accounting practices to support long-term profitability.

Korolyuk, Spivak, and Ratynskyi (2023) explored how digitization is reshaping enterprise management, with a particular focus on accountability. Their study assessed the impact of digital technologies, especially artificial intelligence and data analytics, on the precision, flexibility, and competitiveness of accounting systems. Through a qualitative analysis grounded in the theoretical frameworks of DT, the research highlighted how access to real-time data enables more agile and informed decision-making. The findings suggest that the integration of AI significantly enhances the speed and accuracy of accounting processes, thereby facilitating timely strategic decisions. For Jordanian commercial banks, this perspective highlights the potential to modernize management accounting



systems by adopting advanced digital tools. Embracing real-time analytics and AI can help these institutions respond more effectively to evolving market dynamics and improve overall operational performance.

Dombrovska (2023) evaluates the DT that will drive efficiency and quality in monetary reporting. The research aimed to gain insight into how digital tools, including automation of processes and data analytics, enhance the accuracy and strategic alignment of accounting. The author has used the descriptive research method to find out the need for investment in technology and training in order to keep pace with digital advancement. Higher quality of accounting is considered a driver of competitiveness, enabling faster and more accurate reporting. The implication here, therefore, may be that automation and data tools raise the quality of accounting. This may further suggest that Jordanian banks can use digital tools for accounting to enable strategic alignment and adaptation in dynamic monetary environments.

Thursina (2023) did a bibliometric analysis to take a look at the transformation within accounting and finance with digital technology. The study mapped current trends, prominent authors, and the most influential research areas. Techniques other than mapping or sample-based bibliometric analysis were not used in the study. The bibliometric method represents a way to track influential research contributions. The emergent integration within auditing, reporting, as well as management regarding digital technologies has also been focused on. The research is relevant for Jordanian banks, as it provides a foundational understanding of global trends in digital accounting to further inform the adoption of integrated digital tools in management accounting.

Efremenko (2023) discusses how digital technology may enhance accounting and auditing processes in the service industry. From a theoretical perspective, it was established that digital tools improve accounting accuracy and serve as the basis for making effective decisions in service companies. The study found that digitalization reduces human errors and increases accuracy in reports. For Jordanian banks, this implies that digital tools enhance accounting quality and facilitate the audit process, leading to better monetary management.

Glazova, Korobeynikova, and Yagupova (2022) investigated the various aspects of DT processes in management accounting to outline efficient digital business models and indicate problems connected with them. In this paper, the conceptual framework has been presented, concentrating on the analysis of the advantages and limitations of digitalization in accounting. The results indicated that DT improves the accuracy of the process and accelerates adjustments in monetary processes, though limited by IT infrastructure. This study would, therefore, focus on the need for Jordanian commercial banks to have well-established IT infrastructures to drive the DT in accounting and make monetary processes prompt and efficient.

Guşe and Manguic (2022) explored the readiness of Romanian higher education programs with respect to accountants for the digital economy. The business curricula were assessed based on their digital preparedness. The researchers conducted a course content analysis from top universities in Romania; the findings identified that the current programs do not satisfy the demand for modern digital skills in accounting. A qualitative content analysis of curricula was performed. The findings highlight the need to update accountant education with skills in digital tools and analytics, is needed. This paper underlines how Jordanian banks should implement continuous training programs for their accountants to be able to follow the trend of DT, as a prerequisite for effective management accounting.

Shmatkovska and Dziamulych (2022) estimated the effects of Big Data on the strategic management accounting process in a digital economy. An attempt has been made in such a study to assess the contribution of vast data analysis toward refining long-term strategic planning and improving decision-making. Based on a conceptual approach, without any specific sample data or statistical testing, the authors concluded that Big Data tools allow for more precise estimates of economic trends and enable complex monetary forecasts. It should be of interest to Jordanian banks, as it demonstrates how data analytics can be used to support strategic decision-making, enabling them to adapt more successfully in a competitive monetary environment.

Chulanov, Khymchenko, Mykhailov, and Piven (2022) investigated the influence of digitalization on the accounting role in the context of Industry 4.0 through a SWOT analysis of AI, blockchain, and cloud technologies. Results have shown that with digitalization, information is accessible more quickly, and data processing can be faster, but it requires investments in internet safety and data protection security. It will provide a deep insight into strengths and weaknesses related to the adoption of digital accounting by Jordanian commercial banks, underlining cybersecurity problems along with the benefits related to digitalization. Kononenko and Nikolaieva (2022) focused on the transformation of the accounting systems under sustainable development and digitization. The study aimed to develop a hybrid framework that optimally combines monetary and non-monetary data. This paper used a theoretical analysis of the shifting trends of accounting in leading sustainable economic performance. The findings reveal that the digitalization of accounting provides information to assist both internal and external stakeholder decision-making. Based on a comprehensive management accounting perspective, this paper proposes a framework of practices of digital accounting in Jordanian banks that is conducive to sustainability.

Marota (2021) explored the influence of Industry 4.0 technologies, such as AI and IT, on accounting. He centered on how such technologies facilitate access to information and teamwork among accountants. The descriptive qualitative research design adopted in the study identified improvements in accounting through increased security, accuracy, and speed. The results did not present samples or use of statistical tools, but they did point out that the introduction of AI into firms can handle big data better, while at the same time enhancing real-time decision-making. The contribution of Industry 4.0, through the adoption of AI and IT by Jordanian commercial banks in ensuring efficiency in handling data toward informed accounting decisions, is underlined within this work.

#### 2.4. Literature Gaps

Despite extensive research on DT in the banking sector, few studies have specifically focused on how DT has influenced changes in management accounting practices within Jordanian commercial banks. While most research on DT primarily examines its impact on overall financial performance and operational efficiency, studies such as those by Alrawashedh and Shubita (2024) and Bhimani (2021) highlight a gap in understanding how DT affects modern management accounting methods, particularly within Jordanian financial institutions. Additionally, there is limited literature that incorporates the dimensions of technology, processes, and people to examine their combined impact on the management accounting system.

#### 2.5. Research Hypotheses

The following is the main hypothesis:

$H_0$ : *There is no statistically significant impact at the significance level ( $\alpha \leq 0.05$ ) for DT dimensions: technologies, processes, and people on the adoption of modern management accounting methods in Jordanian commercial banks.*

The primary hypothesis provides the basis for the following sub-hypotheses:

$H_{01}$ : *There is no statistically significant impact at the significance level ( $\alpha \leq 0.05$ ) of technologies on the adoption of modern management accounting methods in Jordanian commercial banks.*

$H_{02}$ : *There is no statistically significant impact at the significance level ( $\alpha \leq 0.05$ ) of processes on the adoption of modern management accounting methods in Jordanian commercial banks.*

$H_{03}$ : *There is no statistically significant impact at the significance level ( $\alpha \leq 0.05$ ) of people on the adoption of modern management accounting methods in Jordanian commercial banks.*

### 3. RESEARCH METHODOLOGY

In order to accomplish the goals included in the research and provide answers to the questions that emerged, the descriptive-analytical method was adopted as the fundamental approach in this study. This method of study is

regarded as one of the most effective approaches used in conjunction with field investigations that align with their purpose.

The study model is shown in Figure 1, together with the research variables and their respective dimensions.

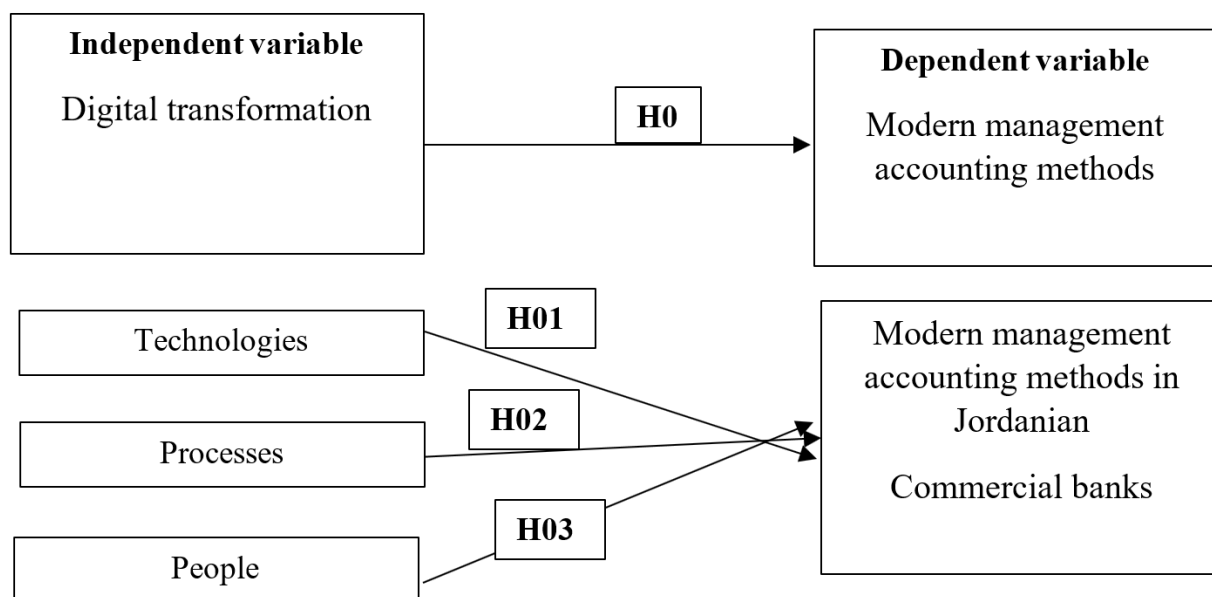


Figure 1. Study model.

### 3.1. Study Population and Sample

Participants of the study community included chief accounting professionals, audit executives, accountants working in Jordanian commercial banks, and programmers operating within those institutions. Since there are twelve commercial banks in Jordan, the researcher decided to distribute a total of two hundred and sixty-four questionnaires for the study sample. Of these, twenty-two questionnaires were distributed to each of the twelve commercial banks. The distribution procedure was conducted online using Google Forms in collaboration with the primary departments within the broad divisions of Jordanian commercial banks.

A total of 228 (86.36%) questionnaires were obtained through electronic distribution. All retrieved questionnaires were valid for statistical analysis. By calculating the percentages and frequencies of responses to the questions related to demographics, Table 1 presents the demographic characteristics of the respondents selected to represent the study population.

Results in Table 1 show that 86.0% of the sample population holds a bachelor's degree, 7.4% hold a master's degree, and 6.6% hold a doctorate. This indicates that the recruited sample possesses a high level of scientific knowledge as well as scientific abilities and competencies, particularly in the areas of programming and accounting. This is supported by the high proportion of members of the study sample, which is displayed in Table 1. The table reveals that 52.6% of the members of the study sample come from accounting departments, 34.7% from financial and banking sciences, 11.8% are programmers and IT specialists, and 0.9% belong to different specializations.

In general, the number of employees decreases in senior management roles, while the number increases in middle management roles before reaching lower management positions. This breakdown of sample members is comparable with the organizational structure in businesses, where the number of employees reduces in upper management roles and increases in middle management positions. The accounting profession's percentage was 68.9%, and the proportion of auditors was 17.5%, followed by programmers with a percentage of 9.2%, and senior auditors with a proportion of 4.4%.



**Table 1.** Detailed explanation of the demographic characteristics that are representative of the population under study.

Variables	Target group	n=228	Percentage
Academic qualification	Bachelor's	196	86.0%
	Master's	17	7.4%
	PhD	15	6.6%
Scientific specialization	Accounting	120	52.6%
	Financial and banking sciences	79	34.7%
	Programmers/IT	27	11.8%
	Other	2	0.9%
Job title	Senior auditor	10	4.4%
	Accountants	157	68.9%
	Programmer	21	9.2%
	Auditor	40	17.5%
Number of years of work experience	Less than 5 years	52	22.8%
	5 years - less than 10 years	70	30.7%
	10 years - less than 15 years	55	24.1%
	15 years - less than 20 years	40	17.6%
	20 years and above	11	4.8%
Number of professional certificates	One certificate	22	9.7%
	Two certificates	14	6.1%
	More than two certificates	6	2.6%
	None	186	81.6%
Total		228	100%

Table 1 also demonstrates that the largest portion of participants (30.7%) had 5-10 years of experience. Additionally, 24.1% of participants had professional experience ranging from 10 to less than 15 years, while 22.8% of them had experience of less than 5 years. Such results indicate the sample's strong practical background necessary in this field. It was attested that 81.6% of the sample do not hold professional credentials. This may be due to factors such as the difficulty of obtaining these certificates, time constraints, and the associated costs.

### 3.2. Data Collection Sources

The researcher employed both primary and secondary sources to gather necessary information. The primary sources were based on a questionnaire created according to the study's topics, while the secondary sources included conceptual and academic literature that addressed the subjects of digital transformation (DT) and management accounting methods. The purpose of this questionnaire was to elicit the study sample participants' thoughts on the topics under investigation. The following sections comprised the questionnaire:

Part One: Demographic Data: This section consists of five questions that highlight the broad characteristics of the study sample respondents, including the positions they hold, the number of years of work experience, academic specializations, the number of professional certificates, and academic qualifications. These questions aim to provide a comprehensive understanding of the professional and personal attributes of the study sample from Jordanian commercial banks.

Part Two: Research variables contained twenty-five paragraphs assessing the study's variables, divided as follows: ten paragraphs are employed to measure the management accounting methods variable, and fifteen paragraphs are used to evaluate the DT factor, with five paragraphs for each dimension. Participants' levels of agreement with these items were measured using a five-point Likert scale: 5=Strongly agree, 4=Agree, 3=Somewhat agree, 2=Disagree, 1=Strongly disagree. To better interpret the participants' responses, the mean scores were categorized into three levels of importance as shown below:

**Table 2.** Level of relative importance and corresponding arithmetic mean ranges.

Relative importance level	Low	Medium	High
Arithmetic mean limits	1.00 - < 2.33	2.33 - < 3.66	3.66 - 5.00

Table 2 presents the criteria applied to interpret the arithmetic mean score obtained from responses to the questionnaire. These points are grouped into three levels of relative significance (low, medium, and high) based on predetermined numerical ranges. This grouping facilitates the analysis of participants' perceptions regarding the importance of digital transformation dimensions and accounting approaches.

### 3.3. Study Instrument Reliability Test

The reliability test aimed to measure the internal consistency of the questionnaire responses. Cronbach's Alpha, which ranges from 0 to 1, is a commonly used statistical indicator for this purpose. A value above 0.70 suggests strong internal consistency and stability, making the instrument suitable for further statistical analysis. Table 3 presents the values of the Cronbach's Alpha coefficients. As shown in Table 3, all Cronbach's alpha values exceeded 0.70, ranging from 0.922 to 0.974, indicating high reliability across all constructs.

**Table 3.** Cronbach's alpha coefficient values.

No	Variables	Number of paragraphs	Alpha value
1	DT	15	0.974
2	Technologies	5	0.925
3	Processes	5	0.942
4	People	5	0.922
5	Management accounting methods	10	0.961

### 3.4. Instrument Design and Validation

To ensure accuracy and relevance, the questionnaire was developed based on established literature on DT and management accounting (Kaplan, 2007; Vial, 2021). The initial version of the research instrument underwent content validation by academic experts in accounting and DT. Based on their feedback, the questionnaire items were revised and refined for clarity and completeness. The final instrument contained 25 items; each was rated on a five-point Likert scale. The internal consistency of all constructs was confirmed, with Cronbach's alpha values exceeding 0.90 for each.

### 3.5. Sampling Strategy and Analytical Justification

A purposive sampling technique was used to select 228 professionals from 12 Jordanian commercial banks. The sample included staff from accounting, auditing, senior accounting, and IT departments. The diversity in educational background and experience among participants enhanced the generalizability of the study findings. Data were collected via Google Forms, and follow-up reminders were sent to maximize response rates. SPSS software was used for quantitative data analysis. Before conducting multiple linear regression, several assumptions were tested, including normal distribution of residuals, homoscedasticity, linear relationships, and absence of multicollinearity (verified by Variance Inflation Factor values below 10). Meeting these conditions was essential to ensure the validity of the regression results and the strength of the identified relationship between DT and management accounting practices.

### 3.6. Alternative Approaches and Rationale for Chosen Approach

While several alternative methodologies were considered, including case studies, experimental designs, longitudinal studies, and comparative analyses, the descriptive-analytical method was ultimately chosen. A case study could have provided in-depth qualitative insights, and an experimental design might have demonstrated causality. A longitudinal study could capture long-term developments, while a comparative approach might highlight differences between banks at various stages of digital adoption. However, the descriptive-analytical approach was more suitable for this research due to the complex and multidimensional nature of the topic, which

involves people, processes, and technologies. It allows for both quantitative and qualitative interpretations of data collected from multiple institutions. SPSS enabled robust statistical analysis of the data, while the descriptive component helped interpret how digital transformation (DT) is being implemented and perceived in practice. This method also matched the practical limitations of the study, such as time and resource constraints. It enabled the efficient analysis of a large dataset and provided a comprehensive overview of current management accounting practices in the context of DT in Jordanian commercial banks.

## 4. RESULTS

### 4.1. Description of Study Variables

By calculating the arithmetic means and standard deviations of the study variables and their associated dimensions, and by assessing their relative importance, this section aims to analyze the impact of digital transformation (DT) on the adoption of contemporary management accounting methods in Jordanian commercial banks. As shown in Table 4, the average score for the DT variable was 4.175, with a standard deviation of 0.597, indicating a high level of agreement among participants regarding the importance of this factor. The participants also agreed with each DT dimension. The "Processes" dimension ranked first with an arithmetic mean of 4.187 and a standard deviation of 0.628, followed by "Technologies" with a mean of 4.169 and a standard deviation of 0.607, and "People" with a mean of 4.168 and a standard deviation of 0.612. All DT dimensions were rated as highly important. Similarly, the variable for management accounting methods recorded an arithmetic mean of 4.157 and a standard deviation of 0.613, also reflecting a high level of interest and agreement among participants.

**Table 4.** Description of the study variables.

No	Variables/Dimension	Arithmetic mean	Standard deviation	Rank	Relative importance
1	DT	4.175	0.597	-	High
2	Technologies	4.169	0.607	2	High
3	Processes	4.187	0.628	1	High
4	People	4.168	0.612	3	High
5	Management accounting methods	4.157	0.613	-	High

### 4.2. Multicollinearity Test between Variables

It is well established that correlations exist between variables, and correlations among independent variables are particularly important. A high degree of correlation between independent variables suggests a lack of independence, which can undermine their ability to explain variations in the dependent variable logically. A correlation coefficient of 0.80 or higher between independent variables is considered very strong and may indicate the presence of a multicollinearity problem. To detect such issues, the Variance Inflation Factor (VIF) and the Tolerance test are commonly used. VIF values less than 10, and Tolerance values greater than 0.1, are generally accepted as indicators that multicollinearity is not a concern (Gujarati, 2004). The table below presents the results of these two tests for the independent variables used in this study.

**Table 5.** Values of variance inflation factors and allowable variance between independent variables.

Independent variables	VIF	Allowable variance
Technologies	7.149	0.140
Processes	7.230	0.138
People	8.534	0.117

Table 5 indicates that all values of (VIF) did not exceed the value (10) and that all values of (Tolerance) did not exceed (1). This suggests that there are no strong correlations between the independent variables in the study, and therefore, there is no multicollinearity.

#### 4.3. Hypothesis Test Results

The study's hypotheses aimed to determine the potential influence of DT on Jordanian commercial banks' adoption of contemporary management accounting techniques, as well as the possible impact of individual technologies, procedures, and personnel on this adoption. This was achieved by formulating a main hypothesis, from which three sub-hypotheses were developed, and then analyzing the results using linear regression.

$H_0$ : There is no statistically significant impact at the significance level ( $\alpha \leq 0.05$ ) of DT in its dimensions (technologies, processes, people) on the adoption of modern management accounting methods in Jordanian commercial banks.

**Table 6.** The relationship between DT and management accounting methods.

Independent variable	Non-standard transactions		Standard transactions		
	B	Standard error	$\beta$	T	Sig. T
Technologies	0.126	0.061	0.125	2.088	0.038
Processes	0.248	0.059	0.254	4.227	0.000
People	0.588	0.066	0.586	8.958	0.000
R	0.942				
R <sup>2</sup>	0.888				
F	590.371				
Sig. F	0.000				

**Note:** Dependent variable: Modern management accounting methods

It was demonstrated that DT has a strong connection with modern management accounting methods, accomplishing ( $R=0.942$ ), as well as being responsible for explaining 88.8% of the change in modern management accounting methods ( $R^2=0.888$ ). Additionally, it was demonstrated that its impact was significant on modern management accounting methods ( $F=590.371$ , Sig.  $F=0.000$ ). These findings are reflected in the values of Table 6, demonstrating the relationship between DT and its influence on modern management accounting methods in Jordanian commercial banks. In light of the previously mentioned findings, it is apparent that: "There is a statistically significant impact at the significance level ( $\alpha \leq 0.05$ ) of DT in its dimensions (technologies, processes, people) on the adoption of modern management accounting methods in Jordanian commercial banks."

The primary hypothesis provides the basis for the following sub-hypotheses:

$H_{01}$ : There is no statistically significant impact at the significance level ( $\alpha \leq 0.05$ ) of technologies on the adoption of modern management accounting methods in Jordanian commercial banks.

The data shown in Table 6 demonstrates that there is a correlation and influence between modern management accounting methods and technologies ( $B=0.126$ ). Furthermore, the impact of these technologies was found to be considerable on modern management accounting methods ( $T=2.086$ , Sig.  $T=0.038$ ). According to the information presented above, it is evident that there is a statistically significant impact at the significance level ( $\alpha \leq 0.05$ ) of technologies on the adoption of modern management accounting methods in Jordanian commercial banks.

$H_{02}$ : There is no statistically significant impact at the significance level ( $\alpha \leq 0.05$ ) of processes on the adoption of modern management accounting methods in Jordanian commercial banks.

The results presented in Table 6 demonstrate that there is a correlation between processes and modern management accounting methods ( $B=0.248$ ), and that this correlation has a considerable impact on modern management accounting methods ( $T=4.227$ , Sig.  $T=0.000$ ). According to the information presented above, it is evident that there is a statistically significant impact at the significance level ( $\alpha \leq 0.05$ ) of processes on the adoption of modern management accounting methods in Jordanian commercial banks.

$H_{03}$ : There is no statistically significant impact at the significance level ( $\alpha \leq 0.05$ ) of people on the adoption of modern management accounting methods in Jordanian commercial banks.

The data presented in Table 6 demonstrate that there is a correlation between people and modern management accounting methods ( $B=0.588$ ), and that the impact of these people was significant on modern management accounting methods ( $T=8.958$ , Sig.  $T=0.000$ ). According to the information presented above, it is evident that there

is a statistically significant impact at the significance level ( $\alpha \leq 0.05$ ) of people on the adoption of modern management accounting methods in Jordanian commercial banks.

## 5. DISCUSSION

The findings from the descriptive-analytical research on the impact of digital transformation in Jordanian commercial banks demonstrated a significant influence across the evaluated dimensions: technology, processes, and people. The statistical analysis indicated that the technological factor was strongly associated with improvements in real-time data availability and decision-making capabilities. These results support [Bhimani \(2021\)](#), who emphasized that advancements in technology as part of digital transformation have substantially enhanced the accuracy and timeliness of banks' financial reporting.

Regarding processes, the findings indicated that DT streamlined and automated accounting processes, significantly reducing manual errors and improving efficiency. This aligns with the findings of [Khin and Ho \(2019\)](#), who stated that process automation in DT initiatives is crucial for ensuring the operational efficiency of banks. The current quantitative data revealed that the process dimension was the highest-rated among the DT factors, highlighting its significant role in the adoption of modern management accounting techniques.

Regarding the people dimension, the study found that digital transformation initiatives that included training and development led to a human resource base with the necessary competencies to manage increasingly complex accounting systems. This finding is supported by [Hess et al. \(2016\)](#), who emphasized that human capital development is crucial for realizing the full potential of digital transformation in financial institutions.

Current findings align with those of broader studies on DT in the banking sector. For example, [Alrawashedh and Shubita \(2024\)](#) highlighted improved financial and customer service performance as a result of DT. However, while Alrawashedh and Shubita, among others, focused on the financial outcomes, this research provides more specific insights into the internal operational impacts on management accounting practices, adding a new dimension to the existing body of literature. Overall, the findings of this study not only highlight the importance of DT in enhancing management accounting procedures but also illustrate the combined impact of technology, processes, and people in driving these changes.

## 6. CONCLUSION

This study investigates the impact of digital transformation (DT) on the adoption of modern management accounting techniques in Jordanian commercial banks. The findings reveal that DT significantly influences all three core components of management accounting: technology, processes, and people. From a technological standpoint, the use of advanced digital tools enables real-time data processing and enhances the accuracy of financial reporting. Regarding processes, DT has streamlined accounting operations, significantly reducing errors and increasing efficiency. In terms of human resources, the findings indicate that DT initiatives involving training and upskilling have better-equipped banking professionals to manage and utilize advanced accounting systems.

Theoretically, this study expands the existing literature by applying the Technology-Organization-Environment (TOE) framework to management accounting practices within the banking sector, an area that remains underexplored. Empirically, it contributes by presenting data that confirms the positive impact of digital transformation (DT) across various operational dimensions, offering detailed insights into its influence on management accounting.

The current study emphasizes the importance for practitioners, particularly in Jordanian commercial banks, of addressing technological, procedural, and human factors simultaneously in their digital transformation efforts. The results suggest that investing in digital transformation can strategically enhance management accounting systems and, by extension, improve financial governance. Moreover, policymakers and executives may leverage these



insights to formulate strategies that use digital transformation as a tool for gaining a competitive advantage and ensuring regulatory compliance.

Although this research provides valuable findings on the effects of digital transformation on management accounting in Jordanian commercial banks, it has certain limitations. The use of self-reported survey data introduces potential response bias, including possible overstatements of digital transformation expertise and managerial success. Additionally, the study focuses solely on commercial banks, excluding institutions such as microfinance organizations and Islamic banks, which limits the generalizability of the findings. The cross-sectional design also restricts the ability to observe the long-term and ongoing effects of digital transformation on sustainable accounting practices.

Future studies should address these limitations by adopting mixed-methods approaches, including longitudinal data collection and qualitative validation of survey findings. Comparative research involving different types of financial institutions and geographic regions could yield broader and more representative insights. It would also be beneficial to explore organizational and cultural sources of resistance to digital transformation in banks to inform more effective implementation strategies.

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**Transparency:** The author states that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

**Data Availability Statement:** Upon a reasonable request, the supporting data of this study can be provided by Khalid Ali Alduneibat

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