

The impact of digital marketing, social media, and digital transformation on the development of digital leadership abilities and the enhancement of employee performance: A case study of the Amman Stock Exchange

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ABSTRACT

This study seeks to analyze the impact of digital marketing, social media, and digital transformation on the development of digital leadership abilities and the resulting enhancement of employee performance. The research examines the complex connections between digital elements and their influence on organizational dynamics, using a case study done at the Amman Stock Exchange as a basis for analysis. The inquiry explores the impact of digital marketing strategies on leadership skills, the use of social media platforms to promote digital leadership, and the transforming influence of digital initiatives on employee performance. In addition, the study evaluates the interaction of these characteristics and their combined impact on organizational success. Evidence suggests that digital methods have a complex and wide-ranging effect on leadership and performance, including factors such as adaptation, communication, and strategic decision-making. The study highlights the capacity of companies, specifically within the framework of the Amman Stock Exchange, to utilize digital tools for the purpose of developing leadership skills and improving performance. The findings obtained from this study provide important insights for enhancing digital ecosystems in comparable organizational contexts, highlighting the importance of a thorough comprehension and strategic integration of digital components in order to attain long-lasting success.

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1. Introduction

Following the global disruptions that were brought about by the COVID-19 pandemic, there has been a discernible increase in the employment of digital platforms for the operations of businesses (Feliciano-Cestero et al., 2023). As a result of this transformation, there has been a strong interest in doing research into the key aspects that influence the area of digital leadership and employee performance within current organizational environments. In specifically, the purpose of this research is to investigate the complex dynamics of digital marketing, the exploitation of social media, and digital transformation, as well as the cumulative impact that these factors have on the development of digital leadership abilities and, as a result, the enhancement of employee performance (Reis & Melão, 2023). This study aims to investigate the complex aspects that impact the acceptance and integration of digital leadership practices and technology. Despite the fact that digital marketing, Social media, and digital transformation have traditionally been utilized to delineate user behavior in the process of adopting various technologies, its application in the context of digital leadership within the Amman Stock Exchange offers a novel perspective for comprehending the transformative potential of digital initiatives within a particular organizational setting.

This research strives to unravel the potential advantages that can be leveraged by cultivating a robust digital leadership ecosystem. This is in response to the growing recognition among governments and organizations of the myriad of benefits that are

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inherent in the adoption of digital tools. In addition to the obvious benefits to the economy, the investigation is also being conducted in the social sphere, with a particular focus on the potential for improving employee performance and leadership capacities. The purpose of this research is to discover the subtle linkages that exist between digital marketing strategies, social media dynamics, and digital transformation projects. The research will make use of the insights that were gained from a case study that was carried out at the Amman Stock Exchange. The Amman Stock Exchange provides a relevant backdrop, giving a real-world scenario in which to investigate the strategic exploitation of digital elements and the consequences that these aspects have for the efficacy of organizational leadership and employee performance. In addition, the purpose of this research is to determine the synergies and interdependencies that exist between digital marketing, social media practices, and digital transformation endeavors. This will contribute to a more comprehensive understanding of the collective influence that these factors have on the development of digital leadership and employee performance. The findings of this research are positioned to offer significant insights for organizations that are navigating the intricacies of digital leadership in an environment that is both dynamic and competitive. This is because the digital landscape is continuing to evolve.

2. Previous Studies

2.1 Digital Marketing

Digital marketing is a complex field that involves many actions using electronic channels to advertise and promote products, services, or brands (Jadhav et al., 2023). Digital marketing refers to the deliberate utilization of electronic communication channels to effectively engage specific audiences, communicate marketing messages, and stimulate desired activities (Zanubiya et al., 2023). It entails utilizing diverse online platforms and technology to generate, distribute, and convey value to consumers in the digital domain (Rizvanović et al., 2023). Digital marketing can be defined as the strategic use of electronic tools and platforms to carry out advertising, branding, and promotional operations (Nalbant & Aydin, 2023). This comprises a diverse range of channels, including social media, search engines, email, and content marketing, all strategically coordinated to increase brand visibility, interact with consumers, and accomplish marketing goals (Purnomo, 2023). Within the realm of corporate operations, digital marketing surpasses traditional marketing techniques by leveraging the capabilities of the internet and technological gadgets (Singh et al., 2023). Digital marketing aims to maximize customer reach, improve brand reputation, and ultimately stimulate corporate growth through focused campaigns, tailored content and data-driven analysis (Salhab et al., 2023). The range of methods included in digital marketing encompasses search engine optimization (SEO), social media marketing, email marketing, influencer relationships, and data analytics (Rizvanović et al., 2023). It functions as a flexible and responsive strategy to engage with the contemporary consumer who is becoming more and more involved in the digital environment (Udayana et al., 2024). The advantages of digital marketing surpass those of traditional means, mirroring the benefits observed in electronic payment systems (Daoud et al., 2024). These benefits encompass increased audience reach, improved targeting options, immediate analytics, cost efficiency, and the capacity to customize messaging for certain demographic groups (Jadhav et al., 2023). In the digital era, it is crucial for firms to comprehend the intricacies of digital marketing in order to develop successful strategies and remain competitive in a constantly changing digital environment (Zanubiya et al., 2023).

2.2 Social Media

Social media is an influential and widespread element of the digital environment, transforming the way people communicate, interact, and share information. Social media, as defined by Junaidi et al. (2024), encompasses the utilization of internet-based platforms and technology for the purpose of generating, distributing, and trading content within virtual communities and networks (Lin et al., 2024). It has transformed into a potent instrument for individual self-expression, fostering communities, and notably, as a strategic channel for corporations to interact with their target audience (Velooso et al., 2024). Social media refers to a range of internet sites, including Facebook, Twitter, Instagram, LinkedIn, and others, where users can share text, photographs, videos, and participate in live discussions. It functions as a versatile platform for communication, marketing, and networking (Barberá et al., 2024). Social media's involvement in business, commonly known as social media marketing, entails utilizing these platforms to engage with a specific audience, establish brand recognition, and cultivate customer connections. By producing captivating content, organizations can actively engage in the digital discussions that influence consumer perspectives (Liu et al., 2024). Individuals utilize social media platforms for several objectives, such as acquiring knowledge, articulating viewpoints, soliciting suggestions, and engaging in virtual communities (Velooso et al., 2024). From a commercial perspective, social media offers various advantages that parallel the benefits seen in electronic payment and digital marketing (Li et al., 2023). These benefits encompass heightened brand exposure, direct interaction with customers, immediate feedback, and the capacity to customize content according to audience preferences (Ali et al., 2023). Social media is a crucial component of the contemporary marketing strategy, offering firms a direct means of engagement with their target audience (Taylor et al., 2023). The importance of this instrument spans across several businesses and sectors, rendering it essential for anyone aiming to manage the intricacies of the digital era to effectively utilize social media, firms must possess a comprehensive awareness of its intricacies in order to develop successful strategies and establish a significant online presence (Ortiz-Ospina & Roser, 2023).

2.3 Digital Transformation

Digital transformation signifies a fundamental change in how organizations function, plan, and cultivate their values, propelled by the incorporation of digital technologies throughout many areas of business (Feliciano-Cestero et al., 2023). According to Reis & Melão (2023), digital transformation refers to the deliberate utilization of digital technologies to develop new and

creative business models, improve operational effectiveness, and provide value to stakeholders (Chin et al., 2023). It entails a comprehensive restructuring of how firms utilize technology to adjust to the ever-changing digital environment (Kwilinski, 2023). Practically speaking, digital transformation involves the implementation of advanced technologies like artificial intelligence, cloud computing, the Internet of Things (IoT), and data analytics (Kaganer et al., 2023). These technologies are implemented to enhance corporate processes, enhance decision-making, and promote a more flexible and responsive organizational structure (Zhang et al., 2023).

The importance of digital transformation resides in its capacity to fundamentally modify how firms provide products and services, engage with customers, and maintain competitiveness in swiftly evolving marketplaces (Guerra et al., 2023). The approach is comprehensive, extending beyond the mere installation of technology (Davison et al., 2023). It includes culture transformation, skill enhancement, and a focus on customer satisfaction (Jafari-Sadeghi et al., 2023). From a business standpoint, digital transformation entails reevaluating conventional methods and adopting a digital-first strategy (Chen et al., 2024). This may involve the process of converting internal operations into digital format, embracing tools that facilitate collaboration, and utilizing insights derived from data analysis to guide strategic decision-making (Santos et al., 2024). The objective is to improve consumer experiences, optimize operations, and foster innovation in a technology-focused economy (Zhu et al., 2024). The benefits of digital transformation are numerous, as seen in the advancements of e-payment systems, digital marketing, and social media (Cai et al., 2024). These benefits encompass greater operational efficiency, heightened consumer involvement, accelerated time-to-market, and the capacity to adjust to dynamic market situations (Schmid & Welter, 2024). As firms begin their digital transformation endeavors, it is crucial to acknowledge that it involves more than just a technological enhancement, but rather a whole organizational evolution (Hsiao, 2024). Gaining a comprehensive grasp of the fundamental concepts and consequences of digital transformation is essential for leaders and decision-makers who aim to effectively traverse the intricacies of the digital era and strategically position their businesses for long-term prosperity (Khan & Goel, 2024).

2.4 Digital Leadership

Digital leadership encompasses a deliberate and flexible approach to navigating enterprises through the difficulties and opportunities brought about by the digital era. According to Alexandro and Basrowi (2024), digital leadership refers to the skill of effectively using and taking use of digital technologies to achieve corporate success, encourage innovation, and promote a dynamic and inclusive workplace culture (Huda et al., 2024). The concept entails adopting a mindset that readily accepts and adapts to change, actively acquiring skills in digital literacy, and effectively utilizing technology to gain a competitive edge (Sukrat & Leeraphong, 2024). Practically speaking, digital leadership goes beyond simply managing technology (Kim et al., 2024). It involves visualizing how digital breakthroughs might revolutionize company operations, consumer interactions, and overall organizational performance (Tigre et al., 2023). Digital leaders have the responsibility of linking technical projects with overall business objectives and motivating staff to adopt digital innovation (Chatterjee et al., 2023). The importance of digital leadership is emphasized by its function in guiding enterprises towards achieving digital maturity (Shin et al., 2023). This involves cultivating a culture that consistently encourages learning, advocating for adaptability, and wholeheartedly embracing experimentation to achieve strategic goals (Turyadi et al., 2023). Effective digital leaders recognize that technology serves as a facilitator, and their responsibility is to coordinate its efficient incorporation for long-term achievement (Abidin, 2023). From a business standpoint, digital leadership entails developing a workforce that possesses digital literacy, adaptability, and alignment with organizational objectives (Gunawan et al., 2023). Leaders must possess skills in change management, cooperation facilitation, and strategic utilization of technology to gain a competitive edge (Hanandeh et al., 2023). The objective is to establish an atmosphere where digital projects are not just executed but deeply embedded in the organization's genetic makeup (Huda et al., 2023).

The benefits of good digital leadership are numerous, reflecting the advantages seen in e-payment systems, digital marketing, social media, and digital transformation (El Akid, 2023). These encompass augmented innovative capacities, enhanced organizational flexibility, heightened employee involvement, and a strategy alignment for the digital era (Ghamrawi & Tamim, 2023). Amidst the intricate challenges of the digital realm, the significance of digital leadership becomes crucial for enterprises (Alexandro & Basrowi, 2024). Leaders that possess the ability to navigate their teams through digital transitions, ignite creativity, and cultivate a culture of ongoing enhancement are strongly positioned to flourish in an era characterized by swift technology advancements (Huda et al., 2024). Comprehending the fundamental concepts of digital leadership is crucial for CEOs and decision-makers who aspire to effectively guide their enterprises into the digital era (Sukrat & Leeraphong, 2024).

2.5 Employees Performance

Digital leadership is a purposeful and adaptable strategy for guiding organizations through the challenges and advantages presented by the digital age (Anakpo et al., 2023). As per the findings of Hartika et al., (2023), digital leadership encompasses the ability to proficiently use and leverage digital technology in order to attain organizational triumph, foster innovation, and cultivate a vibrant and all-encompassing workplace environment (Rivaldo & Nabella, 2023). The concept involves embracing a mentality that is open to and capable of adjusting to change, actively obtaining expertise in digital literacy, and efficiently leveraging technology to create a competitive advantage (Salim et al., 2023). In practical terms, digital leadership extends beyond mere technology management (Persada & Nabella, 2023). It entails envisioning how technological advancements could profoundly transform company processes, customer engagements, and overall organizational effectiveness (Al-kharabsheh et al., 2023). Digital leaders are tasked with the job of aligning technological initiatives with overarching company

goals and inspiring employees to embrace digital advancements (Abdelwahed et al., 2023). The significance of digital leadership is underscored by its role in directing organizations towards attaining digital maturity (Rijanto, 2023). This entails fostering a culture that continually promotes learning, advocating for adaptation, and totally embracing innovation in order to accomplish strategic objectives (Wulandari et al., 2024). Competent digital leaders understand that technology functions as an enabler, and their duty is to organize its effective integration for sustained success (Yulfa et al., 2024). From a business perspective, digital leadership involves cultivating a workforce that has a strong grasp of digital skills, the ability to adapt to changing circumstances, and a clear alignment with the goals and objectives of the organization (Yulfa et al., 2024). Leaders need to have expertise in change management, facilitating teamwork, and strategically leveraging technology in order to obtain a competitive advantage (Laelawati, 2024). The goal is to create an environment where digital projects are not only implemented, but also integrated into the core of the business (Anakpo et al., 2023).

The advantages of effective digital leadership are manifold, encompassing the benefits observed in e-payment systems, digital marketing, social media, and digital transformation (Hartika et al., 2023). These include improved innovative capabilities, increased organizational adaptability, greater employee engagement, and a strategy alignment for the digital age (Rivaldo & Nabella, 2023). In the complex landscape of the digital world, the need for digital leadership becomes essential for businesses (Salim et al., 2023). Leaders that have the capacity to guide their teams through digital transformations, stimulate innovation, and foster a culture of continuous improvement are well positioned to thrive in an era marked by rapid technological breakthroughs (Persada & Nabella, 2023). Understanding the essential principles of digital leadership is vital for CEOs and decision-makers who aim to successfully lead their organizations into the digital age (Persada & Nabella, 2023).

3. Research model and rationalism of framework

Fig. 1 shows the structure of the proposed study of this paper.

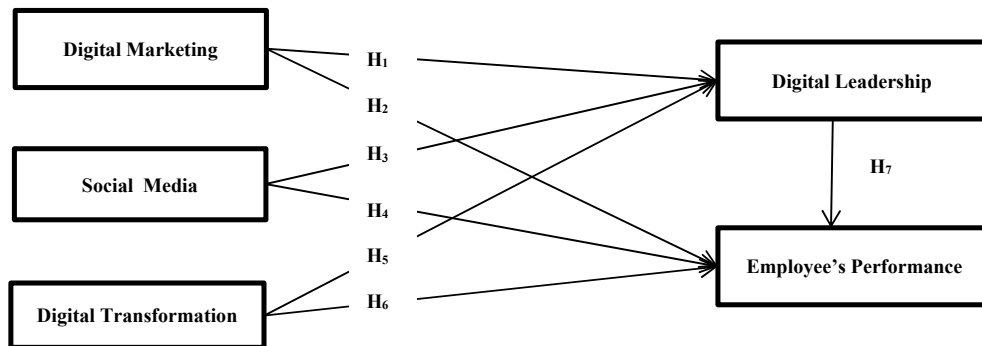


Fig. 1. Research Model

4. Research Methodology

4.1 Research Design

Using quantitative research methods, this article seeks to understand how digital marketing, social media, and digital transformation have altered the relationship between digital leadership and the performance of Amman stock exchange employees. Using a structured questionnaire and supplementary qualitative data, this study gathers primary data that will provide in-depth insights.

4.2 Research Sample

A stratified random sampling technique was used to accurately pick 327 respondents for the research. This assures that the sample is representative of the target population, which includes all personnel in Jordan's stock Amman exchange.

4.3 Data Collection

4.3.1 Research Questionnaire Development

The main data for this study will be collected through a questionnaire that has been prepared and developed. The research aims and factors are carefully considered in developing this set of questions, which includes both open-ended and Likert-scale options.

4.3.2 Data Collection

Distributing the questionnaire to the chosen respondents was an integral part of the data collection procedure. Because it was convenient for participants, we implemented a multi-method data collection strategy that included online questionnaires and email surveys to boost response rates and guarantee accurate results.

4.4 Data Analysis

4.4.1 Quantitative Data Analysis

This study dealt with the quantitative data obtained from the questionnaire by using methods such as regression analysis, correlation analysis, and descriptive statistics. To meet the research hypotheses and objectives, a subjective, complete statistical analysis was employed to uncover patterns, correlations, and trends.

5. Research Ethical Considerations

All the research practices followed in this study are completely ethical. Strict adherence to the privacy and confidentiality of respondents is guaranteed. The research was conducted with the full knowledge and agreement of all participants, and their participation was entirely voluntary. Their comments will be kept anonymous and used only for study, they all agreed.

5.1 Research Design

With these goals in mind, we developed a web-based questionnaire, and respondents from Amman Stock Exchange in Jordan filled it out. Thirty questions and eight different types of structures make up the survey. Digital marketing (DM), social media (SM), digital transformation (DT), digital leadership (DL), and employee performance (EP) are the variables included in the research questionnaire. With the help of the main data, the research model and hypotheses were tested using the Smart PLS (3.3.9) program. The research questionnaires were answered by the participants by selecting one of the following options: strongly disagree, disagree, neither nor, agree, or strongly agree.

Table 1
Research Questionnaire

Research Variables	Items	References
Digital Marketing	<ol style="list-style-type: none"> 1. To what extent are you aware of our company's digital marketing strategies? 2. What is your opinion on the impact of digital marketing on the growth of digital leadership at our company? 3. Tell me how you've felt about the impact on your productivity and performance from digital marketing methods. 4. Do you think that digital marketing helps teams and departments work together more effectively? 5. What is the level of adaptability and utilization of digital marketing information by organizational executives when it comes to guiding strategic decisions? 6. Do you think there are enough chances for professional growth and training in the area of digital marketing tactics and tools offered by the company? 	(Jadhav et al., 2023; Zanu-biya et al., 2023; Rizvanović et al., 2023; Purnomo, 2023; Singh et al., 2023)
Social Media	<ol style="list-style-type: none"> 7. Is our company's social media strategy something you're familiar with? 8. How much of an impact do you think social media has on our company's efforts to foster digital leadership? 9. Tell me how social media has affected your efficiency and output at work. 10. Do you think that the company's social media efforts help employees from different departments and teams communicate and work together more effectively? 11. How effectively do top-level executives use data gleaned from social media to inform long-term planning? 12. How confident are you that you will have enough opportunity to learn and grow within the company in terms of social media strategy and tools? 	(Junaidi et al., 2024; Lin et al., 2024; Veloso et al., 2024; Barberá et al., 2024; Liu et al., 2024; Veloso et al., 2024)
Digital Transformation	<ol style="list-style-type: none"> 13. In your opinion, what is the most important part of digital transformation and what are its main objectives? 14. In the last three years, has your company launched any digital transformation projects? 15. How has your company driven and implemented digital transformation? What frameworks or methods have they used? 16. In launching digital transformation projects, what have been the most significant obstacles encountered by your company? 17. In your opinion, how reluctant or resistant is the workforce to digital transformation? 18. How is your company's digital transformation progressing? What digital technology have it implemented or intends to implement? 19. How can you tell if a company's embrace of technology has improved their processes or the quality of their customers' experiences? 	(Feliciano-Cestero et al., 2023; Reis & Melão, 2023; Chin et al., 2023; Kwilinski, 2023; Kaganer et al., 2023; Zhang et al., 2023)
Digital Leadership	<ol style="list-style-type: none"> 20. To what extent are you aware of our company's digital transformation initiatives? 21. Do you think digital transformation helps our company's executives become more digitally savvy? If so, how much? 22. In what ways have digital transformation projects affected your efficiency and effectiveness at work? 23. Does the digital transformation of the company, in your view, lead to enhance interdepartmental and intra-team communication and collaboration? 24. What is the level of adaptability and utilization of digital transformation by organizational leaders when it comes to guiding strategic decisions? 25. Is there enough opportunity for professional growth and training in the areas of digital transformation strategies and tools at your company? 	(Alexandro & Basrowi, 2024; Huda et al., 2024; Sukrat & Leeraphong, 2024; Kim et al., 2024)
Employees Performance	<ol style="list-style-type: none"> 26. If you had to grade your overall performance at work, how would you make out? 27. In what ways do you think the company's digital initiatives impact your performance for the better? 28. From what you've seen, how well do performances reviews take into account contributions made via digital competence? 29. How much of an impact do you think the company's push for digital literacy has had on your career advancement? 30. In your opinion, how well does the company foster an atmosphere that encourages employees to give their best both individually and collectively? 31. Is there enough opportunity for professional growth and training inside the company to help employees improve their digital competence and performance? 	(Anakpo et al., 2023; Hartika et al., 2023; Rivaldo & Nabella, 2023; Salim et al., 2023)

6. Research Information Analysis

After data has been collected through a survey questionnaire, the most crucial step before beginning the analysis is to convert the items into clear codes. So, the data was entered into the dataset using SPSS V.25 and SMARTPLS-SEM V.3.3. We identified and corrected any possible errors in the data entry process. Furthermore, all replies have been addressed. An overview of the respondents and the results of the Measurement Model Assessment and the Structural Model Assessment are provided in the data analysis section. In order to use the PLS-SEM method, researchers must choose two models: one to measure the variables of interest and to examine their validity; and another to evaluate the study's hypotheses.

Research Verifying Representative

Table 2
Demographic Factors

Demographic Factors		Respondents	Percent
Gender	Male	215	65.6
	Female	112	34.4
	Total:	327	100.0
Age	Under 20	18	5.5
	21 – 30	165	50.4
	31 – 40	111	33.9
	Above 40	33	10.1
	Total:	327	100.0
Nationality	Jordanian	290	88.7
	Others	37	11.3
	Total:	327	100.0
Academic Degree	Bachelor	279	85.3
	Master	24	7.3
	PhD	8	2.4
	Others	16	4.9
	Total:	327	100.0
Respondent Nature	Officer	194	59.3
	Customer	133	40.7
	Total:	327	100.0
School	Finance	213	65.2
	Islamic Banks	74	22.6
	Business	19	5.8
	Others	21	6.4
	Total:	327	100.0

Research Data Analysis

Inconsistent or missing data the assumptions were double-checked utilizing the clean-up and verification techniques of the SPSS initiative before the primary evaluation. In regard to the out-of-the-ordinary sums The Mahalanobis analysis was put to the test in this inquiry by using the required level of independence and a Chi-square (χ^2) score at a significant level of 0.001. Based on this technique, a minimum acceptable Chi-square value of 15.24 with a degree of freedom of 4 is required at $p < 0.001$.

That is why we need to remove outliers with closeness scores greater than 15.24 from the analysis. In this case, an aggregate of 327 valid and sanitized responses were used for the final review. In addition, data analysis prior to evaluation, the normalcy test was run, and the skewness and Kurtosis parameters' results were used. The parameters fluctuated between the acceptable range and ± 2 , suggesting that the study data do not deviate significantly from the normal distribution. There are two parts to evaluating a research model: measuring it and building structural models. First, the confirmatory tetrad analysis (CTA) test needs to be run. This test builds on the concept of tetrads τ , which modifies the connection between pairs using the Bonferroni equation. Basically, this method helps researchers check if they have chosen the right formative or reflective model. It's a second line of defense for introspective guidance based on the theoretical background that was used before the reliability and validity assessment. Finding out that no zero value is within the confidence range confirmed, both theoretically and statistically, that the reflective model is the correct choice, according to this study's results.

Measurement Model Assessment

The investigation's paradigm consists of 31 questions that address 5 fundamental components. Prior to performing the theoretical analysis, it is recommended to process the measures to ensure their accuracy and reliability. The outside loading of an item inside a building indicates how consistent it is with other parts. Greater outermost loadings exhibit more correlated and comparable items (Hair et al., 2021).

Table 3
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	> 0.7	>0.5	>0.6	>0.6		>0.6	Confidence
Interval Does							
Digital Marketing							
Q1.	0.826						
Q2.	0.934						
Q3.	0.914	0.917		0.939	0.947	0.928	Yes
Q4.	0.938						
Q5.	0.912						
Q6.	0.978						
Social Media							
Q7.	0.814						
Q8.	0.862						
Q9.	0.813	0.831		0.810	0.827	0.819	Yes
Q10.	0.849						
Q11.	0.817						
Q12.	0.831						
Digital Transformation							
Q13.	0.821						
Q14.	0.828						
Q15.	0.830						
Q16.	0.941	0.839		0.911	0.918	0.941	Yes
Q17.	0.965						
Q18.	0.764						
Q19.	0.734						
Digital Leadership							
Q20.	0.881						
Q21.	0.794						
Q22.	0.836	0.802		0.936	0.953	0.911	Yes
Q23.	0.823						
Q24.	0.764						
Q25.	0.918						
Employee's Performance							
Q26.	0.734						
Q27.	0.835						
Q28.	0.937	0.796		0.869	0.936	0.929	Yes
Q29.	0.776						
Q30.	0.829						
Q31.	0.867						

Hair et al. (2021) provided a normative value for the Average Variance Extracted (AVE) that should be more than 0.50. This value is used to test the concept's convergence dependability and ensure that the latent structure explains more than half of the mean difference of its relevant warning indicators. The first type of construct validity, convergent reliability, is evaluated by the AVE significance. It is defined as a statistical analysis of the concurrence rates for the variables that evaluate the same component. Checking for any discrepancy among these components or metrics is also part of evaluating the specific approach. Evaluation of convergence validity, according to the ideas and statistical methods, is largely dependent on the correlations between the commodities of the parameters, as evaluated by various methods. Factorization of the components is the main method for achieving and implementing this degree of accuracy. The preceding subsections address two further key processes for confirming this type of authenticity: Composite Reliability (CR) and AVE.

Measurement Model Assessment (Model Fit)

A measure for the real average value of the correlation replacement is the Root Mean Square Residual (RMSR). Its primary use is to create a correlation matrix from the obtained co-variance and estimated covariance matrices. Importantly, the researcher can use the estimated model to derive either the saturated model or the covariance matrix. The SRMR measure is defined by the contradictions between the model's correlation matrix and the observed correlations. Consequently, it may be able to evaluate the model's true indication of the magnitude of the discrepancies between the observed and predicted relationship. A satisfactory match is defined as a coefficient lower than 0.08 per Heseler et al. (2015). To avoid any confusion about the models, this statistic measures how well PLS-SEM matches data. The results of the SRMR and the model fit are shown in Table 4.

Table 4
Model Fit

	Saturated model	Estimated model
SRMR	0.062	0.069
d ULS	3.168	3.353
d G	2.309	2.341
Chi-square	11120.275	11161.716
NFI	0.628	0.627

Structure Model Test and effect size (f^2)

Step two of the structural equation modeling (SEM) process, following an evaluation of the measuring paradigm's accuracy and reliability, is to assess the study's underlying assumptions. In order to accomplish this, it is strongly advised to follow the steps outlined by Hair (2010). These steps will help to establish a framework for evaluation. Beneficence of fit (GoF), path coefficient, impact size (f^2), predictive relevance (Q^2), and coefficient of determination (R^2) are some of the assessments used to examine the study speculation. Not to mention multi-collinearity evaluation, each analysis is addressed independently in the following subsections. The next step after calculating and analyzing R^2 is to find out how much of an impact a specific external or autonomous parameter has on an underlying or indigenous variable by calculating the effect size (f^2).

Table 5

Exogenous Constructs

Constructs	Effect size (f^2)		Result
	DL	EP	
Digital Marketing (DM)	0.005	0.016	Small Effect
Social Media (SM)	0.012	0.127	Medium
Digital Transformation (DT)	0.296	0.264	Large Effect
Digital Leadership (DL)			
Employee's Performance (EP)			

Research hypotheses Test

The second phase in analyzing the study hypotheses is to consider the moderating effect of the associations that were found in chapter two. This effect is hypothesized to be investigated at this point. A moderator variable (M) can change the strength of the relationship between two variables by influencing the interaction between the independent and dependent variables.

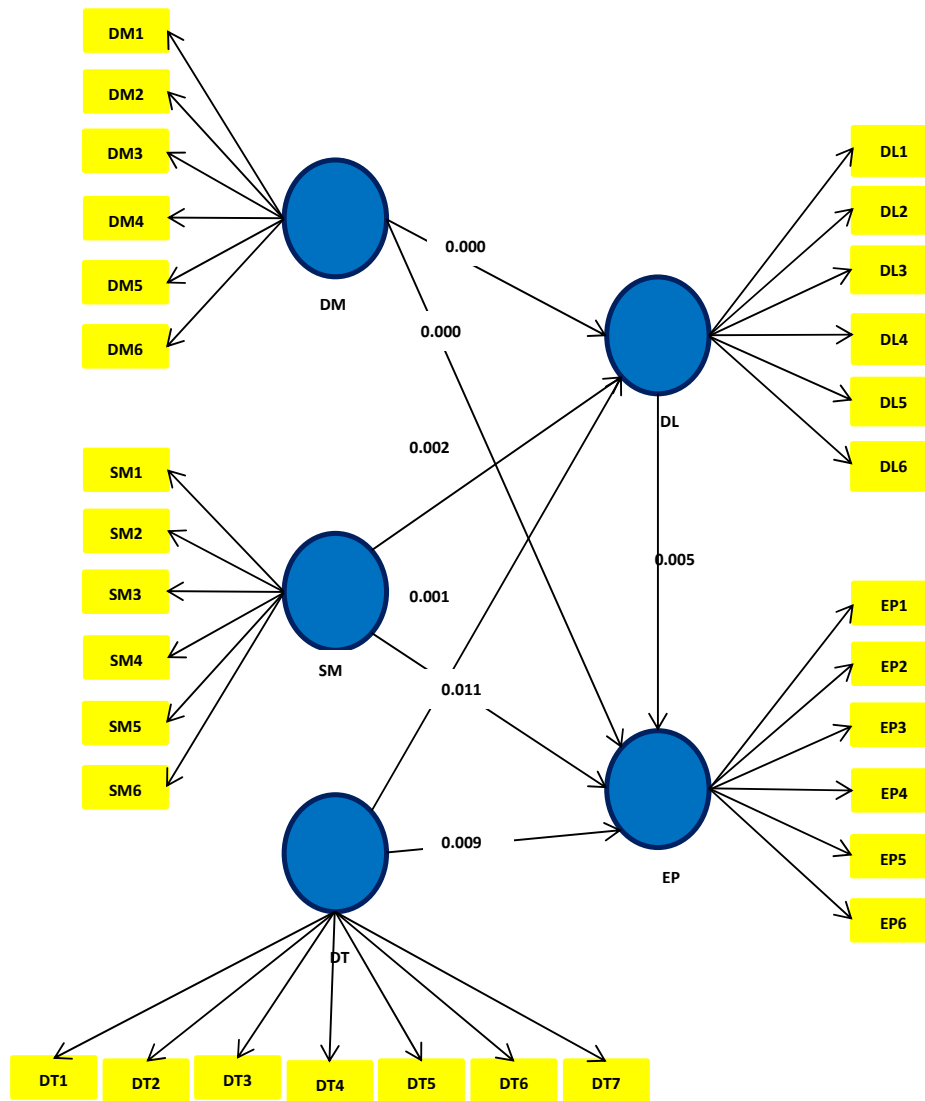


Fig. 2. Analysis Results Paths in Smart-PLS

Table 6
Analysis Results Paths in Smart-PLS4

Hypotheses		Beta	P values	Results
H.1	DM → DL	0.563	0.000	Supported
H.2	DM → EP	0.521	0.000	Supported
H.3	SM → DL	0.418	0.002	Supported
H.4	SM → EP	0.878	0.001	Supported
H.5	DT → DL	0.611	0.011	Supported
H.6	DT → EP	0.283	0.009	Supported
H.7	DL → EP	0.330	0.005	Supported

Table 6 and Fig. 2 show the results of the route coefficients that were proposed to evaluate the moderating research hypotheses (also known as moderation hypotheses). The correlations can be better understood with the help of graphical representations of the effects of moderations; depicted in Figs. 3–5.

7. Research Discussions

It is crucial to examine the effects of digital marketing, social media, and digital transformation on the growth of digital leadership skills and the improvement of employee performance, especially in the context of the Amman Stock Exchange (ASE) given the fast-changing business environment. With the growing adoption of digital strategies by organizations, it is essential to comprehend the complex connections between these elements in order to promote effective leadership and optimize employee performance. An important element of the study focuses on investigating the impact of digital marketing and social media on the development of digital leadership skills specifically within the context of the Amman Stock Exchange. Effective digital leadership extends beyond conventional abilities, incorporating a profound comprehension of technical advancements, making decisions based on data, and adeptly navigating the intricacies of the digital environment. This study aims to provide insights into how executives at the ASE utilize digital tools to stimulate creativity, promote cooperation, and propel organizational expansion. The study examines the influence of digital transformation on improving employee performance, providing valuable information on how technology-driven changes affect the daily activities at the Amman Stock Exchange. This entails analyzing the function of digital tools in optimizing operations, enhancing communication, and cultivating a culture of ongoing learning. Comprehending the connection between digital transformation endeavors and employee performance might provide practical approaches for enhancing workforce productivity and contentment. The study is expected to examine the impact of social media platforms such as LinkedIn, Twitter, and other industry-specific networks on leadership development and employee performance at the Amman Stock Exchange, considering the significant role of social media in modern business. Social media can function as a potent instrument for establishing connections, exchanging information, and cultivating the reputation of the organization. An analysis of how the ASE leverages social media can provide significant insights for other financial bodies aiming to improve their online visibility. Nevertheless, the study may confront comparable difficulties as those encountered in the research on the acceptance model of electronic payments. For example, the swift rate of technological progress necessitates ongoing adjustment to remain pertinent. The conclusions of the study may not be applicable to other industries due to the organization's special context and practices. Therefore, a detailed understanding of the unique dynamics of the ASE is necessary. The study on the effects of digital marketing, social media, and digital transformation at the Amman Stock Exchange has important implications for corporate executives, legislators, and scholars. The results can provide guidance to firms in utilizing digital tactics to strengthen leadership skills and improve employee performance. The study's recommendations could help create specific digital initiatives that promote a culture of innovation and excellence in financial institutions, extending beyond the Amman Stock Exchange. In order to achieve long-term success in the ever-changing field of digital leadership and employee performance, it is crucial to continuously do research and adapt to the evolving digital landscape.

8. Research Implications

The research findings have significant implications for various stakeholders, including the Amman Stock Exchange, its employees, and the broader financial industry in Jordan, in terms of the impact of digital marketing, social media, and digital transformation on the development of digital leadership abilities and the enhancement of employee performance at the Amman Stock Exchange. The study's findings can provide valuable guidance to the Amman Stock Exchange in enhancing its digital marketing strategies, effectively utilizing social media, and adopting digital transformation projects. Consequently, this can aid in the cultivation of resilient digital leadership within the firm. In the current economic environment, where digital leadership is of utmost importance, the Amman Stock Exchange can establish itself as a frontrunner in the financial industry by promoting a culture that encourages digital innovation and flexibility. Gaining insight into the correlation among digital marketing, social media, digital transformation, and employee performance offers the Amman Stock Exchange vital data to enhance its workforce efficiency. The firm can apply focused training programs to bolster employees' digital leadership skills, ultimately resulting in enhanced performance. This may entail cultivating a mindset that prioritizes digital technologies, promoting ongoing education, and offering resources for skill enhancement in areas pertinent to digital progressions in the financial sector. The results indicate that firms that adopt digital leadership are likely to get a competitive advantage. The Amman Stock Exchange may distinguish itself in the market by investing in digital capabilities and fostering digital leadership characteristics among its workers. This has the ability to allure investors, amplify market exposure, and potentially result in heightened engagement from diverse players in the financial ecosystem. The study's findings can serve as valuable guidance for

policymakers and regulatory bodies in Jordan, aiding them in formulating policies and regulations that facilitate the progress of digital innovations in the financial industry. This encompasses factors such as the protection of data, safeguarding privacy, and fostering the advancement of innovative digital methods. Harmonizing regulatory frameworks with the changing digital landscape can establish a favorable climate for expansion and long-term viability. The study emphasizes the interdependence of digital marketing, social media, and digital change. The Amman Stock Exchange has the potential to engage in partnerships with various financial institutions, industry groups, and technology providers in order to exchange and implement the most effective methods and collectively enhance the digital capabilities within Jordan's financial sector. The research indicates that digital leadership encompasses more than just technical proficiency; it also involves cultivating a climate of creativity and adaptation. The Amman Stock Exchange should prioritize the establishment of a workplace culture that fosters innovation, collaboration, and ongoing learning. Consequently, this can result in elevated levels of employee engagement and contentment. To summarize, this research has ramifications that go beyond the Amman Stock Exchange and have an impact on the wider financial market in Jordan. Organizations can achieve success in a rapidly digitized corporate environment by adopting digital leadership, utilizing digital marketing, social media, and digital transformation. Policymakers, industry stakeholders, and workers can collaboratively contribute to the expansion and long-term viability of the financial sector in the context of digital progress.

9. Research Limitations

When examining the effects of digital marketing, social media, and digital transformation on the improvement of digital leadership skills and employee performance at the Amman Stock Exchange, it is important to recognize specific constraints and factors that may affect the applicability and practicality of the findings. The focus of the study is around the Amman Stock Exchange, and the distinctive attributes of this institution may restrict the applicability of the results to other sectors or situations. The dynamics of digital leadership and employee performance might vary greatly across different sectors; therefore the relevance of the case study to firms outside of the stock exchange may be limited. Due to the swift progress of technical developments, the conclusions of the study may become outdated quite quickly. Continuous adaptation is necessary due to the dynamism of digital marketing, social media platforms, and the broader environment of digital change. Emerging technologies and platforms have the potential to change the dynamics of leadership and employee success. Frequent updates and evaluations are crucial to maintain the model's relevance throughout time. The case study specifically examines an organization, and the attributes of the Amman Stock Exchange may not precisely reflect those of other organizations or industries in Jordan. The findings may have greater relevance to entities that share similar structures, sizes, and purposes. Examining a wide array of cases from different industries would yield a more thorough comprehension of the overall influence of digital initiatives on leadership and performance. As with any survey or case study, the answers provided by employees may be influenced by a tendency to present themselves in a socially desirable manner. Participants may conform to perceived social standards or corporate expectations instead of expressing their authentic ideas. This bias has the potential to affect the precision of data, especially when examining variables pertaining to leadership aptitude and performance optimization. The study may not fully consider all legal changes that impact the acceptability and success of digital initiatives. The regulatory framework has a significant influence on shaping digital activities, and any changes in laws or policies could have an impact on the tactics described in the study. Regular monitoring of regulatory developments is essential to maintain compliance with legal standards. Although the study may uncover associations between digital initiatives and leadership/performance results, establishing causality can be difficult. Unaccounted external factors or variables may contribute to the observed effects in the study. Researchers must show prudence when drawing causal conclusions and take into account potential confounding factors. To summarize, the case study on the Amman Stock Exchange offers useful insights into how digital tactics affect leadership development and employee performance. However, it is important for researchers and practitioners to acknowledge and tackle these constraints. In order to improve the practical usefulness of the findings, it is crucial to continuously monitor, adapt to technology advancements, take into account the variety within the business, and recognize any potential biases. An intricate and situation-sensitive methodology is crucial for converting research findings into efficient strategies for companies, politicians, and industry leaders.

10. Research Conclusion

The major goal of this research is to find out how the Ministry of digital & entrepreneurship has used smart technology, big data, and social media to improve leadership and intercultural communication. The use of these technological components within the specific setting of the Ministry is the primary subject of this research. Our main objective is to fully grasp how these sophisticated aspects enhance leadership practices, intercultural collaboration, and communication techniques. According to the first three hypotheses and the fifth hypothesis, the Ministry of digital & entrepreneurship's intercultural communication is greatly affected by social media, big data, and smart technology. On the flip side, these technology components are heavily involved in improving intercultural communication according to hypotheses 1,3,5 and the organization's effective leadership practices according to Hypotheses 2, 4, and 6. The research data analysis seeks to reveal strong correlations, which will provide insight into the consequences for effective leadership and intercultural communication inside the innovative government agency devoted to the digital economy and entrepreneurship. We need to investigate the impact of smart technologies, social media, and big data on the overall efficiency of government agencies that operate in the digital sphere more thoroughly. The Ministry's continuous attempts to adapt and thrive in the fast-changing technology environment could be greatly enhanced by these discoveries. Also, the study is in line with previous research that has drawn parallels to related

studies in related disciplines which conducted in one of governmental enterprises(e.g., Wong, 2023; Dhiman, 2023; Carroll, 2023; Jarrahi & Safari, 2023; Ahmed & Amiri, 2022; Nindie, 2022; AlNuaimi et al., 2022; Schomakers & Zieflé, 2023; Abdllahi et al., 2023; Vijayakumar et al., 2023). The effects of social media on the Ministry of digital & entrepreneurship's communication plans, brand administration, and consumer involvement are all part of the probe into the phenomenon. The research also explores how big data might improve innovation, operational process optimization, and decision-making efficiency. To improve organizational learning inside the Ministry, use predictive analytics, and extract important insights are the main goals of the data mining inquiry. the study is in line with previous research that has drawn parallels to related studies (e.g., Nunkoo et al., 2023; Susanto et al., 2023; Wickham et al., 2023; Khan et al., 2023; Yallop et al., 2023; Grint & Jones, 2022; Erhan et al., 2022; Fatimah & Syahrani, 2022). Taking into account elements like regulatory dynamics, market competitiveness, and technological advancements, this research endeavors to provide detailed insights into how the effects of social media, big data, and smart technologies might differ depending on the particulars of the Ministry of digital & entrepreneurship. The study will meticulously measure and quantify these variables, taking into account the possible influence of subjective elements that could cause variability in the study's results and this is in line with following in the footsteps of earlier studies (e.g., Simpson, 2023; Gong et al., 2022; Dvorianchykova et al., 2023; Simpson, 2023; Gong et al., 2022; Dvorianchykova et al., 2023; Nabiyevena, 2022; R'boul, 2022).

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