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The Mediating Role of Information Technology between Digital Marketing and Firm Performance in Jordanian Small and Medium Enterprises

Hammadallah Al-Husban

Amman, Jordan; hamad.husban@yahoo.com (H.A.)

Abstract. This article presents a conceptual model that explores the interrelationships among digital marketing (DM), firm performance (FP), and information technology (IT) in Jordanian small and medium-sized enterprises (SMEs). Furthermore, it examines the mediator role of IT in the link between DM and FP. The validation of the conceptual model was performed utilizing IBM SPSS version 22, pursued by confirmatory factor analysis and structural equation modeling with IBM SPSS AMOS version 24. The findings revealed a significant positive relationship between digital marketing (DM) and firm performance (FP), with information technology (IT) serving as a partial mediator in the relationship between DM and FP. Furthermore, the overall impact of the dimensions of digital marketing on firm performance was assessed to be 95.92%.

Keywords: Digital marketing, information technology, Firm performance, Mediating effect, Small and medium-sized enterprises (SMEs).

1. INTRODUCTION

Firm performance serves as an essential indicator of an organization's success or failure in executing its central duties and functions to reach its goals, objectives, vision, and mission (Indana & Indartono, 2020). Consequently, it can be claimed that performance represents the endeavors attained by the firm over a specified period.

A thorough understanding of the definition of a firm, specifically in relation to the growth of small and medium-sized enterprises (SMEs), is necessary for clarifying firm performance, which serves as the dependent variable in this analysis. The evaluation of firm performance is an essential aspect of the field of strategic management (Santos & Brito, 2012).

A significant number of small and medium-sized enterprises (SMEs) are aggressively seeking to increase productivity, organizational efficiency, and competitive advantages (Hussain & Raghavan, 2017). To strengthen the effectiveness of SMEs in global markets, it is essential for these enterprises to assert financial stability and contribute to market networks. Digital marketing represents a distinct approach to marketing activities, differentiating itself from other types by its massive use of information technology (Greenberg & Kates, 2013; Kaufman & Horton, 2014).

Consequently, digital marketing has seemed as a viable alternative that can substantially decrease costs while serving as a critical instrument for advancing business performance. However, the expansion of electronic commerce and the evolution of innovative marketing strategies present challenges to traditional commerce, introducing new issues and exacerbating some pre-existing ones (López et al., 2019).

The internet works as the foundational framework for the improvement of digital marketing in the contemporary business landscape. This technology facilitates the execution of electronic marketing strategies in addition to playing a pivotal role in the evolution of the World Wide Web as it is presently recognized. Moreover, it has prompted the conversion and adaptation of traditional marketing practices to align with the existing digital context. Research indicates that innovative technological strategies are essential resources for achieving competitive advantages. However, many enterprises encounter challenges stemming from a lack in entrepreneurial and innovative skills. Consequently, a significant proportion of businesses collapse and cease operations after their establishment (Ndikubwimana, 2016).

Information technology (IT) has experienced significant growth in recent years. The application of information technology in data processing is believed to enhance the quality of information. Conversely, the transformation of data into information which encompasses data acquisition, data management, and data manipulation can be performed efficiently through the utilization of information technology resources (Sabihaini et al., 2021).

Small and Medium Enterprises (SMEs) are essential to the economic frameworks of many nations, functioning as fundamental elements within the economic landscape. For SMEs to thrive it is essential that they adopt emerging technologies, as these innovations are pivotal in fostering connections with businesses on a global scale. Such commitment lets SMEs contribute effectively to the global economy (Thabit et al., 2016).

Jordanian Small and medium-sized enterprises (SMEs) indicate over 90% of the total institutions working across several economic sectors. These enterprises interpretation for roughly 60% of employment and offer around 50% of the gross domestic product (GDP). This underscores the importance of prioritizing the development of these institutions in Jordan through addressing the challenges that delay their growth, thereby

* Correspondence: hamad.husban@yahoo.com

enabling them to serve as a vital driver of the national economy across its diverse sectors (Gadumi, 2012).

The study objects to fill a gap in the occurring literature regarding the systematic link among Digital Marketing (DM), Information Technology (IT), and financial performance (FP). To inspect this link, a model was created to analyze the relations among these variables. Additionally, the study investigated the mediating impact of information technology (IT) on the correlation between digital marketing (DM) and firm performance (FP) in the Jordanian small and medium enterprises (SMEs) context.

The significance of the study lies in its originality, as the variables under inquiry have not been previously investigated within the Jordanian contexts. Notably, there has been no previous research that has successfully authenticated the mediating role of information technology (IT) in the affiliation between digital marketing (DM) and financial performance (FP) among Jordanian small and medium-sized enterprises (SMEs). This study employs a blend of exploratory and descriptive analyses. The analysis was operated using IBM SPSS version 22, admired by confirmatory factor analysis and structural equation modeling with IBM SPSS AMOS version 24 to validate the conceptual model of the study. Furthermore, the study encompasses the development of hypotheses, research methods, results and discussion, conclusions, and implications.

2. THEORETICAL BACKGROUND AND HYPOTHESIS FORMULATION

2.1. Evaluation Real Estate Theory

The real estate evaluation theory is established on the assumption that non-traditional techniques must be utilized to inform property decisions (Wang & Wolverton, 2002). Appraisal techniques should deliberate all ways to confirm that the interests of all stakeholders within the sector are attended.

The perspectives of property valuers in this situation are particularly significant. According to Perez (2011), future growth rates in the real estate sector will be closely associated to planned purchases by customers. He suggests that the impacts of digitalization on marketing within real estate will enhance progressively pronounced in the future (Perez, 2011).

Consequently, decisions concerning real estate must be general, avoiding the industry from being controlled by certain forces that obtain to protect devolved interests. Indeed, digital marketing platforms have altered real estate to the extent that the traditional roles of marketing are being circumvented. Digital marketing has improved efficiency, allowing property consumers to retrieve listings online and make purchasing decisions.

However, the property industry can fall into discredit if corrupt and unspecified individuals exploit the virtual environment to trick gullible buyers. As acknowledged by evaluation theory, there is a need to implement traditional methods, letting potential clients engage the services of land valuers who have physical offices to make informed purchasing decisions.

In summary, evaluation theory contributes to creating balance within real estate, allowing stakeholders to employ digital marketing tools effectively. For instance, digital platforms enable marketers to excel in market limitations, compelling sellers to compare their prices with those of competitors.

The advance for the inclusion of all players in the real estate, in agreement with evaluation theory, implies that the industry's prospects vary on both digital and non-digital platforms. This theory helps how web solutions affect the performance of firms in this sector, as it suggests that digital marketing platforms have transformed the industry to the amount that the traditional roles of marketers are increasingly being avoided.

Digital Marketing and Firm Performance

The topic of digital marketing affects a separate range of strategies, including "email marketing, search engine marketing, social media marketing, various forms of display advertising, and mobile advertising" (Bala et al., 2018; Gao & Zhang, 2020). The American Marketing Association (2014) defines marketing as a "set of activities, institutions, and processes involved in creating, communicating, delivering, and exchanging offerings that provide value to customers, clients, partners, and society". Furthermore, Kotler (2008) explains that marketing needs the actions undertaken by a company to support and sell its products and services through the Internet.

Consequently, digital marketing can be defined as an adaptive, technology-enabled process through which firms comprise in collaboration with customers and partners mutually to generate, communicate, distribute, and sustain value for all stakeholders (Kannan, 2017).

Previous research has detected different components of digital marketing that are faster by digital devices, including "online advertising, social media, email marketing, text messaging, and search engine optimization" (Gontur et al., 2023; Tajvidi and Karami, 2021). Developing upon the prevailing literature, the dimensions of this variable have been clearly outlined as online advertising, email marketing, and social media.

Numerous existing searches have recognized positive and significant relationship between digital marketing (DM) and firm performance (FP) (Aziz et al., 2024; Njelita et al., 2023; Gontur et al., 2023; Jung & Shegai, 2023; Sultoni et al., 2022; Ainin et al., 2015; Paniagua & Salena, 2014). In contrast, the findings of Ahmad et al. (2019) imply that social media adoption does not impact the performance of (SMEs). Considering these interpretations, the following hypothesis has been created:

H_{01}: Digital marketing is significantly associated with firm performance.

2.2. Digital Marketing and Information Technology

Firm performance (FP) is essential for evaluating an enterprise's effectiveness in reaching its strategic objectives. The recognizing of this concept has undergone significant evolution in a scholarly interpretation (Hammadallah and Yawson, 2024; Çelik & Uzunçarşılı, 2023; Garousi et al., 2022). This interpretation finds two primary dimensions: financial and non-financial. The financial dimension concerns indicators such as profitability and sales growth, whereas the non-financial dimension involves factors such as market share, new product introductions, quality, and marketing effectiveness (Hammadallah and Yawson, 2024). Within this framework, profitability and sales growth are recognized as key indicators within the financial dimension.

Kotler, Armstrong, Ang, Leong, Shalowitz, and Stevens were influential in the integration of marketing principles and strategies, establishing a theoretical foundation for the field (Kotler et al., 2008; Kotler et al., 2011). Additionally, Kotler (2008) promoted the theoretical framework of digital marketing. Several studies have revealed a positive relationship between digital marketing (DM) and information technology (IT), as evidenced by Dastane (2020). The outcomes of these studies suggest that digital marketing exerts a significant influence on online purchase intentions.

Prior discussion concerns data management practices and information technology applications; consequently, the following hypothesis has been proposed.

H_{02} Digital marketing is positively related to information technology.

Information Technology and Firm Performance

The application of information technology (IT) within small and medium enterprises (SMEs) is critical for the economic development of a homeland and is considered a central component of industrial progress across the world (Kurnia et al., 2015). As noted by Adamson et al. (2007), IT in SMEs appears as a catalyst for economic growth, success, and innovation.

This result aligns with numerous studies that assert the significance and positive of combining information technology into firm operations as a crucial factor for increasing both growth and profitability. (Indana & Indartono, 2020; Rehman et al., 2020; Asih et al., 2017; Kim & Jee, 2007; Nabeel & Nazri, 2019) In this sense, the hypothesis was formulated that:

H_{03} Information technology is positively related to firm performance.

Digital Marketing and Firm Performance through Information Technology as a mediator role

Halik et al. (2023) suggest that awareness of information technology (IT) and digital marketing do not have a direct impact on the performance of small and medium-sized enterprises (SMEs).

Currently, the existing literature does not support the relationship between digital Marketing (DM) and financial performance (FP) with information technology (IT) serving as a mediator within the context of SMEs in Jordan. To the authors' knowledge, no previous research has investigated the IT mediating role in the link between DM and FP, particularly within the sector of Jordanian small and medium enterprises (SMEs). Considering these findings, the following hypothesis has been proposed:

H_{04} Information technology mediates the relationship between digital Marketing and firm performance.

After a thorough literature review, marginal empirical studies were discovered that studied DM and FP together and studied these variables with the mediating role of IT. Whereas to the authors' knowledge, there is not any study available in the context of the Jordanian SMEs sector. As a result, the execution of this study in the Jordanian SMEs sector became very important to cover this literature gap.

The suggested conceptual framework (Figure 1) indicates that DM and FP have a significant relationship with IT, which in turn indicates a positive relationship with DM and FP and DM have a direct significant affiliation with IT. Theoretical rationale for each proposed relationship in the model is suitably discussed in the appropriate sections of the literature review.

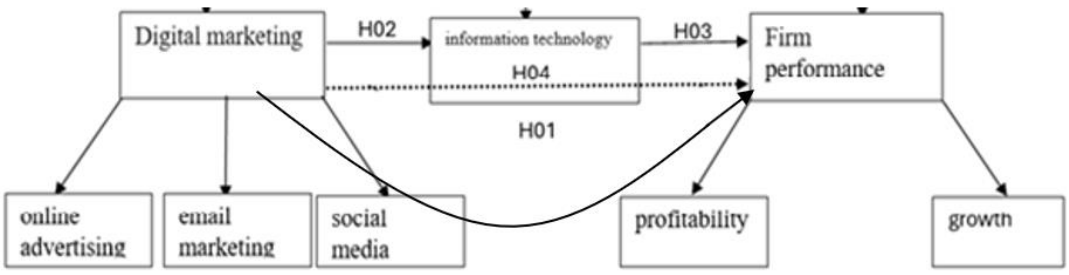


Figure 1: Conceptual framework.

3. EMPIRICAL STUDY

3.1. Data Collection, Population, and Sampling

The study utilized an analytical descriptive approach, applying a questionnaire for the data collection of the current study. The primary objective of the study is to evaluate the impact of digital marketing on firm performance. Additionally, the study explores the information technology mediating role between the variables within these SMEs.

The researcher aimed to use both descriptive and inferential statistics; descriptive analysis was acted based on the demographic information provided by the respondents. In turn, inferential statistics conducted to analysis the reliability of the constructs through using Cronbach's alpha, and multiple regression correlations were calculated to determine the relationships among the variables. Finally, the Analysis of Moment Structures (AMOS) was utilized to analyze the mediating effects.

The study population was selected from small and medium-sized enterprises (SMEs) in Jordan, which was (10903) enterprise. Krejcie and Morgan (1970) technique was used for the selection of appropriate sample size from the available population. The sample distribution depends on proportional stratified random samples consisting of (370) administrative employees from the first and second managerial level, as outlined in Table 1.

Table 1: Jordanian small and medium-sized enterprises (SMEs).

Classification	Employees number	Nummer	Sample size
Small enterprise	5 – 49	8765	297
Medium enterprise	50 – 250	2138	73
Total	------	10903	370

Source: General statistic department – general calculations of economic equipment.

The researcher distributed (370) samples were distributed hand delivered, but (265) samples were agreed to be filled out by the study sample members, all of which are valid for the purposes of statistical analysis, yielding a significant response rate of 72%. The data compilation period was from March 2024 to May2024.

3.2. Research Design

During the exploratory phase, a review of existing literature was overseen to discover both coverage and gaps in the current body of knowledge. Quantitative data analysis was undertaken to gain specific findings based on data collected through a survey questionnaire. The comprehensive questionnaire is prepared into four sections, which accelerate the collection of demographic information and enable respondent profiling during the analysis phase. Subsequently, three domains are utilized to gather data pertinent to the variables of interest. The first domain involves items that converge on digital marketing, specifically evaluating aspects of online advertising, email marketing, and social media engagement. The second domain addresses firm performance, with a particular focus on questions related to profitability and growth. The final domain encompasses information technology.

All items were evaluated using a 5-point Likert scale, where researchers modified the determined scales to align with the specific requirements of their studies. For example, (Hammadallah and Yawson, 2024; Aziz et al., 2024; Kyal et al., 2022; Maina, 2017; Kim et al., 2016; Ramanathan & Nath, 2014; Olusola et al., 2013) have adapted these scales to create items that effectively evaluate various dimensions of digital marketing, firm performance, and information technology.

Demographic variables were operationalized as dummy variables, with the following coding scheme: For gender, males were assigned a code of 1, while females were assigned a code of 2. In terms of job positions, the coding was as follows: manager = 1, assistant manager = 2, supervisor = 3, and other positions = 4. The number of employees was categorized as follows: fewer than 20 employees = 1, between 30 and 34 employees = 2, between 50 and 99 employees = 3, and between 100 and 249 employees = 4. Firm size was classified as small (1 - 49 employees) = 1 and medium (50-250 employees) = 2. Finally, the sector was implied as service = 1 and industrial = 2.

4. RESULTS & DISCUSSIONS

Please use the decimal system of headings with no more than three levels. Assessment of Common Method Bias

Data used in the model were acquired from individual respondents through a survey, requiring an examination of common method bias. Consequently, both procedural and statistical strategies were employed to mitigate the potential impact of common method bias. In terms of procedural measures, the author ensured the privacy and ambiguity of the data gave by the employees, which serves to moderate the likelihood of misleading responses (Podsakoff et al., 2003). Regarding statistical techniques, a collinearity test based on variance inflation factors (VIFs) was conducted. The VIF values were all reached to be greater than 1 and less than 5, while the tolerance values ranged from 0.01 to 1. This finding implies the absence of collinearity among the independent variables (Gujarati & Porter, 2009). The inner VIF values for the suggested conceptual model ranged from 2.121 to 2.810, further confirmatory the absence of collinearity among the independent variables (Gujarati & Porter, 2009).

4.1. Data Analysis

The validation of the conceptual model was performed utilizing the IBM SPSS version 22, followed by confirmatory factor analysis and structural equation modeling with IBM SPSS Analysis of Moment Structures AMOS version 24.

4.2. Descriptive Statistics

Table 2 shows a detailed demographic profile of the respondents. The gender distribution tells that 57.0% of the respondents recognized as male, while 43.0% identified as female. In terms of age, 20.8% of the respondents were under 36 years old, 33.6% were between 36 and 40 years old, 32.8% were between 41 and 50 years old, and 12.8% were over 50 years old. With respect to professional roles, 35.5% of the respondents held managerial positions, 37.4% were assistant managers, 15.8% were supervisors, and 11.3% occupied other roles.

Considering the distribution of employees within the surveyed organizations, 16.2% of respondents implied that their organizations employed fewer than 20 individuals. Additionally, 29.1% were affiliated with organizations that employed between 30 and fewer than 50 employees, while 30.6% represented organizations with a workforce ranging from 50 to fewer than 100 employees. Furthermore, 24.2% of respondents were from organizations that employed between 100 and fewer than 250 individuals. In terms of organizational size, 43.8% of respondents were associated with small firms (5-49 employees), whereas 56.8% were linked to medium-sized firms (50-250 employees). Lastly, concerning the sector of employment, 40.8% of respondents were employed in the service sector, while 59.2% were engaged in the industrial sector.

Table 2: Results of the Demographic Analysis of Respondents.

Variable	Category	Frequency	%
Gender	Male	151	57.0
	Female	114	43.0
Age	Less than 36	55	20.8
	36–40 years	89	33.6
	41–50 years	87	32.8
	Above 50 years	34	12.8
Position	Manager	94	35.5
	Assistant manager	99	37.4
	Supervisor	42	15.8
	Other	30	11.3
Number of employees	Below 20 employees	43	16.2
	30–less than 50 employees	77	29.1
	50 – less than 100	81	30.6
	100 – less than 250 employees	64	24.2
Firm size	Small (1-49) employees	116	43.8
	Medium (50-250)	149	56.8
Work sector	Service	108	40.8
	Industrial	157	59.2
Total		265	100

4.3. The Reliability Coefficients of the Study Variables

Table 3 demonstrates that the Cronbach's alpha values for the variables tested in this study ranged from 0.891 to 0.950. The highest value was correlated with the dependent variable, Firm Performance, which displayed Cronbach's alpha of 0.950. Conversely, the lowest value was reported to the variable of meditation (information technology), which recorded a Cronbach's alpha of 0.891. Furthermore, the overall Cronbach's alpha value for all study variables was to be 0.817. These results suggest that the reliability coefficients for the study variables are considered acceptable for the purposes of this research due to al the values of Cronbach's alpha were above of 0.70 (Sekaran & Bougie, 2016).

Table 3: Reliability Coefficients of the study Variables results.

Constructs	Kind of construct	Number of instruments	Cronbach Alpha
Digital Marketing	Independent	15	0 .940
Firm Performance	Dependent	10	0 .950
Information technology	Meditation	10	0 .891
All instruments		35	0 .817

4.4. The Collinearity between Independent Variable Dimensions

Tale 4 revealed the variance inflation factors (VIFs) and tolerance values. The reported VIF values were all greater than 1 and less than 5, while the tolerance values ranged from 0.01 to 1. This indicates the absence of collinearity among the independent variables (Gujarati & Porter, 2009). Consequently, rigorous assessments confirm the appropriateness of the dataset.

Table 4: Collinearity statistics between independent variable dimensions analysis results.

Constructs	Collinearity statistics	
	VIF	Tolerance
Social media	2.121	0.471
Email marketing	2.810	0.356
Online advertising	2.645	0.378

Source: Authors' own work

4.5. The Independent Variable Dimensions Inter-Correlations

Table 5 demonstrates that the correlation coefficient between the independent variables, specifically online advertising and email marketing, is 0.764. This result suggests that there is no significant presence of high multicollinearity among the independent variables. Furthermore, all correlation coefficients stated in Table 5 are below 0.80, implying that the sample does not exhibit high multicollinearity among the independent variables (Gujarati & Porter, 2009).

Table 5: Independent variable dimensions Inter-correlations matrix.

Constructs	Social Media	Email Marketing	
Social media	1		
Email marketing	0.694 **	1	
Online advertising	0.670 **	0.764 **	1

Source: Authors' own work

4.6. Study Variables Relative Importance, Standards Deviation and Means

The data displayed in Table 6 illustrate the levels of information technology based on their relative importance. Information technology is ranked first, with a mean score of 3.7781 and a standard deviation of 0.50028, revealing a high level of relative importance. Firm performance occupies the second rank, with a mean score of 3.7562 and a standard deviation of 0.54144, which also reflects a high level of relative importance. Lastly, digital marketing is ranked third, with a mean score of 3.6712 and a standard deviation of 0.5277, similarly representing a high level of relative importance.

Table 6: Study variables relative importance, standards deviation and means.

#	Constructs	Mean	Standard deviation	Rank	Relative importance
1	Digital Marketing	3.6712	0.5277	3	High
2	Firm Performance	3.7562	0.54144	2	High
3	Information technology	3.7781	0.50028	1	High

The data shown in Table 7 explain the levels of digital marketing dimensions based on their relative importance. Email marketing is ranked first, presenting a mean score of 3.677, which indicates significant relative importance. Online advertising occupies the second position with a mean score of 3.6712, also reflecting a high level of relative importance. Finally, social media is ranked third, with a mean score of 3.6347, indicating a similarly high relative importance.

The results given in Table 7 explain the dimensions of Firm Performance based on their relative significance. Growth is ranked highest, exhibiting a mean score of 3.797, which indicates substantial relative importance. Profitability is ranked second, with a mean score of 3.7155, also revealing considerable relative importance. Furthermore, the mediating variable, information technology, determines a significant level of relative importance, with a mean score of 3.7781.

Table 7: Study variables dimension relative importance and means.

#	Dimensions	Mean	Rank	Relative importance
	Digital Marketing			
1	Social media	3.6347	3	High
2	Email marketing	3.677	1	High
3	Online advertising	3.6712	2	High
	Firm Performance			
4	Growth	3.797	1	High
5	Profitability	3.7155	2	High
	Information technology			
6	Information technology	3.7781	.....	High

5. EMPIRICAL FINDINGS AND DISCUSSION

H_{01}: The dimensions of digital marketing, specifically social media, email marketing, and online advertising, do not significantly influence firm performance, as measured by growth and profitability metrics, in Jordanian small and medium - sized enterprises (SMEs).

To investigate the hypothesis, the researcher employed standard multiple regression analysis using SPSS software to clarify the impact of digital marketing, along with its constituent dimensions, on firm performance and its various facets within (SMEs).

As demonstrated in Table 8, the coefficient factor ($R = 0.831$) specifies a positive and moderate correlation between the independent variable (digital marketing, DM) and the dependent variable firm performance (FP). Furthermore, the results reveal that the dimensions of digital marketing have a significant impact on the various dimensions of firm performance, as evidenced by an F-value of 194.457 and a significance level ($p = 0.001$), which is below the conventional threshold of 0.05. Additionally, the coefficient of determination ($R^2 = 0.691$) indicates that 69.1% of the variance in firm performance can be clarified by the variance in the dimensions of digital marketing.

Table 8: H01 Model Summary and Contrast Analysis of the First Main Hypothesis.

Dependent Variable	Model summary		ANOVA		Coefficient					
	R	r2	F	Sig.F	Instrument	B	Standard Error	Beta	T	Sig t
Firm Performance	0.831	.691	194.457	0.001	Social media	0.243	0.046	0.267	5.327	0.001
					Email marketing	0.235	0.054	0.250	4.340	0.001
					Online advertising	0.371	0.051	0.405	7.239	0.001

H_{02} Digital marketing, which includes social media, email marketing, and online advertising, does not have a substantial impact on information technology within Jordanian (SMEs).

To examine the proposed hypothesis, the researcher employed standard multiple regression analysis utilizing SPSS software to assess the impact of digital marketing and its various dimensions on information technology within Jordanian (SMEs). As explained in Table 9, the coefficient factor (R = 0.676) indicates a positive and moderate correlation between the independent variable (digital marketing) and the mediating variable (information technology). Furthermore, the results explain that the dimensions of digital marketing significantly influence information technology, as evidenced by an F-value of 132.010 and a significance level (p = 0.001), which is below the conventional threshold of 0.05. Additionally, the specific factor value (R^2 = 0.603) suggests that 60.3% of the variance in information technology can be accounted for by the variance in the dimensions of digital marketing.

The data presented in the table exposes that the beta coefficient (β) for the social media dimension is 0.324, accompanied by a T-value of 7.863 and a significance level (sig) of 0.001, which is below the conventional threshold of 0.05, thereby representing statistical significance. In comparison, the beta coefficient for email marketing is 0.298, with a T-value of 4.949 and a significance level (sig) of 0.001, also falling below the 0.05 threshold, thus demonstrating statistical significance. Conversely, the beta coefficient (β) for the online advertising dimension is 0.240, with a T-value of 4.699 and a significance level (sig) of 0.001, which similarly remains below the 0.05 level. These findings corroborate previous research that underscores the impact of digital marketing (DM) on information technology (IT) (Dastane, 2020).

The results demonstrate that the findings are statistically significant. Consequently, the first null hypothesis is rejected, and the first alternative hypothesis is accepted. This alternative hypothesis asserts that the dimensions of social media, email marketing, and online advertising exert a significant influence on information technology within Jordanian small and medium-sized enterprises (SMEs).

Table 9: HO2 Model Summary and Contrast Analysis of the Second Main Hypothesis.

Dependent Variable	Model summary		ANOVA		Coefficient					
	R	r2	F	Sig F	Instrument	B	Standard Error	Beta	T	Sig T
Information technology	.676	.603	132.010	.001	Social media	0.280	0.137	0.324	7.863	0.001
					Email marketing	0.253	0.057	0.298	4.949	0.001
					Online advertising	0.202	0.054	0.240	4.699	0.001

H_{03} The influence of information technology on the performance, specifically in terms of growth and profitability, of small and medium-sized enterprises (SMEs) in Jordan is not substantial.

To investigate the hypothesis, the researcher employed a simple linear regression analysis using SPSS software to explicate the impact of information technology on firm performance across various dimensions within small and medium-sized enterprises (SMEs) in Jordan. As shown in Table 10, the coefficient factor (R = 0.802) indicates a positive and moderate relationship between the (IT) and the (DM). Furthermore, the results display that information technology significantly contributes to firm performance, as evidenced by an F-value of 474.388 and a significance level (sig = 0.001), which is below the conventional threshold of 0.05. Additionally, the specific factor value (R^2 = 0.643) suggests that 64.3% of the variance in the dimensions of firm performance can be explained by the variance in information technology.

The data presented in the same table indicates that the beta value (β) for information technology is 0.802, accompanied by a T value of 21.780 and a significance level (sig) of 0.001, which is below the conventional threshold of 0.05. This finding suggests statistical significance. The results align with prior research that demonstrates the impact of information technology (IT) on firm performance (FP) (Indana and Indartono, 2020; Rehman et al., 2020; Asih et al., 2017; Kim and Jee, 2007; Nabeel and Nazri, 2019). The integration of information technology into firm operations is essential for enhancing organizational growth and profitability. Consequently, based on these findings, the third null hypothesis is rejected, and the third alternative hypothesis is accepted, asserting that technology significantly influences firm performance, particularly in terms of growth and profitability, within Jordanian small and medium-sized enterprises (SMEs).

Table 10: HO3 Model Summary and Contrast Analysis of the Third Main Hypothesis.

Dependent Variable	Model summary		ANOVA		Coefficient					
	R	r2	F	Sig. F	Instrument	B	Standard Error	Beta	T	Sig t
Firm performance	0.802	.643	474.388	0.001	Information technology	0.868	.040	0.802	21.780	0.001

H_{0k} Digital marketing, which includes social media, email marketing, and online advertising, does not significantly impact the performance of firms, particularly regarding growth and profitability, when information technology is utilized, in the Jordanian small and medium-sized enterprises (SMEs).

Path analysis has been utilized to assess this hypothesis, particularly to ascertain whether information technology functions as a mediating variable that influences the relationship between digital marketing, including its various dimensions, and firm performance. A summary of the model fit is provided in Table 11.

As clarified in Table 11, the Chi-squared statistic was calculated to be 9.960, which is statistically significant ($p < 0.001$), as it is below the conventional threshold of 0.05. Moreover, the table demonstrates that the Goodness of Fit Index (GFI = 0.988) and the Comparative Fit Index (CFI = 1.000) are both approaching the ideal value of 1. Additionally, the Root Mean Square Error of Approximation (RMSEA) value of 0.840 is relatively close to zero. Collectively, these findings indicate that all indicators substantiate the adequacy of the model (Hair et al., 2006).

Table 11: Summary of Fit Model.

Model fit Instrument	chi 2	Df	GFI	CFI	RMSEA	Sig
	9.960	10	0.988	1.000	0.840	0.000
GFI	Goodness of fit					
CFI	Comparative fit index					
RMSEA	Root means square error approximation					

As confirmed in Table 12, the direct effect of digital marketing on firm performance was quantified at 0.760. Furthermore, the direct effect of digital marketing on information technology was assessed at 0.830. Finally, the direct effect of information technology on firm performance was determined to be 0.240.

All identified values were found to be statistically significant. The indirect effect of digital marketing on firm performance was quantified at 0.1992, suggesting that information technology accounts for 19.92% of this indirect influence through its various dimensions of firm performance. Consequently, the overall impact of the dimensions of digital marketing on firm performance was calculated to be 95.92%. These findings corroborate previous research that emphasizes the mediating role of information technology in augmenting the effect of digital marketing on firm performance (Thongrawd et al., 2020).

Consequently, the researcher rejects the null hypothesis (H04) and accepts the alternative hypothesis, which asserts that there is a statistically significant impact ($p \leq 0.05$) of digital marketing encompassing its dimensions of social media, email marketing, and online advertising on firm performance. This performance is measured by the combined dimensions of growth and profitability within the context of information technology in Jordanian small and medium-sized enterprises (SMEs).

Table 12: Path Analysis.

The path			Direct effect	Indirect effect	Total effect
DM	→	FP	0.760	0.1992	0.9592
DM	→	IT	0.830		
IT	→	FP	0.240		

Figure 2: The path analysis for Ho4.

6. DISCUSSION

The main objective of this study was to investigate the possible role of digital marketing in influencing firm performance, as well as to discover whether the implementation of information technology mediates the connection between digital marketing and firm performance. A model established by the researcher was employed to assess the four hypotheses posited in this study.

The findings of this study specify that all hypotheses were supported. The first hypothesis (H01), which pertains to the relationship between digital marketing and firm performance, had empirical validation. The outcome is associated with the results of prior researchs recorded in literature. For instance, research performed by Aziz et al. (2024) exhibits a strong positive link between digital marketing and profitability, as a key dimension of firm performance.

Consequently, it can be denoted that digital marketing strategies have the potential to increase the performance of (SMEs). Additionally, the outcome of this study agrees with the findings of Njelita et al. (2023),

which revealed that social media marketing significantly impacts market share. Furthermore, research performed by Gontur et al. (2023) specified that both social media marketing and email marketing are positively correlated with the performance of micro and medium-sized enterprises in Plateau State. Similarly, the study conducted by Jung and Shegai (2023) determined that digital marketing innovation exerts significant direct and indirect effects on firm performance through marketing capability. Moreover, a study conducted by Sultoni et al. (2022) has proven that digital marketing has a significant impact on marketing performance. In contrast, the findings of Ahmad et al. (2019) suggest that social media adoption does not influence the performance of SMEs. However, the results are consistent with earlier research conducted by Ainin et al. (2015), which exposed that Facebook use has a strong positive impact on the firm performance of SMEs. Furthermore, the findings align with the research conducted by Paniagua and Sapena (2014), which supported that social media significantly affects business performance.

The second hypothesis (H02), which concerns to determine the link between digital marketing and information technology, was supported. This result is consistent with the research conducted by Dastane (2020). The findings agree that digital marketing has a significant impact on online purchase intentions.

The research findings confirm the third hypothesis (H03) regarding the relationship between information technology and firm performance. This outcome is reliable with a assembly of studies that highlight the importance of integrating information technology into organizational operations as a vital determinant for developing both growth and profitability. For instance, the research conducted by Indana and Indartono (2020) demonstrates that information technology employs a significant effect on the performance of small and medium-sized enterprises (SMEs).

Additionally, the findings introduced by Rehman et al. (2020) specify a positive impact of information technology on firm performance through both direct and indirect pathways. Furthermore, supported by the results of Asih et al. (2017), which show that information technology has a positive and significant influence on business performance. Moreover, the research conducted by Kim and Jee (2007) supports the notion that the strategic utilization of information technology positively and significantly affects business performance. Finally, the outcomes of the study conducted by Nabeel and Nazri (2019) support this perspective, representative that IT integration and IT alignment have a significant direct link with performance outcomes.

In relation to the final hypothesis (H04), which addresses the mediating role of information technology in the connection between digital marketing and firm performance, the hypothesis received support. This finding aligns with previous empirical studies that supported the integration of advanced technological tools into digital marketing strategies to improve firm performance and sustain competitive positioning within the market. However, the results of the current study are separate from those of Halik et al. (2023) study, which indicates that awareness of information technology (IT) and digital marketing do not have a direct impact on the performance of (SMEs). In this context, it is vital to emphasize that SMEs should improve their IT awareness and implement digital marketing strategies to develop product distribution and, consequently, the overall performance of their businesses.

Furthermore, in this research, information technology (IT) is credited to be a partial mediated variable in the connection between digital marketing (DM) and firm performance (FP).

7. CONCLUSION

The current research examines the effect of digital marketing exertions implemented through Jordanian small and medium enterprises to determine the business performance through the mediating role of information technology. The research inspected the effect of digital marketing applications such as online advertisement, email marketing and social media marketing on firm performance. The outcomes displayed that digital marketing exertions made through applications impact the performance among Jordanian SEMs and the using of the newest technology helps firms to approach customers remotely. It has been detected that the adoption of digital marketing applications takes place due to external competitive pressure that affects firm performance.

The findings of the research are found to be significant in defining the impact of digital marketing on firm performance, furthermore, information technology affects the firm's performance. Moreover, a mediating role of information technology was detected. Hence, the null hypotheses (H01, H02, H03and H04) are rejected, and the alternative hypotheses are accepted on statistical grounds. Based on these outcomes, it is suggested that SEMs necessity apply the newest technological advancements in marketing exertions to approach customers effectively to increase competitive environment.

8. LIMITATIONS AND RECOMMENDATION

This article was cross-section and dealt with data collected, so the path of causation cannot be investigated. Furthermore, few studies on information technology suggest that information technology applications can change over time, so longitudinal analysis may also be held in further research. The study was confined to the SMEs (10903) located only in Amman city, so the findings may differ in other regions of Jordan. The model of the existing study also leaves the option open to include other variables such as supply chain management, competitive advantage and others that may be included by future studies. Furthermore, the managers of small and medium-sized enterprises should strive to promote the concepts of digital marketing and information

technology, small and medium-sized enterprises managers should enhance the firm performance through the implementation of advanced information technology, and it should enhance their performance by implementing innovative digital marketing strategies through innovative information technology applications.

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