

An Empirical Study on Factors Affecting the Adoption of Digital Marketing Techniques on MSME Performance

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Abstract:

Micro, Small and Medium Enterprises (MSMEs) are a significant contributor to the national economic growth, employment and innovation. Digital marketing methods have become essential elements in the fast changing electronic business world for improving customer engagement, reaching areas and improving organization performance. The levels of adoption of digital marketing among MSMEs differ, however, owing to differences in their technological capabilities, organizational readiness, managerial commitment as well as market pressures. This study explores some of the factors affecting the adoption of digital marketing and assesses the effects of digital marketing on MSME performance. The study builds on the Technology Acceptance Model (TAM), Technology–Organization–Environment (TOE), Resource-Based View (RBV), and Dynamic Capability Theory, to examine digital marketing adoption's influence of technological competence, perceived usefulness, organizational readiness, management support, competitive pressure, and customer orientation. The study used a quantitative research design and the researcher gathered the data from 350 MSME owners/managers using a structured questionnaire. To test the proposed relationships, appropriate statistical techniques were used for the analysis of the data. The findings show that all six factors that were tested are significant and positively correlated with digital marketing adoption, with the highest correlation being with technological competence. Moreover, digital marketing adoption has clearly proven its positive effects on MSME performance in increasing customer acquisition, business growth, operational efficiency, market expansion, and competitive advantage. The study adds to the literature of entrepreneurship and digital transformation by providing a holistic perspective on digital marketing adoption by MSMEs and the strategic importance of digital marketing in enhancing enterprise performance. The results offer lessons for entrepreneurs, policies, and business development agencies to enhance digital skills and future competitiveness of MSMEs.

Keywords: MSMEs, Digital Marketing Adoption, MSME Performance, Technological Competence, Organizational Readiness, Management Support, Competitive Pressure, Customer Orientation, Digital Transformation, Entrepreneurship.

1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in the economic development, entrepreneurship, employment creation and innovation. MSMEs are increasingly adopting digital technologies to bolster customer engagement, expand market reach and boost business performance in today's digital economy. Of these technologies, digital marketing has become a strategic tool for firms to communicate effectively with its customers by social media, search engines, content marketing, mobile marketing and online advertising to enhance competitiveness and business growth (Kannan & Li, 2017; Dwivedi et al., 2021; Chaffey & Ellis-Chadwick, 2022). But the adoption of digital marketing among MSMEs has been inconsistent, which is due to some limitations of technological capability, organizational readiness, managerial support, and other competitive pressures from outside. The technology adoption theories can be helpful in understanding these differences. The Technology Acceptance Model (TAM) is one that shows the importance of perceived usefulness, whereas the Technology–Organization–Environment (TOE) model shows how technology, organizational, and environmental factors are all inter connected and influential in the adoption of innovation (Davis, 1989; Tornatzky & Fleischer, 1990). In parallel, Resource-Based View (RBV) and Dynamic Capability Theory has expected that digital marketing skills are assets which allow companies to adjust to the changing market and obtain enduring competitive advantage (Barney, 1991; Teece et al., 1997). Although a number of studies have focused on the factors driving digital marketing, there is little research that has investigated the interaction of technological

competence, perceived usefulness, organizational readiness, management support, competitive pressure, and customer orientation in influencing digital marketing adoption and MSME performance. Thus, this study is aimed at exploring these factors and testing the effect of the adoption of digital marketing on MSME performance, which will contribute to the theory and give practical insights for entrepreneurs, policy makers and business development agencies to enhance the competitiveness of MSMEs in the digital economy.

2. Review of Literature

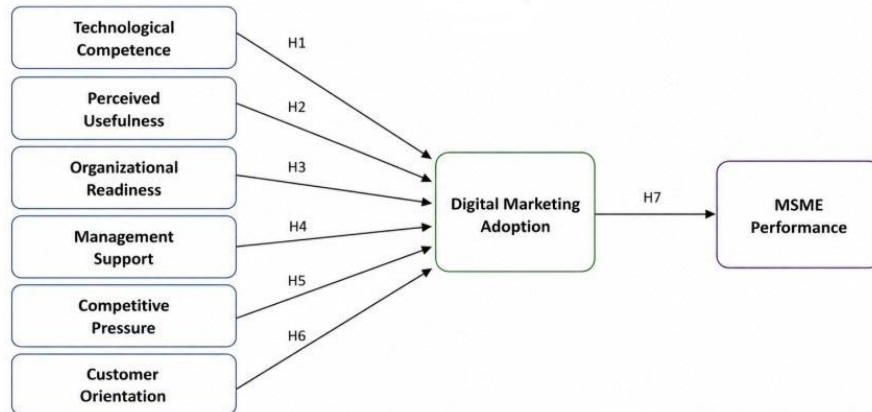
In a digital world, digital marketing is now a strategic skill that can help Micro, Small and Medium Enterprises (MSMEs) connect with their customers better, reach a larger audience, optimize operations and ensure sustainable growth. However, recent studies indicate that the use of digital marketing significantly improves the customer acquisition, innovation, competitiveness and organizational performance of entrepreneurial firms (Dwivedi et al., 2021; Chaffey & Ellis-Chadwick, 2022; Beliaeva et al., 2024; Kallmuenzer et al., 2025). There are a number of theoretical explanations for the use of digital marketing. Perceived usefulness is a major factor in technology adoption (Davis, 1989) and the Technology Acceptance Model (TAM) asserts that competence, readiness and pressure are all factors in determining the adoption of innovation (Tornatzky & Fleischer, 1990). The Resource Based View (RBV) and Dynamic Capability Theory also indicate that digital marketing capabilities are valuable strategic resources that improve the competitiveness and organizational performance (Barney, 1991; Teece et al., 1997). Technological competence, perceived usefulness, organizational readiness, management support, competitive pressure, and customer orientation are the key factors identified through empirical evidence that contributes to the adoption of digital marketing and helps enhance business growth, customer acquisition, market expansion and operations' efficiency (Gao et al., 2023; Beliaeva et al., 2024; Khin et al., 2025). However, few studies have brought these determinants together in one framework to explain digital marketing adoption and how it affects digital marketing performance of MSMEs. Thus, in this research, an integrated model is developed to overcome this gap to extend the literature on digital entrepreneurship and development of MSMEs.

3. Conceptual framework and hypotheses

This study's conceptual frame is used to address the factors impacting the adoption of digital marketing and its effects on Micro, Small, and Medium Enterprises (MSMEs) performance. The framework is based on the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), Technology–Organization–Environment (TOE) framework, Resource Based View (RBV), and Dynamic Capability Theory, and suggests six digital marketing adoption antecedents: technological competence, perceived usefulness, organizational readiness, management support, competitive pressure, and customer orientation. Technological competence helps MSMEs to use digital technologies effectively, and perceived usefulness positively influences adoption by emphasizing the value of using the new technology. Financial, technological, and human resources are necessary to implement, which is ensured by organizational readiness; while management support creates strategic commitment, resources, and organizational change. At the same time, digital marketing is being adopted with competitive pressure to stay competitive in the market and digital engagement is being encouraged with a view to customer satisfaction to meet the changing customer expectations. All these factors make digital marketing techniques more probable to be adopted. Moreover, the framework suggests that digital marketing positively affects the performance of MSMEs in several aspects such as customer acquisition, operational efficiency, market expansion, profitability, and overall business growth. The conceptual framework proposed provides a comprehensive view to comprehend the adoption of digital marketing among MSMEs and acts as a theoretical foundation for the empirical research of the study.

- H1: Technological competence positively influences the adoption of digital marketing techniques among MSMEs.
- H2: Perceived usefulness positively influences the adoption of digital marketing techniques among MSMEs.
- H3: Organizational readiness positively influences the adoption of digital marketing techniques among MSMEs.
- H4: Management support positively influences the adoption of digital marketing techniques among MSMEs.
- H5: Competitive pressure positively influences the adoption of digital marketing techniques among MSMEs.

- H6: Customer orientation positively influences the adoption of digital marketing techniques among MSMEs.
- H7: Adoption of digital marketing techniques positively influences MSME performance.

Figure 1. Conceptual Framework

4. Research Methodology

The study uses a quantitative cross-sectional research design to analyze the factors affecting the use of digital marketing and its effect on the performance of MSMEs. The primary data were collected from 300 owners, founders, managing partners, chief executives and senior managers of MSMEs, which was based on a structured questionnaire. The respondents were selected using purposive sampling technique to ensure the optimum respondents who were well knowledgeable about the digital marketing practices and the strategies of business decision making. The questionnaire comprised of multi-items scales for technological competence, perceived usefulness, organizational readiness, management support, competitive pressure, customer orientation, digital marketing adoption and MSME performance with five-point Likert scale (Strongly Disagree = 1 and Strongly Agree = 5). The instrument was piloted and reviewed by experts prior to the main survey, to ensure clarity, reliability and content validity. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used in the analysis of the data. The measurement model was tested using Cronbach's alpha, Composite Reliability (CR), Average Variance Extracted (AVE), and discriminant validity which was tested based on the Fornell-Larcker criterion and HTMT ratio. Structural model was evaluated by estimating path coefficients, coefficient of determination (R²), effect size (f²), predictive relevance (Q²) and bootstrapping procedures to test the hypothesis. Compliance with ethical standards for academic research was obtained by assuring confidentiality and anonymity of the respondents, and by ensuring their participation was voluntary.

5. Data Analysis and Results

5.1 Respondent Profile

Table 1. Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage
Gender	Male	215	61.4
	Female	135	38.6
Age	Below 30 years	62	17.7
	31–40 years	164	46.9
	41–50 years	100	28.6
	Above 50 years	24	6.8
	Micro	168	48.0

Enterprise Type	Small	121	34.6
	Medium	61	17.4

Table 1 shows the demographic characteristics of the 350 respondents who were part of the study. The results also show that 61.4% (215) of the respondents were male and 38.6% (135) were female, indicating that there were more male entrepreneurs and managers than female respondents. Concerning age, most of the respondents (46.9%) were aged 31 to 40 years old followed by 28.6% between 41 and 50 years, 17.7% below 30 years and 6.8% over 50 years, which means that most of the respondents belonged to the economically active and experienced age groups. With respect to enterprise types, the Micro Enterprises (48.0%) covered the highest number of respondents followed by Small Enterprises (34.6%) and then Medium Enterprises (17.4%). Overall, demographic profile shows a study sample of experienced MSME owners/managers with a significant proportion of micro and small enterprises, which is suitable for the study to investigate the digital marketing adoption and MSME performance.

5.2 Reliability Analysis

Table 2. Reliability Statistics

Construct	Number of Items	Cronbach's Alpha
Technological Competence	5	0.864
Perceived Usefulness	5	0.881
Organizational Readiness	5	0.852
Management Support	5	0.878
Competitive Pressure	4	0.831
Customer Orientation	5	0.887
Digital Marketing Adoption	6	0.903
MSME Performance	6	0.894

The reliability coefficients indicate that the items in the measurements are highly consistent. The reliability analysis (Cronbach's Alpha) for the measurement constructs are presented in the Table 2. The findings reveal that the Cronbach's Alpha values of the constructs were all greater than the acceptable value of 0.70, thus demonstrating the good level of internal consistency and reliability of the measurement scales. The constructs showed the highest reliability coefficient ($\alpha > 0.8$) for Digital Marketing Adoption ($\alpha = 0.903$), MSME Performance ($\alpha = 0.894$), Customer Orientation ($\alpha = 0.887$), Perceived Usefulness ($\alpha = 0.881$), Management Support ($\alpha = 0.878$), Technological Competence ($\alpha = 0.864$), Organizational Readiness ($\alpha = 0.852$), and Competitive Pressure ($\alpha = 0.831$). High internal consistency was obtained on the items of the questionnaires for each of these constructs, as revealed by these values. Thus the reliability analysis results show that all the measurement scales are reliable and appropriate for further statistical analysis such as structural equation modeling and hypothesis testing.

5.3 Confirmatory Factor Assessment

Table 3. Convergent Validity Assessment

Construct	CR	AVE
Technological Competence	0.901	0.647

Perceived Usefulness	0.912	0.676
Organizational Readiness	0.893	0.625
Management Support	0.907	0.661
Competitive Pressure	0.874	0.635
Customer Orientation	0.915	0.683
Digital Marketing Adoption	0.928	0.684
MSME Performance	0.921	0.661

The measurement model thus has a satisfactory psychometric properties. The convergent validity in terms of Composite Reliability (CR) and Average Variance Extracted (AVE) is shown in the results presented in Table 3. The results showed that all constructs have convergent validity that fulfills the criterion of convergent validity because all constructs are above the recommended minimum value of 0.70 for CR and 0.50 for AVE. Finally, the Composite Reliability (CR) values from .874 to .928 indicate good internal consistency among the items of each measurement. Likewise, the AVE values of the constructs vary between an average of 0.625 for Organizational Readiness and 0.684 for Digital Marketing Adoption, meaning that each construct has an AVE above the 50% threshold. In general, the results obtained showed that the measurement model had a satisfactory convergent validity and all of the constructs had good reliability and suitability for further analysis and testing of the structural model.

5.4 Discriminant Validity Assessment

Table 4. Fornell–Larcker Criterion for Discriminant Validity

Construct	TC	PU	OR	MS	CP	CO	DMA	MP
Technological Competence (TC)	0.804							
Perceived Usefulness (PU)	0.542	0.822						
Organizational Readiness (OR)	0.487	0.518	0.791					
Management Support (MS)	0.461	0.532	0.594	0.813				
Competitive Pressure (CP)	0.373	0.421	0.406	0.448	0.797			
Customer Orientation (CO)	0.435	0.498	0.452	0.521	0.438	0.827		
Digital Marketing Adoption (DMA)	0.649	0.672	0.618	0.645	0.531	0.589	0.827	
MSME Performance (MP)	0.584	0.602	0.548	0.593	0.467	0.525	0.721	0.813

The Fornell–Larcker criterion, which is used to test the discriminant validity of the measurement model, is presented in Table 4. Average Variance Extracted (AVE) is located on the diagonal and the square root of the

AVE for each construct is larger than the correlations of the construct with the others. In particular, the diagonal values are greater than the inter-construct correlation coefficient values, which is 0.791 for Organizational Readiness, 0.827 for Customer Orientation and 0.827 for Digital Marketing Adoption. These results show that the variance of each construct is more shared with the other indicators of the same construct than with other constructs. Thus the Fornell-Larcker criterion is met which indicates that there is good discriminant validity, and that all constructs are conceptually different and represent different theoretical concepts. Therefore, the measurement model is suitable for further assessment of the structural model and testing of the hypotheses.

5.4 Correlation Analysis

Table 5. Correlation Matrix

Variable	TC	PU	OR	MS	CP	CO	DMA	MP
TC	1.000							
PU	0.542	1.000						
OR	0.487	0.518	1.000					
MS	0.461	0.532	0.594	1.000				
CP	0.373	0.421	0.406	0.448	1.000			
CO	0.435	0.498	0.452	0.521	0.438	1.000		
DMA	0.649	0.672	0.618	0.645	0.531	0.589	1.000	
MP	0.584	0.602	0.548	0.593	0.467	0.525	0.721	1.000

All independent variables are found to have positive correlations with the use of digital marketing and the performance of MSMEs. The correlation matrix of variables for the study is shown in table 5. The results show that all constructs are positively related to each other, meaning that an improvement in one variable is likely to be a rise in the other. Perceived Usefulness is the variable that has the highest positive correlation with Digital Marketing Adoption ($r = 0.672$), while Competitive Pressure ranks the second with $r = 0.531$, followed by Technological Competence ($r = 0.649$), Management Support ($r = 0.645$), Organizational Readiness ($r = 0.618$), and Customer Orientation ($r = 0.589$). In addition, Digital Marketing Adoption has the highest positive correlation with MSME Performance ($r = .721$), which means that there is a high association level between the implementation of digital marketing and MSME performance. All the correlation coefficients are below the general rule of 0.90; thus the results indicate that there is not serious multicollinearity among the constructs. The overall results of the correlation analysis lend support to the proposed theoretical relationships, and to the structural model proposed for this study.

5.5 Hypothesis Testing

Table 6. Determinants of Digital Marketing Adoption

Predictor	Beta	t-value	p-value
Technological Competence	0.281	5.874	<0.001
Perceived Usefulness	0.247	5.193	<0.001
Organizational Readiness	0.198	4.352	<0.001
Management Support	0.213	4.678	<0.001
Competitive Pressure	0.141	3.012	<0.003

Customer Orientation	0.176	3.926	<0.001
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The results show that all six antecedents are important for the digital marketing adoption. The most significant predictor was technological competence followed by perceived usefulness and management support. The results of the structural model for determinants of the adoption of digital marketing among MSMEs are presented in Table 6. The results suggest that all 6 predictors are positively and significantly related to the adoption of digital marketing. Technological Competence emerged as the strongest predictor ($\beta = 0.281$, $t = 5.874$, $p < 0.001$), followed by Perceived Usefulness ($\beta = 0.247$, $t = 5.193$, $p < 0.001$), Management Support ($\beta = 0.213$, $t = 4.678$, $p < 0.001$), Organizational Readiness ($\beta = 0.198$, $t = 4.352$, $p < 0.001$), Customer Orientation ($\beta = 0.176$, $t = 3.926$, $p < 0.001$), and Competitive Pressure ($\beta = 0.141$, $t = 3.012$, $p = 0.003$). All p values are under 0.05, thus supporting the hypotheses: H1, H2, H3, H4, H5 and H6. The results indicate that the technological, organizational and environmental factors taken together have a significant contribution to encourage the use of digital marketing techniques by MSMEs.

5.6 Effect of Digital Marketing Adoption on MSME Performance

Table 7. Effect of Digital Marketing Adoption on MSME Performance

Predictor	Beta	t-value	p-value
Digital Marketing Adoption	0.721	18.634	<0.001

The relationship between the Digital Marketing Adoption with MSME Performance is shown in Table 7. The results show that the use of digital marketing has a positive and statistically significant relationship with the performance of MSMEs with a value of $\beta = 0.721$, $t = 18.634$, and $p < 0.001$, and the result was obtained where there was strong support for Hypothesis H7. The coefficient of determination ($R^2 = 0.520$) showed that 52.0% of MSME's performance was accounted for by the adoption of digital marketing, and the Adjusted R^2 (0.518) confirmed the strength of the model in consideration of the sample size and predictors. In addition, the overall regression model is significant ($F = 347.227$, $p < 0.001$), which shows that the overall levels of digital marketing adoption are a significant factor in predicting the levels of organizational performance. The results show that digital marketing skills have a significant impact on business growth, customer acquisition, efficiency, market expansion, and business performance among the MSMEs in general.

5.7 Discussion of Findings

Empirical results validate the interpretation that technological, organizational and environmental factors have a combined effect that influences the adoption of digital marketing among MSMEs. Technology adoption theories suggest that the two variables, technological competence and perceived usefulness, are important factors in influencing technology adoption decisions, and that this is the case here. The results also highlight the significance of the organizational readiness and management support and how entrepreneurial leadership plays a strategic role in digital transformation projects.

Competitive pressure and customer orientation also boosts the adoption behavior, meaning that the external market forces positively impact the adoption of digital marketing technologies by firms. In addition, the adoption of digital marketing has a significant positive impact on the performance of MSME, in line with the Resource-Based View and Dynamic Capability views which consider digital capabilities as valuable strategic resources.

Overall, the study results indicate that successful implementation of digital marketing can positively impact entrepreneurs' competitiveness, responsiveness to the market, and business growth, and strengthen long-term business sustainability in the context of a digitally evolving business environment in which MSMEs operate.

6. Discussion

The study aimed to analyse the determinant of adopting digital marketing and its effect on the performance of MSMEs. The results show that each of the technological competence, perceived usefulness, organizational readiness, management support, competitive pressure, and customer orientation has a significant positive impact on the adoption of digital marketing. Technological competence was the greatest driver among these factors, underscoring the importance of the digital competencies in promoting technology uptake. The outcomes were aligned with the Technology Acceptance Model (TAM), the Technology–Organization–Environment (TOE) framework, Resource-Based View (RBV), and Dynamic Capability Theory, indicating that the three elements of technological, organizational, and environmental are jointly related to digital transformation. Additionally, it has been determined that the use of digital marketing has a significant impact on MSME performance, such as customer acquisition, market expansion, operational efficiency, business growth and overall competitiveness. The results show that the digital marketing competences are effective strategic assets that enhance the adaptability and competitive advantage of organizations. In conclusion, the study has added empirical evidence to the digital entrepreneurship literature, highlighting that MSMEs can benefit from digital marketing and utilize digital technologies to grow sustainably and improve business performance in the digital economy.

7. Conclusion and Implications

This study investigated the factors affecting the adoption of digital marketing and how it affects Micro, Small, and Medium Enterprises (MSMEs) performance. The results validate that technological competence, perceived usefulness, organisational readiness for digital marketing, management support, competitive pressure and customer orientation have a significant and positive relationship with the adoption of digital marketing. Moreover, it was concluded that digital marketing adoption had positive and significant impact on MSME performance which includes business growth, competitiveness, operational efficiency, market expansion and customer acquisition. The results corroborate the Technology Acceptance Model (TAM), the Technology–Organization–Environment (TOE) framework, the Resource-Based View (RBV), and the Dynamic Capability Theory, as the digital marketing capabilities are strategic resources that give organizations the ability to be more adaptable and sustainable in the competitive sphere. The study adds to the body of knowledge with an integrated framework that elaborates on digital marketing adoption in MSMEs and the benefits of digital marketing in enhancing enterprise performance. Managers of MSMEs should build technological skills, organizational readiness, leadership support and customer-centric approach to capitalize on the opportunities of digital marketing. Digital literacy should be encouraged, technological infrastructure should be made available and financial incentives and training programmes should be offered to enable digital transformation of MSMEs at an early stage. Although the study provides valuable information, it is confined to a cross sectional design and self-reported information. Moreover, future studies should use longitudinal and comparative methods to help better understand digital marketing adoption and the performance of the entrepreneurs and should also explore other organizational and environmental determinants of digital marketing adoption and entrepreneurial performance, and the impact of specific digital marketing technologies.

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