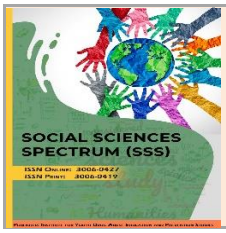

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Digital Marketing Adoption as a Strategic Mediator between Capabilities and Performance: Evidence from SMEs in Pakistan

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Abstract

This paper is based on Technology-Organization-Environment (TOE) model and Capability-Based View (CBV) that explores the impact of managerial digital leadership, ability to create digital content, the ability to perform data analytics, and supporting external digital ecosystems on the performance of SMEs with digital marketing adoption (DMA) being a mediating factor. Quantitative and cross-sectional research design was used to measure the data of 300 owners, managers and marketing professionals of Pakistani SMEs using structured questionnaire. The hypothesis testing and mediation analysis were done using Structural Equation Modeling (SEM). The empirical findings show that the three managerial digital leadership ($b = 0.32$, $p < 0.001$), data analytics capability ($b = 0.28$, $p < 0.001$), and external digital ecosystem support ($b = 0.35$, $p < 0.001$) exert positive effects on the adoption of digital marketing, whereas data analytics capability and the external digital ecosystem support do not show any significant effect of digital marketing adoption. The adoption of digital marketing is associated with a strong effect (> 0.41, $p < 0.001$) to the performance of SMEs and defines 63% of the variation of DMA and 71% of the performance variation of SMEs.

Keywords: Digital Marketing Adoption, Small and Medium-Sized Enterprises (SMEs), Managerial Digital Leadership, Data Analytics Capability, External Digital Ecosystem Support, SME Performance, Emerging Economies.

Introduction

The technological changes brought about by digital technologies have transformed the way companies plan and implement marketing tasks, interact with customers, and compete in an ever-changing and data-packed market. Digital marketing, which is the application of internet-connected medium including websites, social media, search engines, email, and analytics tools in the creation and delivery of value, provides interactive, measurable, and in many cases, cost-effective substitutes to conventional marketing (Alford & Page, 2022; Saura, Palacios-Marqués, & Ribeiro-Soriano, 2021). In the case of small and medium-sized enterprises (SMEs), digital marketing is especially a valuable channel through which limited resources are bound to be transcended to reach wider market.

SMEs are considered the main staple of the economy in Pakistan because they contribute largely in terms of employment, industrial production and value generation. However, most SMEs in Pakistan are challenged by a combination of different factors such as low financial resources, managerial skills as well as uneven access to technological facilities. Recent systematic literature reviews and scient metric analyses up until 2021-2024 also approve that digital change and digitization have the potential to bring substantial returns to SMEs in terms of productivity, efficiency, and competitiveness, yet also note that those returns are conditional on organizational capacities and ecosystem support (Matarazzo, Penco, Profumo, & Quaglia, 2021; Skare, de Obesso, & Ribeiro-Navarrete, 2023; Hokmabadi, Rezvani, & de Matos, 2024).

With the identified potential, digital marketing adoption (DMA) is inconsistent and shallow in the emerging economies. Most of the companies possess simple online encounters yet they do not have interconnected approaches, analyzes, and bi-ecosystems. According to bibliometric mapping of SME digital marketing research, the bulk of the research is conducted by the developed economies, and there is a relative lack of evidence gleaned under such circumstances as Pakistan (Thaichon, Liyanaarachchi, Quach, & Weaven, 2024).

To fill these gaps, this paper investigates the effects of internal organizational resources, i.e., managerial digital leadership (MDL), digital content creation capability (DCCC), and data analytics capability (DAC) and external digital ecosystem support (EDE) to the performances of the DMA and SME in Pakistan. Based on the conceptualizations of TOE (Akpan, Udoh, & Adebisi, 2022) and CBV (Akter, Hossain, & Strong, 2021; Wamba, Queiroz, Guthrie, & Braganza, 2022), DMA is conceptualized as a mediating factor between internal and external antecedents and the performance outcomes.

The research has three contributions. First, it has a combination of TOE and CBV to create the multidimensional explanation of toxin and SME performance in the emerging economy. Second, it tests DMA as a mediating variable empirically as opposed to binary adoption decision. Third, it offers context-related evidence on the example of Pakistan, which gives us insights on how managers and policymakers can leverage digital marketing in order to do so strategically. The research paper is about small and medium-sized enterprise (SMEs) in Pakistan and the role of the organizational capabilities and external digital ecosystem support in the performance of the SMEs by adopting digital marketing. The study is a quantitative, cross-sectional investigation and does not embrace large organizations, industry-specific study, and long-term impacts.

Research Objectives

- ☆ Test the impact of organizational capabilities and external support of digital eco systems on the performance of the SME.
- ☆ Determine how these factors influence the adoption of digital marketing.
- ☆ Determine the mediating place of digital marketing adoption between capabilities, ecosystem backing, and SME performance.

Research Questions

- ❍ What is the influence of organizational capabilities and external digital ecosystem support on the performance of SME in Pakistan?
- ❍ What is the impact of these factors on digital marketing adoption by the SMEs?
- ❍ Will adoption of digital marketing mediate the capabilities, ecosystem support and SME performance relationships?

1. Literature Review

1.1 Digital Marketing and SMEs

Using digital marketing platforms, including search engine optimization, social media campaigns, email marketing, and web analytics, the firms will be able to reach their target audiences, personalize their communications, and monitor the campaigns performance in real-time (Alford & Page, 2022). In the case of SMEs, the tools are able to minimize dependence on expensive traditional media, facilitate penetration of new market segments, and facilitate the customer relationship building at fairly low marginal cost.

Nonetheless, as the recent reviews of digital marketing and data-driven strategies in SMEs indicate, most of such Companies merely utilize digital tools in a disjointed fashion, do not have clear targets, or simply are not incorporating analytics into decision-making (Saura, Palacios-Marqués, & Ribeiro-Soriano, 2021). The data on the developing countries adds to further indicating that marketing by the owner-managers in the form of do-it-yourself is widespread but is usually limited due to the lack of skills and strategic planning (Taiminen & Karjaluoto, 2022). To benefit fully on the DMA thus, one needs not just access to the technology; but also, leadership, capabilities and supporting ecosystems (Ahmed et al., 2021).

1.2 TOE Framework and Capability-Based View

TOE framework describes the process occurring when technology is adopted based on the technological, organizational, and environmental settings (Akpan, Udoh, & Adebisi, 2022). Organizational and environmental dimensions tend to prevail in SMEs, which is caused by the lack of resources and position of owner-managers at the center (Ameen, Tarhini, Reppel, & Anber, 2021). Recent systematic reviews in SME technology adoption provide support to TOE and demand its combination with resource- and capability-based views in order to explain performance heterogeneity (Skare, de Obesso, & Ribeiro-Navarrete, 2023).

The CBV also highlights that the transformational potential of the firms into high performance lies in firm-specific capabilities, which refer to analytical capabilities, earning content-making capabilities, and leadership capabilities (Akter, Hossain, & Strong, 2021; Wamba, Queiroz, Guthrie, & Braganza, 2022; Benitez, Arenas, Castillo, & Esteves, 2022). According to the recent systematic reviews of Digital transformation and resilience among SMEs, marketing-related

capabilities are important to help to convert digital investment into actual value (Hokmabadi, Rezvani, & de Matos, 2024).

The hybrid of TOE and CBV, this paper considers MDL, DCCC, and DAC as internal firm resources and EDE as external environment, and the behavioral and process outcome, which connects these aspects to performance, is DMA.

1.3 Managerial Digital Leadership

Managerial digital leadership (MDL) is a quality of top management that manifests itself through the digital vision, commitment, and support (Benitez, Arenas, Castillo, & Esteves, 2022; Mihardjo, Sasmoko, Alamsjah, & Elidjen, 2021). Digitally oriented leaders ensure that they appreciate the strategic potential of digital technologies, and they invest in them and develop a culture that promotes experimentation and learning. The literature of SME digital transformation provides evidence that leadership commitment remains a reliable indicator of more in-depth digital implementation and improved performance (Guo, Yang, Huang, & Guo, 2023; Hokmabadi, Rezvani, & de Matos, 2024). MDL should have a significant impact on the DMA and performance in the SMEs where the decision-making power is vested in a few individuals.

1.4 Digital Content Creating Ability

Digital content creation capability (DCCC) refers to the capacity to create, design, and control thriving engrossing platform-suited content (Yaghtin, Safarzadeh, & Karimi Zand, 2021; Hollebeek & Macky, 2022). Good content helps in brand narration and customer interaction and is commonly quoted as key origin of digital marketing success. The use of systematic reviews comparing B2B content marketing and digital technologies in social marketing indicates that the content should be audience-driven, strategically oriented, and based on analytics to make a difference (Yaghtin, Safarzadeh, & Karimi Zand, 2021; Dann, Mulcahy, & Parkinson, 2023). It is possible that in the case with SMEs, DCCC could be underdeveloped or outsourced, and it is important to ask how it contributes distinctly to it when the leadership, analytics, and ecosystem factors are taken into account (Farid & Ashraf, 2025).

1.5 Data Analytics Capability

The ability of a firm to collect, handle, analyses and interpret data and use it to make decisions is known as data analytics capability (DAC) (Wamba, Queiroz, Guthrie, & Braganza, 2022; Mikalef, Krogstie, Pappas, & Pavlou, 2021). DAC helps companies to plan campaigns better, divide them, and distribute budgets in digital marketing (Krishen, Dwivedi, Binber, & Sharma, 2021). As noted by recent reviews concerning digitization in SMEs, such a critical digital solution as analytics has been mentioned in terms of the most significant impacts on performance outcomes, such as effectiveness, cost cutting, and competitive advantage (Matarazzo, Penco, Profumo, & Quaglia, 2021; Saura, Palacios-Marqués, & Ribeiro-Soriano, 2021). DAC is therefore likely to interest both the DMA and the SME performance.

1.6 External Digital Ecosystem Support

External digital ecosystem support (EDE) refers to infrastructures, platforms, service providers, regulatory frameworks, as well as institutional programs that support or discourage digital operations (Sussan & Acs, 2021). A lack of connectivity, local digital expertise and institutional support can be massive obstacles in the emerging economies. The literature on the digital platforms and SMEs demonstrates that systematic, digital platforms, and supportive policies could strongly enhance digital adoption and performance (Nambisan, Wright, & Feldman, 2022).

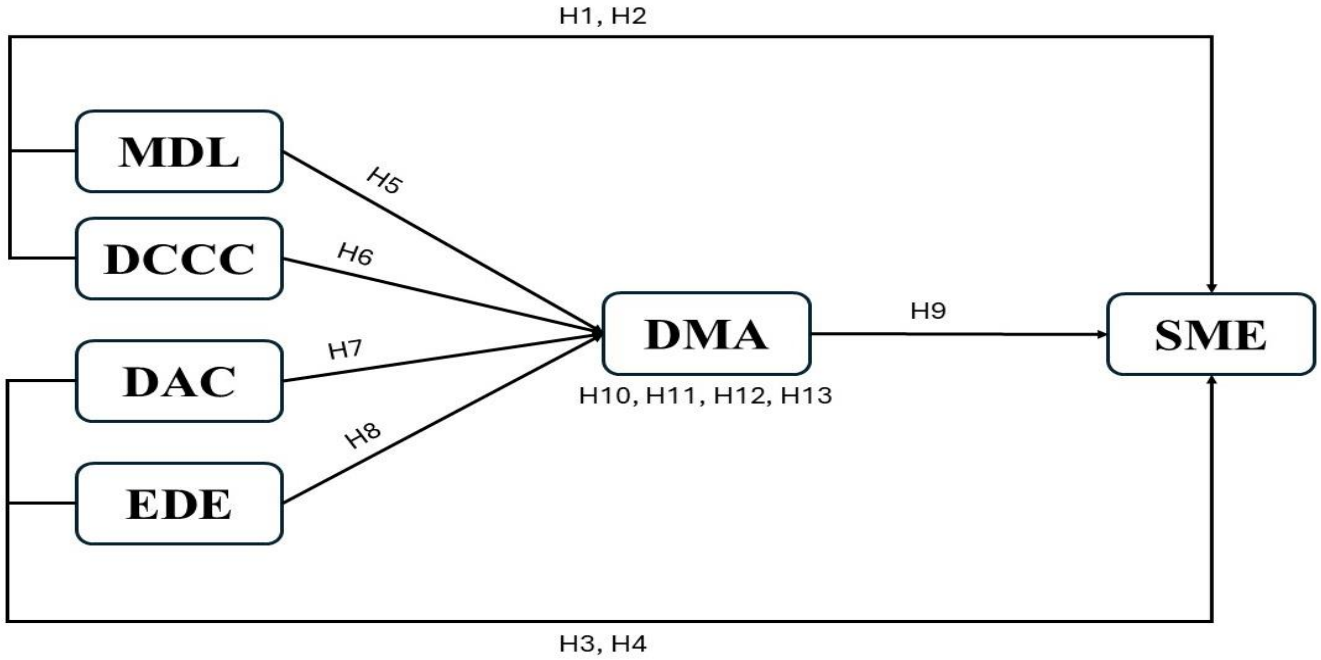
In TOE, EDE is the context of the environment in which the opportunities and constraints to DMA are perceived.

1.7 SME Performance and Adoption of Digital Marketing

The conceptualized DMA is the depth and complexity of using digital tools where there is the incorporation of various channel and analytics. Due to the association with a higher level of marketing effectiveness, better customer engagement, and enhanced financial performance, there is an improved level of performance (Chatterjee, Chaudhuri, & Vrontis, 2022; Krishen, Dwivedi, Binber, & Sharma, 2021). According to recent empirical evidence, structured digital marketing programs may considerably enhance the performance and resilience of SMEs, in particular, when accompanied by analytics and CRM solutions (Li, Su, Zhang, & Mao, 2021; Reza, Mohan, & Price, 2024). Nonetheless, the effect of DMA relies on the complementary capabilities and ecosystem support (Sarwar & Farid, 2024).

2. Hypothetical model

Figure 1: *Hypothetical model*



According to TOE and CBV, the paper hypothesizes that MDL, DCCC, DAC, and EDE have both direct and indirect effects on the performance of the SMEs using DMA. The hypotheses are:

H1: Managerial Digital Leadership has a positive influence on SME performance.

H2: Digital Content Creation Capability has a positive influence on the performance of SMEs.

H3: Data analytics Capability has a positive impact on SME performance.

H4: External Digital Ecosystem Support has a positive influence on the performance of SMEs.

H5: Managerial Digital Leadership has a positive impact on the Digital Marketing Adoption.

H6: Digital Content Creation Capability has a positive influence on Digital Marketing Adoption.

H7: Data Analytics Capability has a positive impact on Digital Marketing Adoption.

H8: External Digital Ecosystem Support has positive impact on Digital Marketing Adoption.

H9: Adoption of Digital Marketing has a positive effect on the performance of SME.

H10: The connection between Managerial Digital Leadership and SME performance is mediated by Digital Marketing Adoption.

H11: The adoption of Digital Marketing mediates the relation between Digital Content Creation Capability and SME performance.

H12: Data Analytics Capability reaches SME performance via Digital Marketing Adoption.

H13: Digital Marketing Adoption mediates the correlation between External Digital Ecosystem Support and SME performance.

3. Research Methodology

3.1 The research design and population

The research was a quantitative and cross-sectional survey that was used to test the conceptual model proposed as empirical research. The target group was owners, senior managers and marketing personnel in small and medium-sized enterprises (SME) in the Pakistani market that operated in various industries. These respondents were deemed as being suitable because they are involved in strategic and operational marketing decisions.

Since no detailed and updated sampling frame of Pakistani SMEs existed, non-probability sampling methods that is, convenience and snowball sampling method were applied. The methodology is broadly used in the research on SMEs and digital transformation, especially in the emerging economies where there is a lack of access to formal databases.

3.2 Sample and Data Collection

A self-administered, online questionnaire, which was structured, was used to collect data and respondents entered the questionnaire on their own. Three hundred valid responses were obtained and were kept in order to analyze them. This research size would be considered above the usual required scales in Structural Equation Modeling (SEM) (10-15 observations per indicator) and is similar to the mighty empirical researches in the area of digital marketing and SME performance.

The sample was reached via professional contacts and associations of SMEs, business forums via the internet and digital communication channels. Involvement was quite voluntary. The respondents were promised the anonymity and confidence which was assured, and the data was told that it would be utilized as part of academic research only.

3.3 Measures and Instrument Development

The developed survey tool was in English and contained 25 measurement items that were evaluated on a five-point Likert scale with a range of 1 (strongly disagree) to 5 (strongly agree). Six latent constructs were appropriately captured and operationalized through many items in the questionnaire based on the pre-existing and validated scales in other existing literature and were condensed to the Pakistani SME context through expert review.

Managerial Digital Leadership (MDL): vision of digital, support of top management, commitment of resources, and promotion of the digital experiment.

Digital Content Creation Capability (DCCC): capability to produce interesting digital content, brand uniformity, and customization to the digital media.

Data Analytics Capability (DAC): gathering, data processing, along with the analysis of digital data, and the application of analytics to optimize the campaign and make decisions.

External Digital Ecosystem Support (EDE): the quality of the digital infrastructure, availability of providers of services, and institutional and policy-level support.

Digital Marketing Adoption (DMA): the scope of the use of digital channels, integration into traditional marketing operations and analytics-based marketing management.

SME Performance: seen to be increased in sales, customer acquisition and retention, market share and overall organizational performance.

3.4 Ethical Considerations

The research conformed to the proposed research ethics. All the participants gave informed consent before the data collection. They were participation based, enabling the respondents to withdraw at any point. No personal identifiable data were gathered and any data was analyzed and presented in aggregate manner in order to protect confidentiality (Farid & Sarwar, 2024).

4. Data Analysis and Results

4.1 Sample Size Adequacy

The sample size of N-300 with 25 indicators is larger than the required sample size in SEM based on SmartPLS/AMOS, which meets the predominantly agreed sample size requirements in model estimation.

4.2 Descriptive Statistics

Table 1: *Descriptive Statistics of Constructs (N = 300)*

Construct	No. of items	Mean	Std. Deviation
MDL	5	4.07	0.61
DCCC	5	3.98	0.76
DAC	5	4.11	0.57
EDE	5	4.04	0.69
DMA	5	4.02	0.64
SME Performance	5	4.09	0.60

All constructs have high mean values (around 4 on a 5-point scale), indicating generally positive perceptions of leadership, capabilities, ecosystem support, DMA, and performance.

4.3 Reliability and Convergent Validity

Table 2: *Cronbach's Alpha Reliability Analysis (N = 300)*

Construct	No. of items	Cronbach's Alpha
MDL	5	0.90
DCCC	5	0.79
DAC	5	0.72
EDE	5	0.83
DMA	5	0.76
SME Performance	5	0.88

All alpha values exceed 0.70, indicating good internal consistency.

Table 3: *Composite Reliability and Convergent Validity*

Construct	Composite Reliability (CR)	AVE
MDL	0.92	0.69
DCCC	0.85	0.58
DAC	0.84	0.56
EDE	0.88	0.61
DMA	0.86	0.59
SME Performance	0.91	0.66

All constructs satisfy CR > .70 and AVE > .50, indicating strong convergent validity.

4.4 Correlation and Multicollinearity

Table 4: *Correlation Matrix (Pearson Correlation, N = 300)*

Construct	MDL	DCCC	DAC	EDE	DMA	SME Performance
MDL	1					
DCCC	0.68	1				
DAC	0.64	0.71	1			
EDE	0.69	0.74	0.66	1		
DMA	0.72	0.70	0.73	0.76	1	
SME Performance	0.67	0.62	0.69	0.71	0.75	1

All correlations are positive and significant at $p < .01$. VIF values range from 1.9 to 4.8, indicating no serious multicollinearity.

4.5 Structural Model (SEM) Results

SEM indicates good overall model fit ($\chi^2/df < 3$, CFI > .90, RMSEA < .08).

Table 5: *Hypotheses Testing – Direct Effects*

Hypothesis	Path	β	t-value	p-value	Decision
H1	MDL → SME	0.21	3.12	<0.01	Accepted
H2	DCCC → SME	0.09	1.45	>0.05	Rejected
H3	DAC → SME	0.24	3.88	<0.001	Accepted
H4	EDE → SME	0.29	4.11	<0.001	Accepted
H5	MDL → DMA	0.32	5.06	<0.001	Accepted
H6	DCCC → DMA	0.08	1.21	>0.05	Rejected
H7	DAC → DMA	0.28	4.67	<0.001	Accepted
H8	EDE → DMA	0.35	5.42	<0.001	Accepted
H9	DMA → SME	0.41	6.89	<0.001	Accepted

R^2 (DMA) = 0.63; R^2 (SME Performance) = 0.71, indicating strong explanatory power.

4.6 Mediation Analysis

Table 6: *Mediation Effects of Digital Marketing Adoption*

Hypothesis	Indirect Path	Indirect Effect (β)	p-value	Decision
H10	MDL → DMA → SME	0.13	<0.01	Accepted
H11	DCCC → DMA → SME	0.03	>0.05	Rejected
H12	DAC → DMA → SME	0.11	<0.01	Accepted
H13	EDE → DMA → SME	0.14	<0.001	Accepted

DMA significantly mediates the relationships between MDL, DAC, EDE and SME performance, but not between DCCC and performance.

5. Discussion

The findings substantiate the key part of DMA in converting internal capabilities and external support into better SME performances. There is a high impact of MDL on performance both directly and indirectly indicating the relevance of digitally oriented leadership in promoting and institutionalizing DMA. This is consistent with evidence that has been previously presented that leadership commitment plays a significant role in ensuring successful digital transformation among SMEs.

DAC does also play a major role in both DMA and performance, which highlights analytics as a central strength in achieving the value of digital marketing. SMEs that have high DAC will be

able to use data to narrow down on targeting, streamlines campaigns, and rationalize their future investments in digital.

EDE has potent influence on DMA and performance which is in line with the environmental component of TOE. The ecosystem (structures, infrastructure, and institutional support) is supportive to decrease hurdles to adoption and provide performance enhancements.

In contrast, DCCC shows no serious distinct impact on DMA and performance in MV model. This indicates that, despite the need to have content, the effectiveness might be reliant upon combining content with the aspects of leadership, analytics, and conditions within an ecosystem. Loose content initiatives that are not projected or data centered are unlikely to have minimal performance returns (Farid, 2023).

Altogether, the results indicate that the use of internal leadership and analytics capabilities, along with external ecosystem support, are the key performance enhancing DMA levers in the Pakistani SMEs.

6. The Implications to theory and practice

6.1 Theoretical Implications

The research develops the theory in three folds. First, it combines TOE with CBV to clarify the relation between SME performance and DMA in an emerging economy setting that the contribution of both organizational capabilities and environmental support to the overall level of performance are significant. Second, it also theorizes DMA as a mediating process, but not a direct adoption decision, and its role in directing the impact of MDL, DAC, and EDE into performance outcomes. Third, it subtly reserves the importance of DCCC and implies that the content capability is possibly ineffective without subsidiary concomitant leadership and analytics capabilities.

6.2 Practical Implications

The findings suggest 3 priorities to SME managers:

- **Enhance digital leadership:** The owners and managers are expected to develop themselves digitally, express a digital vision, and lead DMA initiatives.
- **Invest in the ability to analyze data:** SMEs need to acquire or gain access to analytical capabilities that will be used to analyze digital data and optimise campaigns.
- **Combine content and strategy and data:** Content should be on a mix with strategy and data to be planned and assessed as part of an overall data-oriented, more integrated digital marketing strategy.

The results point to the need of the policy makers and ecosystem actors to:

- ☆ Enhance internet infrastructure and connectivity.
- ☆ Training, business counseling, and incentives in areas of SMEs digital capabilities.
- ☆ Cultivate partnerships between the government, industry organizations and the technology vendors to develop concerted support packages.

7. Limitations and Future Research

It is cross-sectional research, and this reduces the power of making a causal inference. The change of dynamic development of DMA and capabilities could be better observed with longitudinal

research. Perceptual measures and non-probability sampling can restrict generalizability to Pakistan and the future research can use probability samples, objective performance measures and international comparisons. Other constructs like the organizational culture, IT infrastructure and competition intensity may be included. Lastly, a qualitative/mixed methods study will examine the subtle DCCC role and the relationship between content practices and analytics and leadership within SMEs.

8. Conclusion

This paper examines the role of internal capabilities and external ecosystem support in fueling the DMA and SME performances in Pakistan. It demonstrates that managerial digital leadership, data analytics capability, and support of external digital ecosystems have a strong effect on both DMA and performance with DMA having a vital mediation. Although positively related at the correlational level, digital content creation capability does not have a significant unique direct or mediated influence on other capabilities and context. The results can be used by SMEs and policymakers on the performance optimization in developing economies to make strategic decisions using digital marketing as an instrument based on the theoretically developed and practically prevalent implications.

Conflict of Interest

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