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Factors Affecting Digital Marketing Adoption in Pakistani Small and Medium Enterprises

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Abstract: *Background:* A substantial portion of the world's population owns and utilizes computers and mobile devices, contributing to the rapid expansion of digital advertising. Marketers swiftly recognized the communicative benefits of social media platforms like Facebook, YouTube, Twitter, Instagram, Snapchat, Pinterest, and LinkedIn. Considering the importance of social media platforms and digital modes of marketing, it is considered especially significant for small firms to integrate these platforms into their business strategies in order to improve performance. *Methods:* Based on this aim, this study collected data from 363 owners/managers of SMEs in Pakistan. Structural equation modeling is used to check the hypothesized model of the study. *Results:* The results show that compatibility, owner/manager support, employee IT skills, financial cost, government policies, and social influence significantly affect adoption of digital marketing by SMEs in Pakistan. *Conclusions:* Furthermore, digital marketing also positively affects SME performance. This paper discusses the study's findings as well as managerial and academic implications, including its limitations and future research avenues.

Keywords: digital marketing; small and medium enterprise performance; technological factors; organizational factors; environmental factors; personal factors

1. Introduction

Digital marketing (DM) is the promotion of goods and services "through the use of digital technology, most notably the internet, but also mobile phones, display advertising, and any other digital medium" [1]. Digital platforms contribute to vigorous information and effective inventory management. Digital platforms have changed the way marketers interact with customers. The widespread availability of personal computers and mobile phones has aided the parabolic rise of online advertising. Advertisers spent USD 51.3 billion in 2017 on social media (SM) sites like Facebook YouTube, Twitter, Instagram, Snapchat, Pinterest, and LinkedIn [2]. In 2018, digital ads accounted for USD 273 billion, or 44% of overall advertising spending (USD 629 billion) [3]. In 2017, mobile advertising spending increased by 39%, with another 27% increase for 2018, when mobile advertising was expected to account for 55% of all digital advertising expenditures. By efficiently targeting specific demographics, direct marketing can reach growth objectives such as increased revenue, heightened brand visibility, more customer interaction, and additional lead creation. As a result, advertising budgets have become increasingly imbalanced [4].

Regardless of the mode of delivery, DM has always been a fantastic way to sell and buy things online. The internet was the third wave of technological advancement to truly bring

in an information revolution [2]. DM representation covers various products, services, and brand strategies. A wide range of digital media is used in this type of marketing. Employees can exchange digital information at any time. The primary goal of DM is to attract new customers and allow them to connect with the business [5]. Internet advertising, e-mail marketing, social media, text message marketing, affiliate marketing, and search engine optimization are all examples of DM.

The majority of the DM literature focuses on large firms and organizations, rather than on smaller ones [6]. Small businesses must create mobile-friendly websites and manage these activities with the assistance of outside experts. Small businesses in the United States often lack a website due to financial limits [7], so 55% of small US firms do not have a website due to budgetary restraints [8].

Businesses must keep up with technological advancements. This is particularly true for small- and medium-sized businesses (SMEs) in developing countries [6]. Like all developing countries, Pakistan is seeking to boost information and communications technologies (ICT) in businesses, particularly SMEs. Pakistan's economic stability would allow it to profit from the ICT sector's rise in the long run, which began to flourish due to this impetus. As a result, a robust ICT infrastructure is critical to SME competitiveness.

Academics and practitioners alike are interested in Pakistani SMEs for various reasons. SMEs account for over 78% of Pakistan's total employment, 99% of the country's 3.2 million business establishments, USD 86 billion in GDP, and 25% of Pakistan's total exports [9]. Small- and medium-sized businesses in Pakistan have been hesitant to adopt ICT, particularly for day-to-day operations. In Pakistan, there are about 3.2 million SMEs. It is estimated that SMEs make up more than 90% of all businesses. They generate 70% of Pakistan's total job opportunities and 40% of the country's economic growth. A total of 95% of SMEs fail within the first five years despite having a significant presence and impact. Out of the 5% that are still in business, 25% are SMEs, which has a negative effect on living standards, employment, and economic growth, and just 2% of them have a business website [10]. When it comes to implementing and utilizing DM, Pakistani SMEs may pursue similar paths. To make the most of the DM adoption process, small businesses in Pakistan must first grasp what drives them and how that affects their performance. Although academic research has focused on using DM in business-to-consumer relationships, DM can be used to increase brand recognition and word-of-mouth endorsements [11]. There is, however, a lack of academic research on the benefits of DM for SMEs [12]. DM's impact on SMEs has been studied in a small number of academic publications. Because there are few studies that focus on the adoption of DM by SMEs, very little is known about how SMEs can adopt DM and what that means for their business performance in Pakistan.

In light of this knowledge gap, it is worth mentioning that this research is based on innovation diffusion theory (IDT), the Technology Acceptance Model (TAM), and resource-based view (RBV) theory. We suggest the following study question: What role does digital marketing play in the performance of SMEs in Pakistan? This study investigates factors that drive/hinder the adoption of digital marketing by Pakistani SMEs. The objectives of the research are (i) to examine what role digital marketing plays for SMEs in Pakistan, (ii) to determine the influence of various factors on the adoption of digital marketing in SMEs in Pakistan, and (iii) to investigate the role of digital marketing in the performance of Pakistani SMEs. To achieve these objectives, AMOS v.24 was used. This study establishes hypotheses and statistically evaluates the conceptual DM framework after surveying Pakistani businesses, and emphasizes theoretical, practical, and social implications.

This article is organized as follows. In Section 2, the research framework based on the previous literature is provided. In Section 3, the study's methods are presented. Analysis and results are offered in Section 4. Implications and findings are discussed in Section 5, and conclusions are presented in Section 6.

2. Literature Review

2.1. Digital Marketing

Digital marketing is defined as a "new strategy utilized in conjunction with traditional ways to meet clients' needs through digital communication channels" [13]. It is an interesting new phenomenon worth investigating and is rapidly emerging and growing due to the advancement of ICT. It is a means of communicating with clients through the internet and other reactive technologies [14], achieving marketing objectives through digital technologies. Strauss and Frost defined "the use of electronic data and applications to organize and carry out the production, distribution, and pricing of ideas, products, and services in order to meet individual and corporate goals" [15]. The internet is used for relationship management [16] and supply chain business activities [17].

Furthermore, the terms digital marketing and internet marketing are used interchangeably to represent the same idea [18]. Although internet marketing refers to internet technology like the Web and e-mail to serve customers, it also incorporates traditional tactics. On the other hand, DM is a broader term that includes digital media, wireless media, electronic customer connections, supply chain management, and other related concepts [19]. Nonetheless, internet marketing, e-mail marketing, intranet marketing, extranet marketing, and mobile marketing are the most extensively employed technologies, according to the literature [20].

Advantages include "accessing new markets with fewer expenses, selling things via e-mail, and reducing the need to print product pamphlets" (i.e., lower costs) [21]. A functional website would also allow for responding to customers who speak various languages and answering questions about products and services. Other benefits of direct marketing include expanding distribution channels, creating more desirable products, staying closer to customers while listening to their needs, and the possibility of increasing sales [22]. DM has the potential to benefit both individuals and businesses. The ability for customers to research many different services and products, compare pricing and features across various vendors, and then select the one that is best suited to their individual needs has made choosing and purchasing products and services simpler and faster. Furthermore, it provides institutions with numerous benefits, such as expanding current markets, entering new markets, introducing new products and services, and competing in global marketplaces [16].

2.2. Digital Marketing in SMEs

Small businesses can compete effectively through digital marketing by obtaining new customers and retaining existing ones. SMEs began integrating digital technology to expand their client base, enhance their performance, and maintain their competitiveness [23]. The internet benefits SMEs by lowering expenses and promoting easier internal and external communication [24].

SMEs' marketing methods elicit spontaneous and informal responses and may not always adhere to the best available marketing approaches and plans. This haphazard and unplanned marketing strategy for SMEs makes it harder to increase consumer awareness of a company and its products [16]. Because of the younger generation's technological and managerial skills, it was projected that small enterprises would benefit substantially from combining DM with traditional marketing methods and planning [25]. Customers' trust in a product is strengthened by the internet's ease of access and use, making them more familiar with the concept [26]. Certain SMEs regularly employ ICT to obtain market data and build long-term customer relationships.

2.3. Major New Technology Acceptance Models

2.3.1. Innovation Diffusion

Innovation diffusion theory (IDT) has proven critical in understanding the processes that lead to the spread of new ideas [27]. This model illustrates the several stages that innovations go through before being accepted or rejected.

IDT applies to both individuals and organizations [28]. By understanding how individuals and organizations embrace new technologies, IDT demonstrates how rapid technological change threatens traditional business models and creates new opportunities for enterprises eager to seek out and implement innovations [28]. IDT is first introduced in this section at the personal level and then at the organizational level [27]. Accordingly, the diffusion of innovation (DOI) model is not comprehensive enough for investigating factors that influence SMEs' adoption of new technology when viewed in the context of its primary reasoning. The Technology, Organization, and Environment (TOE) framework focuses on this, concentrating on one area of the framework [28].

2.3.2. The Technology Acceptance Model

To examine the acceptability and uptake of new ideas and technologies, some authors have merged IDT and the Technology Acceptance Model (TAM) [29]. TAM is a theory that complements IDT and that incorporates identical elements [30]. TAM is a widely used term to describe a user's proclivity to embrace and employ new technology by evaluating its utility and required effort [31]. A well-known idea in the field of technology adoption research, TAM has been widely utilized in various industries, but many studies on small business technology adoption have lately expanded its use.

TAM is a paradigm in studies on individual technology uptake and has been used as a theoretical lens to evaluate organizations' sporadic attempts to adopt new technologies. It has been suggested that TAM is insufficient for analyzing new technology adoption in organizations [32].

2.3.3. Technology Organization Environment

The TOE framework is unique and significant in that it considers three factors that can influence a company's decision to implement technological innovations [31]. Several elements have been recognized as impacting the success of any technology's adoption, including technological aspects, organizational traits, and external influences [18]. The surrounding technical environment showcases technologies with beneficial attributes within and outside a corporation. The organizational environment prioritizes enterprise characteristics, owner/top-management support, the corporate culture/mission and vision, the quality of its human resources, and scale in terms of internal slack resources and specialization. Market structure, competitive pressure, business partner readiness, technological support infrastructure, and government regulation and assistance influence business operations [31]. The TOE issue is that it ignores the unique peculiarities of SMEs and the importance of human viewpoints.

2.3.4. TOE as the Theoretical Lens of the Study

Given the limitations of Roger's IDT, DOI, and the TAM model, a more complete framework for researching new technology uptake in SMEs is required. Because multi-dimensional parameters typically define adoption, the multi-dimensional nature of such elements is seen as more appropriate in the context of SMEs [31]. And there are environmental and organizational effects [33]. These aspects are vital for evaluating the adoption of new technology in businesses [10]. Because the preceding two theories do not explain how environmental and organizational factors affect digital marketing adoption in SMEs, we need a theory that encompasses all three dimensions (technological, organizational, and environmental). Ullah [10] claimed that the TOE framework best explains the applicability and larger exploratory dimensions required to explore new technology adoption in SMEs. One study concluded that "the need to understand innovation adoption in organizations shows that the TOE framework can provide insights for scholars and practitioners", finding that the TOE framework is particularly useful for examining the elements that influence an organization's adoption of new technologies.

The TOE framework was created to investigate the influence of internal (organizational and technological) and external (environmental) elements on the adoption of new

technology in SMEs [34]. Each dimension has a unique collection of characteristics that can influence organizations' adoption of new technologies (SMEs in our context). The TOE technology dimension incorporates both internal and external technologies. The distinction is between those technologies, and both are available on the market but are underutilized by SMEs. SMEs' resources, size, age, owner management, inter-firm communication, and culture are all described in SME organizational components. The final factor is the environment, which comprises an industrial structure, competitiveness, and government laws and regulations. The current study categorizes the factors influencing SMEs' adoption of digital marketing into these three TOE dimensions. Notably, the TOE framework is deficient in personal characteristics that may impact SMEs' adoption of digital marketing. Personal aspects should be considered because the owner/manager of a small firm is involved in every decision made. The following section goes into greater detail about these elements.

2.4. Factors Affecting Digital Marketing Adoption by SMEs

The components of this study are divided into four categories: TOE (technological, organizational, and environmental) and personal, as seen in Figure 1. This section presents a literature review to identify factors influencing the adoption of digital marketing by SMEs.
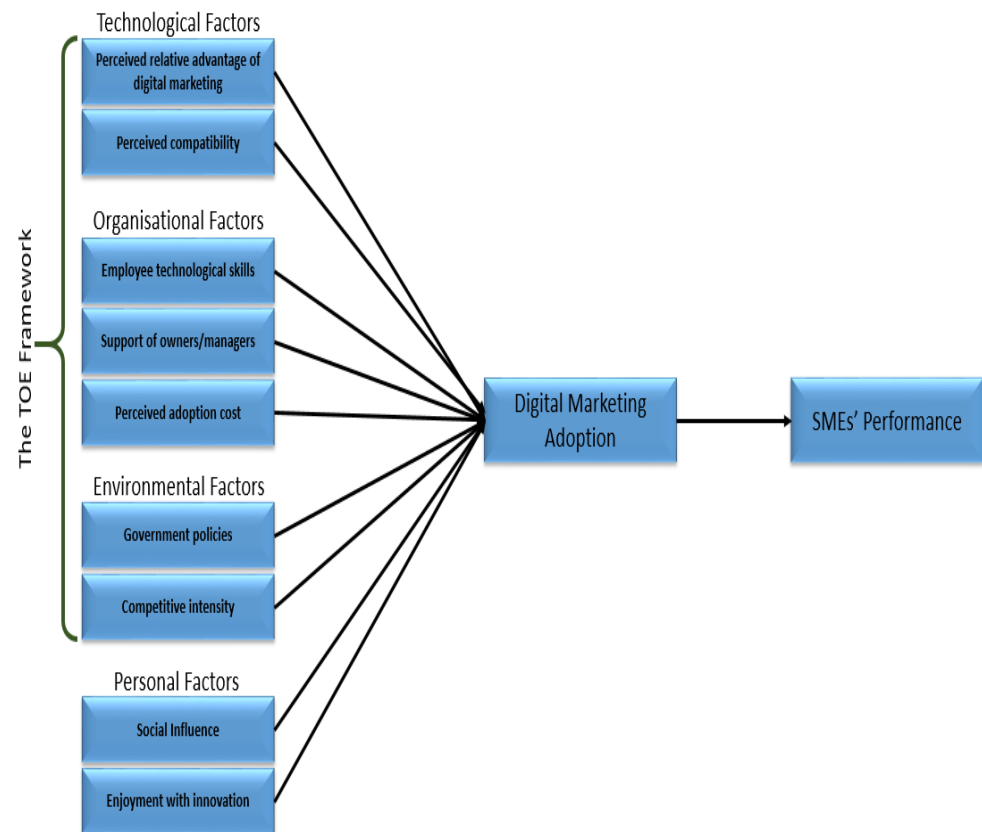

Figure 1. Study framework.

2.4.1. The Perceived Relative Advantage of Digital Marketing

The technological environment benefits SMEs because it emphasizes both internal and external technology [35]. DM has been widely employed in information technology in recent years, such as website and mobile phone adoption, and internet use by SMEs. Rogers [28] created IDT [36]. The technical environment includes things like projected DM benefits and compatibility, and Rogers underlined the importance of technological considerations in adoption decisions [28]. Put another way, the relative advantage is the belief that new technology is superior to existing technology [28]. A relative advantage con-

tinues to impact the acceptance of new ideas [37]. Considerations of relative technological advantages encourage augmented reality adoption for e-commerce in organizations [38]. If a new technology increases operational efficiency and the bottom line, it is more likely to be adopted. Therefore, the following is hypothesized.

Hypothesis 1 (H1). *The perceived relative advantage of DM has a positive relation with DM adoption.*

2.4.2. Perceived Compatibility

Davis defined compatibility as "the degree to which an innovation is viewed as consistent with potential adopters' existing values, experience, and needs" [39]. Compatibility might be functional or normative. Nevertheless, Premkumar stated that technical compatibility refers to an organization's compatibility with prevailing new technology, whereas organizational compatibility refers to compliance with existing work practices and value systems [40]. Grover stated that adopting new technology becomes easier when work practices and values are compatible with new technology and with technical infrastructure [32]. Furthermore, DOI highlighted compatibility as one of the key technical characteristics that may affect new technology adoption. Many studies have also shown that compatibility positively affects the adoption of new technology inside an organization [41]. It has been suggested that bringing in new technologies could lead to alterations in current organizational concepts and methods of operation. It also has the impact of altering the company's current IT infrastructure. In this case, the suggested changes must suit the company's current work habits and technology infrastructure, which SMEs must select. To be successfully implemented in the market, new technology, in the opinion of SME owners/managers, must be highly compatible with existing standards, work procedures, and technological infrastructure. Accordingly, the following hypothesis is put forward.

Hypothesis 2 (H2). *Perceived compatibility has a positive relation with DM adoption.*

2.4.3. Employee Technological Skills

The growth of DM has made it simpler for SMEs to access resources that were previously only available to large organizations. SMEs now can compete in markets other than their existing ones [42]. Adopting new technology has several advantages, including reduced costs, increased productivity, better system integration, a more cooperative working environment, and an overall improvement in competitiveness. ICT skills and knowledge, as well as implementation costs, are major obstacles to the widespread adoption of electronic commerce [43,44]. An important component in adopting new technology is the ability of employees to handle technical difficulties [45]. E-commerce adoption is hindered by a lack of technical skills, by not understanding information technology [43], and by high implementation costs. The speed at which organizations adopt new technologies is also influenced by the IT skills of the people who work there [45]. From the above discussion, we can state the following:

Hypothesis 3 (H3). Employee technological skills have a positive relation with DM adoption.

2.4.4. Support of Owners/Managers

In SMEs, the most important factors of technology adoption are CEO and senior management attributes [46]. Some of these characteristics include technical expertise, a supportive environment, passion, leadership style, academic qualifications, and technology knowledge obtained through networking, etc. Owner/manager traits play a role in the adoption of digital marketing. SME owners who are computer illiterate will be unable to understand the benefits of IT, limiting their willingness to use technological innovations. An innovative owner/manager, on the other hand, recognizes the relevance and value of such technologies for their SME, and as a result, plays a key role in ensuring other organizational team members' adoption of innovation. The subsequent hypothesis is:

Hypothesis 4 (H4). *Support of owners\managers has a positive relation with DM adoption.*

2.4.5. Perceived Adoption Cost

Adoption and system maintenance costs are crucial for SMEs, because no organization will embrace e-commerce or ICT unless the benefits surpass the expense [47]. Due to budgetary constraints, Malaysian SMEs are frequently skeptical about system development and maintenance expenses, and recognize adoption cost as a significant barrier [48]. Financial resources/capital was identified as a barrier to SME growth when adopting and leveraging the digital channel [49]. Furthermore, Ghobakhloo emphasized that SMEs must accurately assess their capabilities to gain the benefits of IT adoption and avoid underestimating them [50]. Similarly, cost-effectiveness is not a significant variable; excessive and unrealistic expectations during the first adoption phase will not prevent further adoption and intention to use. On the other hand, cost-effectiveness is described as "the state in which the benefits of a new technological breakthrough balance the costs of the technology" [47]. As a result, we suggest the following.

Hypothesis 5 (H5). *Perceived adoption cost has a positive relation with DM adoption.*

2.4.6. Government Policies

The industrial structure, the presence or absence of technical service providers, the regulatory environment, the organization's business environment, other industries, competitors, and dealings with government agencies are all part of the environmental context [34,51]. Firms in fast-growing industries have a bias toward rapid innovation [51]. As a result, because it acts as a catalyst in both the technological and organizational contexts of innovation adoption, the environmental context has been identified as the most powerful influence on the desire to employ technological innovation [52]. Using environmentally friendly information technology is a goal of this regulation for these companies. Thus,

Hypothesis 6 (H6). *Government policies have a positive relation with DM adoption.*

2.4.7. Competitive Intensity

Competitive intensity (CI) encourages organizations in the same industry to adopt new technologies. According to most new-technology-adoption studies, competitive pressure plays a critical role in organizational adoption. Firms are more inclined to adopt new technology to improve performance and ensure survival [53]. Organizations are more vulnerable to internal rivalry in today's worldwide competitive market. Competition considerably influences SMEs' adoption of new technologies [32]. This is because when the number of early adopters of technology grows, it pressures late adopters to catch up [50]. New internet-based technologies must be used by SMEs to compete in today's knowledge economy [32]. According to current research, SMEs are motivated to adopt digital marketing because of the competitive pressure they face. Hence, based on the prevailing discussion, we can state that,

Hypothesis 7 (H7). *Competitive intensity has a positive relation with DM adoption.*

2.4.8. Social Influence

Individual considerations play a significant role in SMEs' adoption of innovations. Various scholars [33] have underlined that decision-makers' functional and emotional responses heavily influence enterprise-level innovation adoption. Their opinions, viewpoints, psychographics, motivations, and other relevant individual aspects are reflected in the business. According to existing studies, owner/educational-manager history and level of dedication, as well as his or her style of leadership and technical skills, have a significant impact on a company's ability to adapt to new technology [54].

When it comes to deciding whether or not to accept new technology or adhere to social standards, social influence is described as the degree to which an individual appreciates the

opinions of others. Many feel that the opinions in someone's social circle influence attitudes toward digital marketing. As a result of embracing new service technologies like digital marketing, small- and medium-sized businesses may regard themselves as contemporary, innovative, and professional. As early as 1998, 73% of the executive class in China's major cities acquired mobile phones, mainly to maintain their social position, rather than for typical mobile use [33]. There is evidence that younger users of communication interfaces are more technologically motivated by social influence, particularly in the early stages of life when social development and learning occur. Thus, the following can be hypothesized.

Hypothesis 8 (H8). *Social influence has a positive relation with DM adoption.*

2.4.9. Enjoyment with Innovation

Government aid through law is one of the environmental factors influencing technology adoption in the TOE framework. Regulators can both encourage and impede companies from adopting new technologies. It is difficult for businesses to accept new regulations requiring them to have strict control and testing tools for industrial safety if the government imposes them [55]. Companies can be encouraged to embrace new technologies by government regulations, which provide financial support, resources, and tax benefits [38]. Using environmentally friendly information technology is a goal of regulation for these companies.

Hypothesis 9 (H9). *Enjoyment with innovation has a positive relation with DM adoption.*

2.4.10. Adoption of Digital Marketing and Performance of SMEs

Previous research supported the notion that implementing technology helps corporate operations and performance [56]. Digital marketing adoption favorably improves organizational performance, while SM adoption positively benefits corporate operations, according to some studies [57]. Customer-facing activities and sales effectiveness can be boosted by using digital marketing techniques [57]. Digital marketing has a good effect on a company's social capital, leading to an improvement in corporate performance. SMEs gain from the use of social media. A similar conclusion was reached about the impact of digital marketing on customer purchasing decisions [58]. The outcomes of these studies are in line with previous research, which has shown that implementing new technology improves the performance of both financial and non-financial organizations [59].

Digital marketing provides significant benefits to businesses worldwide in improved consumer interaction, increased revenue, cost reductions, and operational efficiencies [60]. For example, Dell Corporation reported a USD 1.9 million boost in sales and a USD 1.9 million expense reduction by adopting Twitter [61]. Based on this, the current study focuses on the impact of digital marketing in a framework of important performance measurement elements to assist small businesses in meeting their own issues by increasing performance.

Digital marketing is a tool for advertising and communication between customers and employees and managers at various levels of responsibility. Digital marketing allows businesses to reach more customers at a lower cost than traditional communication platforms [62]. As a tool for efficiency and internal operations, digital marketing can also assist businesses in communicating successfully inside and outside the organization. For example, digital marketing is a powerful instrument that increases user involvement [63]. A similar open platform for real-time communication among users enables a company to debug software, support customers, and answer client inquiries faster than traditional systems [64]. The impact of digital marketing on employee productivity has also received much attention in the literature.

Hypothesis 10 (H10). *Digital marketing adoption has a significant and positive association with SME performance.*

3. Methodology

In this study, a philosophical assumption of objectivism is followed, which uses a positivism paradigm with emphasis on a deductive approach toward theory testing. The positivist approach was used by researchers in the service quality context in previous research [65]. The purpose of this study is to test the hypotheses concerning DM acceptance in SMEs, assess the factors impacting DM adoption in SMEs, and determine how adoption of DM affects SMEs' performance. As mentioned in the literature review, current research tests hypotheses that are generated from an extensive literature review regarding DM adoption in SMEs, from factors affecting DM adoption by SMEs, and on how DM adoption affects SME performance. Therefore, it is appropriate to use a deductive approach to theory testing, either rejecting or confirming the hypotheses. Within this context, quantitative data was collected through a research instrument to either confirm or reject the hypotheses based on data analysis.

This study uses a quantitative research strategy based on a questionnaire to collect primary data. The questionnaire was written in English, and its overall structure was built utilizing parts based on recent research. As required by the situation, minor alterations were made. After it had been written, the questionnaire was examined by a few subject-matter experts (professors and managers). In response to their input, the questionnaire was modified to accurately capture the mediation relationship of digital marketing adaption between technological, organizational, environmental, and personal factors and SMEs performance. Within this context, the questionnaire was carefully designed to capture all constructs used. To obtain background information about the participants, and to measure different latent variables, closed questions were included. To increase the response rate, the questionnaire was divided into sections to increase clarity and make it easy to fill out. After a pilot test, a few minor adjustments were made to the questionnaire to make it ready for data collection.

The questionnaire was approved for use in the final data collection after consulting with experts and the results of a pilot test. In order to maintain the respondents' privacy and ensure that their participation was voluntary, the questionnaire did not ask for any personal information from them. The survey was run from March to September of 2022. Respondents were contacted by email, Facebook, WhatsApp, LinkedIn, and other social media platforms with a cover letter describing the purpose of the survey and assuring each respondent that their information will be kept private and secure. Three emails serving as reminders later, 363 usable responses were received.

The recommended sample size for the structure equation model (SEM) is subject to some disagreement. Two-hundred was suggested as the "critical sample size" by [66–68]. Furthermore, it is acknowledged that any value over 200 offers sufficient statistical power for data analysis. In total, 401 of the 850 sent-out questionnaires received responses; 363 were left as a suitable sample for analysis after incorrect questionnaires were eliminated. This low response rate could be attributed to the target audience's characteristics. Additionally, some participants may have felt that the material provided on this subject was too sensitive and chose not to answer. Due to the sensitivity of the subject, the researcher provided the organizations with assurances of information confidentiality; as a result, the identities of the organizations and participants will not be disclosed.

According to Ref [49]'s suggestions, bias replies have been compared to early responses (first and last 30%), and late responses have been assumed to be comparable to nonrespondents [49]. This study found that all measurement indicators have non-statistical variation with $p > 0.25$ for each indicator. Therefore, nonresponse bias was not a significant problem in the current study.

This study used correlation analysis and factor analysis to find relationships between the different variables discussed in the literature review. Therefore, an adequate sample size for correlation analysis will be $N \geq 50 + 8 \times M$, where M is the number of independent variables. There are nine independent variables (five dimensions of service quality, three dimensions of operation management practices, plus customer satisfaction), so the sample

must be at least 50 + 8 × 9 = 122 cases. Accordingly, a cover letter explaining the nature of the research and all ethical issues was provided with the questionnaire. Respondents were assured that all information will be kept confidential—only the researcher and the supervisory team have access to it. Furthermore, participation in the study was voluntary, and respondents could withdraw at any time without providing a reason.

Data were analyzed using Statistical Package for Social Sciences (SPSS) to categorize quantitative data into statistical formats so statistical techniques could be applied to obtain results. Current research uses descriptive statistics tools such as tables, charts, and cross-tabulation to represent demographics of the respondents. Furthermore, reliability analysis in the form of Cronbach's alpha and confirmatory factor analysis (CFA) was used to purify the research scales. Afterward, structural equation modeling (SEM) was used to determine the relationships between the different constructs.

4. Data Analysis and Results

Primary data were gathered from Pakistani SMEs professionals who were part of the study's population using an online questionnaire that was incorporated into Google Drive in order to assess the consistency, authenticity, goodness of fit, and psychometric soundness of the study framework. As there was no sampling frame and it was unclear how many people were in the whole population, a non-probability method known as snowball sampling was adopted. To find out more about the participating SMEs, the traits from the questionnaire and listed in Table 1 were taken into consideration, including years in business, type of SME, number of employees, annual sales, and coverage area. The majority had been in business more than five years (35.5% for 129 in total).

Table 1. SME statistics.

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Years in business	Less than 1 year	20	5.5	5.5	5.5
	1–2 years	92	25.3	25.3	30.9
	2–5 years	122	33.6	33.6	64.5
	More than 5 years	129	35.5	35.5	100.0
	Total	363	100.0	100.0	
Type of SME	Manufacturing	290	79.9	79.9	79.9
	Services	73	20.1	20.1	100.0
	Total	363	100.0	100.0	
Number of employees	Less than 10	7	1.9	1.9	1.9
	10–49	97	26.7	26.7	28.7
	50–99	103	28.4	28.4	57.0
	100–249	156	43.0	43.0	100.0
	Total	363	100.0	100.0	
Annual sales	Less than 5	94	25.9	25.9	25.9
	5–10	115	31.7	31.7	57.6
	More than 10	154	42.4	42.4	100.0
	Total	363	100.0	100.0	

Table 1. *Cont.*

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Area of coverage	Local Market	142	39.1	39.1	39.1
	National Market	205	56.5	56.5	95.6
	International Market	16	4.4	4.4	100.0
	Total	363	100.0	100.0	
Gender of respondent	Male	316	87.1	87.1	87.1
	Female	47	12.9	12.9	100.0
	Total	363	100.0	100.0	
Ages of respondents	Under 25 years	228	62.8	62.8	62.8
	26–35	72	19.8	19.8	82.6
	36–45	36	9.9	9.9	92.6
	46–55	27	7.4	7.4	100.0
	Total	363	100.0	100.0	
Qualifications	No formal education	37	10.2	10.2	10.2
	High school	139	38.3	38.3	48.5
	College	122	33.6	33.6	82.1
	University	52	14.3	14.3	96.4
	Postgraduate (MS/PhD)	13	3.6	3.6	100.0
	Total	363	100.0	100.0	
Experience	Less than 5	241	66.4	66.4	66.4
	6–10	91	25.1	25.1	91.5
	11–15	30	8.3	8.3	99.7
	More than 15	1	0.3	0.3	100.0
	Total	363	100.0	100.0	

In addition, more data were collected from the manufacturing industry, accounting for 79.9% of all SMEs (290). The majority had an average workforce of between 100 and 249 (43% of the sample, or 156), whereas 42.4% (154) had annual sales of more than 10 million Pakistani rupees. The majority operated in the domestic market (205, or 56.5%), with 39.1% (142) operating as a local business, whereas just 4.4% (16) were international.

Due to male dominance in this field, males comprised 87.1% (316) of the respondents completing the questionnaire, with almost 62.8% under the age of 25. Finally, respondents with high school diplomas made up 38.3% of the sample (139 respondents), and the majority had less than five years of experience.

Skewness, kurtosis, and normality of the data were assessed. Skewness and kurtosis scores between +2.2 and +2.4 are regarded as normal, where +2.2 indicates that all variables are evenly distributed, as seen in Table 2 [69–71].

Table 2. Normality statistics.

	N	Min	Max	Mean	Std. Dev.	Skewness	Std. Error	Kurtosis	Std. Error
PRA_DM1	363	1	5	3.15	1.205	−0.588	0.128	−0.835	0.255
PRA_DM2	363	1	5	3.17	1.259	−0.431	0.128	−0.934	0.255
PRA_DM3	363	1	5	3.18	1.261	−0.416	0.128	−0.909	0.255
PRA_DM4	363	1	5	3.14	1.244	−0.399	0.128	−0.860	0.255
PRA_DM5	363	1	5	3.35	1.297	−0.433	0.128	−0.998	0.255
PRA_DM6	363	1	5	3.26	1.319	−0.390	0.128	−1.057	0.255
Comp1	363	1	5	3.48	1.367	−0.749	0.128	−0.757	0.255
Comp2	363	1	5	3.60	1.289	−0.714	0.128	−0.709	0.255
Comp3	363	1	5	3.51	1.322	−0.797	0.128	−0.639	0.255
Comp4	363	1	5	3.61	1.328	−0.719	0.128	−0.754	0.255
PAdp_C1	363	1	5	3.61	1.269	−0.835	0.128	−0.298	0.255
PAdp_C2	363	1	5	3.82	1.266	−0.829	0.128	−0.451	0.255
PAdp_C3	363	1	5	3.60	1.223	−0.944	0.128	−0.038	0.255
EITSkill1	363	1	5	3.61	1.298	−0.794	0.128	−0.451	0.255
EITSkill2	363	1	5	3.82	1.317	−0.865	0.128	−0.463	0.255
EITSkill3	363	1	5	3.61	1.125	−0.835	0.128	−0.079	0.255
Supp_OM1	363	1	5	3.45	1.392	−0.573	0.128	−1.002	0.255
Supp_OM2	363	1	6	3.44	1.317	−0.559	0.128	−0.891	0.255
Supp_OW3	363	1	5	3.48	1.423	−0.551	0.128	−1.066	0.255
Supp_OM4	363	1	5	3.36	1.354	−0.617	0.128	−0.918	0.255
Gov_Pol1	363	1	5	3.23	1.322	−0.476	0.128	−0.996	0.255
Gov_Pol2	363	1	5	3.38	1.348	−0.437	0.128	−1.070	0.255
Gov_Pol3	363	1	5	3.19	1.276	−0.476	0.128	−0.926	0.255
CI1	363	1	5	3.52	1.332	−0.651	0.128	−0.880	0.255
CI2	363	1	5	3.64	1.331	−0.792	0.128	−0.583	0.255
CI3	363	1	5	3.66	1.265	−0.682	0.128	−0.615	0.255
CI4	363	1	5	3.69	1.236	−0.683	0.128	−0.566	0.255
SI1	363	1	5	3.50	1.288	−0.632	0.128	−0.848	0.255
SI2	363	1	5	3.41	1.336	−0.544	0.128	−0.906	0.255
SI3	363	1	5	3.50	1.297	−0.586	0.128	−0.851	0.255
EI1	363	1	5	3.72	1.274	−0.945	0.128	−0.284	0.255
EI2	363	1	5	3.55	1.342	−0.506	0.128	−1.033	0.255
EI3	363	1	5	3.73	1.284	−0.663	0.128	−0.839	0.255
Info_Inte1	363	1	5	3.64	1.228	−0.842	0.128	−0.372	0.255
Info_Inte2	363	1	5	3.75	1.332	−0.767	0.128	−0.656	0.255
Info_Inte3	363	1	5	3.68	1.284	−0.817	0.128	−0.496	0.255
Per1	363	1	5	3.53	1.192	−1.089	0.128	0.096	0.255
Per2	363	1	5	3.56	1.035	−0.889	0.128	0.043	0.255
Per3	363	1	5	3.47	1.133	−1.062	0.128	0.164	0.255
Per4	363	1	5	4.09	1.226	−1.366	0.128	0.737	0.255
Per5	363	1	5	4.07	1.327	−1.408	0.128	0.663	0.255
DM_Adp1	363	1	5	3.12	1.329	−0.371	0.128	−1.191	0.255
DM_Adp2	363	1	5	3.15	1.330	−0.209	0.128	−1.242	0.255
DM_Adp3	363	1	5	3.13	1.418	−0.301	0.128	−1.298	0.255
DM_Adp4	363	1	5	3.23	1.353	−0.203	0.128	−1.309	0.255
DM_Adp5	363	1	5	3.26	1.456	−0.264	0.128	−1.370	0.255
Valid N (list-wise)	363								

All variables in Table 3 have tolerance values greater than 1 and VIF values lower than 10. Moreover, this study indicates there is no multicollinearity in the dataset. While information were gather via a sole source that may lead to Common Method Bias (CMB), and may threat the research validity [72]. If all (factor level) VIF values from a complete collinearity test are ≤3.3, the model ought to be thought of without CMB [73]. In the present

research the inner VIF values are 2.432, which is <3.3. Therefore, there is no risk of CMB as seen in Tale 3.

Table 3. Multicollinearity.

Independent Variable	Collinearity	
	Tolerance	VIF
MeanPRA_DM	0.483	2.070
MeanComp	0.583	1.714
MeanPAdp_C	0.751	1.332
MeanEITSkill	0.743	1.346
MeanSupp_OM	0.411	2.432
MeanGov_Pol	0.531	1.885
MeanCl	0.795	1.258
MeanSl	0.473	2.115
MeanEl	0.741	1.350

Exploratory factor analysis (EFA) was utilized to verify the dimensionality and underlying structure of the components. To evaluate the adequacy of the sample size and the appropriateness of the correlation matrix, the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were used in the first phase. KMO levels vary from 0 to 1, with values near 1 deemed appropriate [69]. The results of the KMO and Bartlett's tests are shown in Table 4.

Table 4. KMO and Bartlett's tests.

Test		Estimates
KMO		0.935
Bartlett's	Approx. Chi-Square	16,442.062
	Df	903
	Sig.	0.000

4.1. Measurement Model Development

Hair et al. argued that all constructs of a study must be evaluated in the measurement model, despite using well-established scales from the existing literature. The model in Figure 2, which was drawn in AMOS, shows the items of each construct connected by an arrow. All the observed and unobserved variables of the current model (CFA) are shown in the model specifications.

4.2. Model Fit Assessment

All estimated parameters, such as regression weight, standardized regression weight, and probability, were evaluated for any non-optimal estimates in terms of sign and statistical significance. A model's fitness may be assessed using a variety of indicators. Table 5 shows the proposed goodness of fit (GoF) indices based on previous research.

Table 5. Goodness of fit indices.

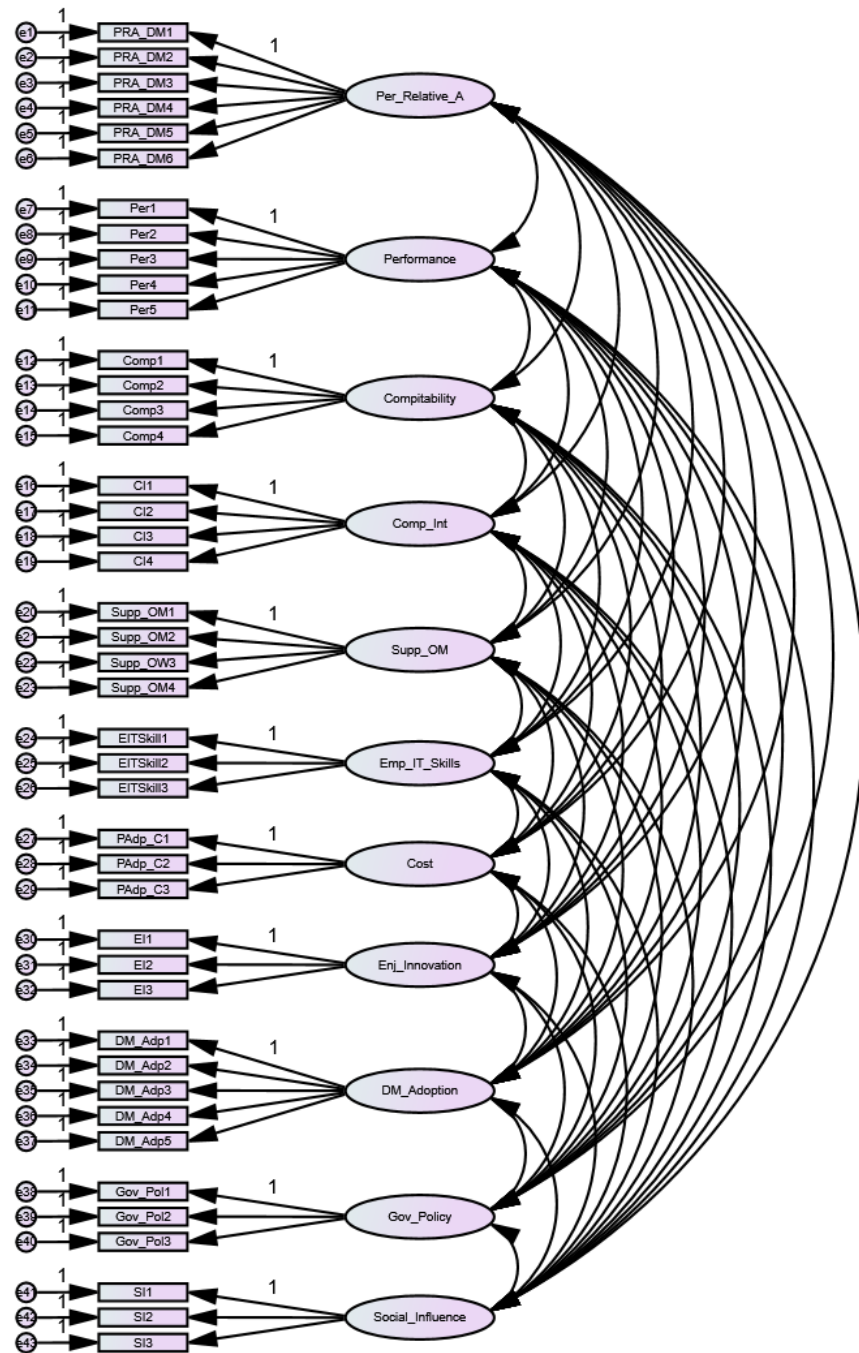| Goodness of Fit Indices	Threshold	Reference
Chi-Square (X^2)	$p < 0.05$	
(X^2/DF)	<5 and >1	
RMSEA	<0.08	
NFI	>0.90	
SRMR	<0.05	
CFI	>0.90	
GFI	>0.90	

Figure 2. The initial measurement model.

The GoF indices, including a statistically insignificant chi-square value, CMIN/DF less than 5, RMSEA less than 0.08, CFI greater than 0.90, SRMR less than 0.05, TLI greater than 0.90, and AGFI greater than 0.90, indicate a good fit [69].

4.3. Assessment of Measurement Model Reliability and Validity

In this research, two tests confirmed the reliability and validity of the scales used. The composite reliability (CR) values for all constructs are greater than the threshold of 70, as seen in Table 6, indicating reliability in the model. Similarly, the constructs' factor-loading values are greater than the recommended 0.6.

Table 6. Reliability and validity.

Items	Std. Estimate	AVE	Composite Reliability
PRA_DM1	0.902		
PRA_DM2	0.907		
PRA_DM3	0.905	0.960	0.799
PRA_DM4	0.894		
PRA_DM5	0.873		
PRA_DM6	0.882		
Per1	0.915		
Per2	0.861		
Per3	0.901	0.960	0.799
Per4	0.791		
Per5	0.784		
Comp1	0.917		
Comp2	0.899	0.930	0.726
Comp3	0.943		
Comp4	0.909		
CI1	0.833		
CI2	0.890	0.955	0.841
CI3	0.888		
CI4	0.887		
Supp_OM1	0.889		
Supp_OM2	0.886	0.929	0.765
Supp_OW3	0.876		
Supp_OM4	0.909		
EITSkill1	0.846		
EITSkill2	0.904	0.939	0.792
EITSkill3	0.835		
PAdp_C1	0.846		
PAdp_C2	0.902	0.893	0.735
PAdp_C3	0.810		
EI1	0.874		
EI2	0.818	0.887	0.724
EI3	0.899		
DM_Adp1	0.908		
DM_Adp2	0.898		
DM_Adp3	0.915	0.898	0.747
DM_Adp4	0.906		
DM_Adp5	0.900		
Gov_Pol1	0.942		
Gov_Pol2	0.802	0.958	0.819
Gov_Pol3	0.929		
SI1	0.918		
SI2	0.862	0.922	0.798
SI3	0.904		

The factor-loading values and average variance extracted (AVE) are used to evaluate convergent validity, where items of the construct factor loadings must be higher than 0.6, and AVE values must be greater than 0.5 for validity [69]. According to Table 6, this was the case. All constructs' factor loading values are greater than the recommended 0.6; AVE score for each construct is above 0.5, indicating the validity of the model.

4.4. Hypotheses Testing

The current study analyzes relationships by utilizing path estimates (i.e., regression weights), critical ratios, and the *p* values that go with them. The current investigation included four possibilities. First, hypotheses about technological variables were examined, followed by hypotheses about the adoption of DM and the performance of SMEs (Sections 2–4). Table 7 summarizes the study's hypotheses.

Table 7. Summary of the hypotheses.

Hyp.	Paths	Std. Est.	SE	CR	*p*	Decision
H1	DM_Adoption<---Per_Relative_A	0.252	0.048	5.869	***	Supported
H2	DM_Adoption<---Compatibility	0.187	0.037	4.875	***	Supported
H3	DM_Adoption<---Comp_Int	0.057	0.035	1.773	0.076	Not Supp.
H4	DM_Adoption<---Supp_OM	0.191	0.048	3.849	***	Supported
H5	DM_Adoption<---Emp_IT_Skills	0.142	0.039	4.128	***	Supported
H6	DM_Adoption<---Cost	−0.073	0.039	−2.139	0.032	Supported
H7	DM_Adoption<---Enj_Innovation	0.014	0.037	.393	0.695	Not Supp.
H8	DM_Adoption<---Gov_Policy	0.083	0.039	2.037	0.042	Supported
H9	DM_Adoption<---Social_Influence	0.204	0.047	4.447	***	Supported
H10	Performance<---DM_Adoption	0.619	0.044	12.764	***	Supported

Note: *** $p < 0.001$; Std. Est. = standardized estimate; SE = standard error; CR = critical ratio.

As can be seen in Table 7, all our hypotheses are accepted except H3 and H7, which, respectively, proposed that competitive intensity related positively to DM adoption in SMEs and that enjoyment with innovation is related positively and significantly to DM adoption. These two hypotheses were rejected because the results suggest competitive intensity is insignificant in DM adoption (Std. Beta = 0.057 at $p = 0.076$). Similarly, the relationship between DM adoption and enjoyment with innovation was also insignificant (Std. Beta = 0.014 at $p = 0.695$).

5. Discussion

For this study, triangulation of the TOE framework and the resource-based view (RBV) theory is used to investigate what influences the adoption of DM and what role it plays in improving the performance of SMEs in developing countries. According to this research, two findings are presented: the first deals with social media adoption, and the second examines its impact on performance. This study will help you better understand the factors that influence digital marketing adoption and its positive effects (i.e., SME performance), and it presents a holistic view of DM adoption in an organization in various contexts (e.g., SMEs and developing countries). Technology adoption by SMEs may be influenced by several factors, including the TOE framework, as found in this study. SMEs may better comprehend the DM adoption process using the TOE framework, because it breaks down components into technological, organizational, and environmental elements.

Section 2 explained how the TOE framework has been utilized for a long time to identify technological issues, with [31], and being only a few examples. Several studies have used the TOE paradigm to investigate how different aspects of technology affect the likelihood of its widespread adoption [46,74]. Assuming this to be accurate, the TOE framework and Innovation of Diffusion Theory demonstrate that SMEs' adoption of DM is driven by the SMEs' perceptions of DM's relative advantages, compatibility, and perceived benefits. It was discovered that perceptions of DM's compatibility significantly influence SMEs' decisions to deploy it ($p = 0.05$). Because DM is already so pervasive, convincing others to employ it was simple. Small- and medium-sized business owners and managers like using DM owing to its user- and installation-friendliness. This conclusion is consistent with prior research demonstrating a positive association between compatibility sentiments and the use of direct messages [41]. The use of cutting-edge technologies may entail a reevaluation of long-standing organizational assumptions and standards. This will also

have an impact on the technological structure of an organization. Any modifications to a company's operational procedures or IT infrastructure must be feasible in light of its current state.

The second component of the TOE framework examines the influence of institutions on tech diffusion. Many studies have been conducted on the organizational elements that influence the adoption of new technologies [34,41]. To explore their impact on the adoption of new technologies, SME characteristics have been examined [75]. Using findings from this study, IT competence, owner/manager support, and perceived cost are the three most important organizational aspects. Technology-related skills were also examined in the survey for this study and found that IT staff skills are critical in Pakistani SMEs' adoption of DM. In contrast, the findings show a negative correlation between Pakistani SMEs' perceptions of the cost and their adoption of DM. SMEs are wary of using new technology in their operations because they lack resources, and hence, are reluctant to do so.

Environmental variables make up the third set of TOE considerations and can affect whether or not new technology is adopted. How SMEs operate can help us better appreciate their commitment to information technology (IT) [35,76]. Because of their working environment, businesses are thought to be stimulated to adopt new technology as they adapt to external environmental changes [76]. It has been discovered that the adoption process is influenced by numerous environmental elements, some of which have yet to be discovered. SMEs are more likely to implement digital media due to increased competition and government policies.

SMEs' adoption of new technologies is heavily influenced by individual factors. Scholars have emphasized the importance of the functional and emotional responses of decision-makers in influencing the adoption of innovation at the corporate level [33]. Their individuality is expressed in their views, motivations, and other relevant characteristics, such as personality type and psychographics. An organization's ability to adopt new technologies is strongly influenced by the owner's background, the manager's level of commitment, leadership styles, and technical expertise [54]. There are two human variables that may influence the adoption of DM in Pakistani SMEs, according to this study. These elements include the influence of others and a personal interest in new technology.

Based on RBV theory, this study examines the relationship between an SME's performance and its DM presence. It was concluded that DM adopted by SMEs has a significant impact on their overall performance. Digital marketing significantly improves organizational performance, whereas social media adoption has a considerable beneficial impact on corporate operations [57]. Research shows there is a substantial correlation (i.e., a path coefficient of 0.619) between the adoption of digital marketing by small businesses and their overall performance (i.e., the *p* value is less than 0.001). DM adoption has a beneficial impact on the performance of small businesses [58].

5.1. Theoretical Contributions

This study contributes to the current literature on small- and medium-sized businesses' adoption of IT innovations, stressing the significance of several factors in the process. Based on the TOE framework, this study identifies the technological, organizational, and environmental elements (among others) that influence the adoption of DM by SMEs in developing nations. Using empirical evidence, this study contributes to the three categories of the TOE framework. It proves its application to studies of ICT adoption by SMEs in developing countries by identifying essential success factors for DM implementation.

It is clear from the findings of this study that DM adoption in small- and medium-sized enterprises in developing countries is affected by several crucial criteria. Diffusion of innovation (DOI) theory has been incorporated into the technological setting of TOE in this research. We can therefore say that our knowledge of what affects the adoption of DM in SMEs has been improved by this study.

SMEs in a developing country are more likely to adopt DM because of their focus on the TOE framework's three settings (technological, organizational, and environmental).

Furthermore, this study developed a model that integrates numerous technological, organizational, and environmental context factors, unlike previous studies. This integrated method strengthens our understanding of the impact of environmental factors on the adoption of DM in SMEs by examining the significance of technological variables, providing specific information about the role of organizational elements in decision making, etc.

Previous research has found few examples of an integrated model for new technology adoption and business success that considers all three variables simultaneously. Several studies have examined the why, how, and impacts of new technology [34,41]. This study contributes to the advancement of RBV theory in information technology by emphasizing the significance of DM as an intangible resource that contributes to creating value and sustaining competitive advantage for enterprises. This research adds to our understanding of RBV theory in IT by offering a theoretical framework and supporting evidence. As a result, this is the first study to employ RBV theory to investigate how technological innovation affects service organization productivity (i.e., for SMEs). There has yet to be research that explores the role of DM adoption in the success of SMEs in developing countries.

5.2. Practical Contributions

The literature implies that DM technologies can help SMEs attract and engage more customers, can increase customer satisfaction, can help communicate with stakeholders more effectively, and can deliver important market information. To attain long-term financial viability, business owners and managers can benefit from this research by learning how to strategically incorporate DM platforms into their operations. For SME owners/managers, this study provides a framework for analyzing the importance of DM platforms on the performance of SME businesses. It is anticipated that this research will help managers and owners of SME businesses understand the benefits of DM platforms.

Small- and medium-sized enterprises in Pakistan can use a comprehensive framework to explore the significance of technological, organizational, and environmental factors needed to adopt DM platforms. SME owners and managers can use the model developed in this study to assess favorable conditions for DM adoption and to create awareness of the numerous conditions that influence adoption decisions inside their organizations. Owners and managers may now see the importance of DM platforms thanks to the conclusions from this study. There is a critical need for ways in which people can engage with one another and share their opinions and experiences about a wide range of products and services as the use of DM platforms spread around the globe [74]. This study's findings may motivate SMEs to establish a social media presence in order to widen their market reach and break down geographic barriers by bringing existing and future customers closer.

This study has practical consequences for Pakistani policymakers and the SME sector because it provides a comprehensive model that details not just the reasons for DM adoption, but also its repercussions. The adoption of DM platforms by SMEs can be improved by tackling technological, organizational, and environmental concerns with this paradigm in mind. This methodology will help decision makers in small- and medium-sized enterprises better understand the need to invest in DM to boost their business's success.

For this reason, this study's findings may help SME owners and managers in Pakistan understand the requirements for effective implementation of DM and the expected results from DM adoption. As a result, small- and medium-sized business owners/managers in Pakistan will benefit.

5.3. Limitations and Future Research Directions

Due to the reliance on only one source of data, applying the study's conclusions to other stakeholders may be constrained. Additional stakeholders, like customers, suppliers, government officials, and employees, should be consulted in future studies to gain a better understanding of how SMEs are using digital marketing. There are many different ways in which SMEs from different industries use different DM platforms, depending on their

specific operational needs, and this study did not examine all of them. DM platforms like Facebook and Twitter should be examined in future studies to see how they affect the success of small businesses.

Because of the TOE framework's context-specificity, the results of this study may be limited. As a result, future research should focus on developing a more comprehensive model of the DM adoption process for SMEs by combining different models, such as TAM and DOI. Small- and medium-sized enterprises face a significant challenge when it comes to improving their DM platform performance, depending on their business model, strategies, and stakeholders. To learn more about the benefits of DM implementation by SMEs, more in-depth studies are recommended.

Quantitative analysis of the many DM adoption characteristics and their effects on performance was carried out for this study by using a questionnaire. DM adoption in SMEs in Pakistan is influenced by context-specific factors that are difficult to capture using quantitative methods. Hence qualitative approaches were used to gain a better understanding of the impact of DM adoption in terms of performance metrics. That is why a qualitative investigation of the reasons and effects of DM adoption is recommended. Using this method, researchers can determine the factors that influence SME adoption of DM in certain contexts. It is also possible to assist academics in establishing more meaningful indicators that could be affected by correct implementation of DM by using a qualitative lens to study performance indicators for SMEs.

An issue with this research is that it only examined connections between two people. Despite a thorough review of the literature on why and how these antecedents' factors of DM adoption were considered, this study does not provide an evaluation of the internal link between antecedents' factors of DM adoption and the performance of SMEs. Even though components from the TOE framework (i.e., those that influence DM adoption) were brought into this study, they were not investigated. Future research should focus on the interrelationship between this study's independent variables.

Conclusions from quantitative research should be based on whether or not the findings can be applied to a larger population. The findings of a study that analyzes a phenomenon (in this case, the reasons for, and repercussions of, DM adoption by SMEs) must be assessed to see if they can be generalized to a larger population. In a developing country, researchers survey small business owners and managers for data (e.g., in Pakistan). Rather than drawing from a single industry, the data in this study come from a diverse group of SME owners and managers across Pakistan. Although the sample size used in this study was large enough for testing the predicted model, more research is needed to evaluate whether the results are generally applicable by gathering data from a larger sample of respondents from various SMEs in various industries.

6. Conclusions

By utilizing a quantitative design, this paper primarily offers an understanding of the factors affecting DM adoption by Pakistani SMEs. A framework for DM adoptions in Pakistani SMEs was designed to show the potential of DM adoption on the performance of SMEs in Pakistan. This study found factors that drive (or hinder) the adoption of DM by SMEs in Pakistan. The findings showed that DM significantly mediates the association between independent variables (technological, organizational, environmental, and personal factors) and the dependent variable (SME performance), as seen in Figure 1. In addition, it revealed that all the factors mentioned play a key role in increasing SME performance. Furthermore, the findings contribute meaningfully by providing companies and participating parties with a process for deciding the imperative aspects that enhance performance. Although the current study's findings have some limitations, they will pave the way for future research.

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