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FINANCIAL IMPLICATIONS OF SOCIAL MEDIA ENGAGEMENT AND CHATBOT USE: A FIRM-LEVEL STUDY IN EMERGING MARKETS

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Abstract

This study investigates the impact of key social media components—content quality, customer engagement, platform interactivity, and social listening—on the financial performance of firms in Pakistan, with chatbot usage examined as a moderating variable. Despite the growing use of digital platforms, many firms in Pakistan underutilize social media and AI tools due to a lack of empirical guidance on their financial contribution. The objective of this research is to determine the strength of these relationships and evaluate how chatbot integration enhances the effectiveness of social media strategies. A quantitative, cross-sectional design was employed, gathering data from 300 professionals across various industries through a structured questionnaire. Analysis was conducted using Smart PLS 4.0 and SPSS 26.0. The model explains 75.8% of the variance in financial performance ($R^2 = 0.758$). All direct relationships were statistically significant, with platform interactivity ($\beta = 0.167$), content quality ($\beta = 0.196$), and social listening ($\beta = 0.167$) showing strong positive effects. Chatbots significantly moderate these relationships, with the strongest effect on content quality ($\beta = 0.147$). The study recommends that firms enhance content strategies, adopt interactive features, implement social listening tools, and integrate chatbot technologies to improve performance. Future research should use longitudinal designs and explore industry-specific implications.

Keywords: Social Media, Platform-Interactivity, Social-Listening, Chatbots, Financial Performance.

Introduction

In the modern digital age, social media has become a vital tool for companies seeking to enhance their brand reputation, engage customers, and improve overall financial performance. The use of social media has become an integral part of businesses in emerging economies, such as Pakistan, due to the increasing penetration of internet connections and growing digital literacy. Currently, there are more than 87 million active internet users in Pakistan, indicating that their online engagement strategies have significant market potential (Pakistan Telecommunication Authority, 2023). Nonetheless, many companies remain unaware of the contribution made by

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social media efforts to their financial performance. The presence of social media elements, specifically content quality, customer engagement, platform interactivity, and social listening, is crucial in determining the success of adopted digital marketing strategies. Good quality increases credibility and enhances brand image, while customer engagement maintains brand loyalty and retention (Ahmed & Zahid, 2022). Real-time chat on interactive features, such as live videos and polls, enables consumers to enjoy an improved consumer experience (Khan et al., 2021). In the meantime, social listening enables companies to address recent market changes and customer responses in a timely manner, which impacts brand image and credibility (Hajli, 2014; Felix et al., 2017). Although all these elements are known to be beneficial, there is a limited empirical association between them and the financial outcome, which could be identified through measures such as ROI, sales, or customer acquisition cost, among others.

The emergence of chatbots, i.e., automated programs with artificial intelligence that facilitate real-time communication, revolutionizes the digital interaction between people in a new way. Chatbots are increasingly employed worldwide to address customer service inquiries, encourage purchases, and raise the efficiency and effectiveness of operations, as people are less busy (Brandtzaeg & Foltstad, 2018; Xu et al., 2020). IBM (2023) estimates that chatbot technology has the potential to reduce customer service costs by up to 30 percent. The use of chatbots in Pakistan is increasing, especially in the banking, telecommunications, and e-commerce sectors (Javed, 2021; Hassan et al., 2023). However, there are only a few research works done on the role of chatbots in moderating the relationship between social media activities and financial performance. In Pakistan, small and medium-sized enterprises (SMEs) comprise over 90 percent of the entire business sector, and the sector contributes significantly to the GDP (SMEDA, 2022). In a world where digital marketing tools have become invaluable growth tools, digital marketing itself has become a necessity in Pakistan. Nevertheless, a persistent problem remains with digital skills and the underutilization of AI tools, such as chatbots, in a strategic approach (Hassan et al., 2023). Understanding how these instruments impact the efficiency of social media elements in relation to financial performance can be beneficial to companies seeking to optimize their digital investment returns. This present research is theoretically grounded in the Resource-Based View (RBV), which posits that companies achieve a competitive advantage by utilizing valuable, rare, and inimitable resources (Barney, 1991). The engagement mechanisms, social media content, and automation through chatbots using artificial intelligence can be considered intangible resources that enhance an organization's performance. Moreover, the Technology Acceptance Model (TAM) acknowledges that the more the technology is perceived as useful and easy to use, the higher the likelihood of firms trusting the use of digital tools (e.g., chatbots) (Davis, 1989; Venkatesh & Davis, 2000).

Considering these trends, the detailed research paper poses several research questions that guide its development. The initial research question is: What is the role of social media elements in the financial performance of Pakistani firms? Additionally, this work investigates the following: What is the moderating effect of chatbot use on the relationship between social media elements and a company's financial performance? To theorize these associations, the work also asks: How can the Resource-Based View (RBV) predict the importance of social media and chatbot technologies as strategic assets to enhance firm performance? Moreover, what are the

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implications of the Technology Acceptance Model (TAM) for the integration and success of chatbot technologies in a firm's digital engagement strategy? The current research, from both scholarly and practical perspectives, has contributed to the study of digital marketing by examining the effect of certain social media elements on the financial performance of Pakistani firms. Presenting the use of chatbots as a moderation factor to evaluate the extent to which it confirms or removes the relationship between social media strategies and performance in firms.

Rationale

In today's highly digitized economy, firms in emerging markets, such as Pakistan, are increasingly reliant on social media platforms to enhance visibility, engage customers, and drive financial performance (Ahmed & Zahid, 2022; Khan et al., 2021). However, despite growing internet penetration and digital literacy, a significant gap remains in the strategic integration of social media components—such as content quality, customer engagement, platform interactivity, and social listening—with tangible financial outcomes. Moreover, the rapid advancement in conversational AI, particularly chatbots, offers new avenues for personalized interaction and operational efficiency (Cheng et al., 2024; Brandtzaeg & Følstad, 2018). However, limited empirical research has explored how chatbots may moderate the impact of social media efforts on financial performance within the Pakistani corporate context. This study aims to bridge that gap by aligning technological innovation with performance metrics and offering insights that are both theoretically grounded and relevant.

Problem Statement

While social media has been widely adopted by firms in Pakistan, the measurable impact of specific social media elements on financial performance remains underexplored. Even less is known about how chatbot technologies, as a form of conversational AI, influence the effectiveness of these strategies. Despite the prevalence of digital campaigns, many firms do not deploy these tools in a way that maximizes return on investment (ROI), partly due to a lack of empirical evidence and strategic frameworks. This gap undermines firms' ability to harness digital tools for sustained performance in competitive markets (Hassan et al., 2023; Mirza, 2022).

Research Questions

1. What is the impact of social media elements—content quality, customer engagement, platform interactivity, and social listening—on the financial performance of firms in Pakistan?

2. How does chatbot usage moderates the relationship between these social media elements and financial performance?

Research Objectives

- To evaluate the direct impact of content quality, customer engagement, platform interactivity, and social listening on firms' financial performance.

- To assess the moderating effect of chatbot usage on the relationship between social media elements and financial performance.

Theoretical Framework

The study is anchored in two primary theoretical perspectives:

Resource-Based View (RBV)

RBV posits that organizations can achieve a sustained competitive advantage by effectively utilizing valuable, rare, inimitable, and non-substitutable (VRIN) resources (Barney, 1991). In this context, social media content, engagement tools, and chatbot technologies are intangible assets that can drive superior financial outcomes when strategically managed (Felix et al., 2017; Hassan et al., 2023).

Technology Acceptance Model (TAM)

TAM suggests that perceived usefulness and perceived ease of use influence the adoption and integration of new technologies (Davis, 1989; Venkatesh & Davis, 2000). Chatbot technologies, when deemed useful and user-friendly, are more likely to be integrated into firms' digital marketing strategies, enhancing their effectiveness and subsequent financial performance (Cheng et al., 2024; Cao et al., 2024).

Conceptual Framework

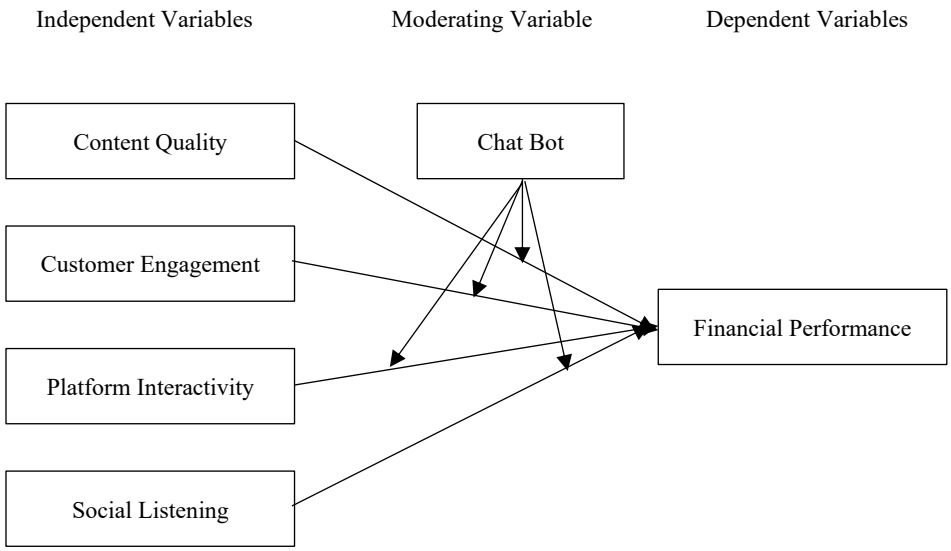


Figure 01: Research Framework

Literature Review

Content Quality

Content quality is one of the key building blocks of a social media strategy, characterized by the relevance and clarity of the presented content, consistency, visual

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appeal, and the value it adds to the target audience. High-quality content enables firms to develop trust, foster user interest in their content, and strengthen customer-to-brand connections (Felix et al., 2017). Effective and brand-consistent content is a crucial attention-grabbing factor, which can result in increased credibility and a higher customer retention rate, as it considers consumer needs and preferences as they are (Ahmed & Zahid, 2022). One of the most recent studies highlights that the level of influence over consumer behavior is significantly higher when considering authentic and informative materials, especially when personalized, rather than generic or promotional communications. People want to see familiar faces and trustworthy voices, as Kantar (2024) suggests that influencer content attracts 2.2 times more attention to the branded story compared to branded content.

On the same note, nano and micro-influencers who create authentic, community-based content have been distinguishing themselves from celebrity influencers in aspects of engagement and conversion, especially in niche areas (Chhabra, 2024). There is an increasing body of literature that concludes the two are directly related, in that the quality of content has a direct influence on firm performance. A recent study conducted by Suryani et al. (2024) on Moroccan microenterprises also revealed that high-quality content plays a significant role in influencing consumer purchase intentions, resulting in a predictive power ($R^2 = 0.53$) for online shopping behavior. Such visual and video material on TikTok-style platforms and Instagram Data in Pakistan has been found to have a positive impact on customer memory, engagement, and retention within the retail and service sectors (Asif & Sandhu, 2023). In agreement, Pakistani companies that consistently upload high-quality video and graphic materials report an increase in customer acquisition, brand perception, and marketing return on investment (Amin et al., 2025).

H_1: Content quality on social media has a significant positive impact on the financial performance of firms.

Customer Engagement

Customer engagement is a crucial element of social media strategy, which measures the intensity of consumer-brand relationships online. It also comprises behavioral evidence, such as likes, comments, shares, and any other form of active engagement, excluding purchasing. Santini et al. (2021) thoroughly examined the literature. They stated that customer satisfaction, emotional involvement, and trust can be considered the major antecedents of engagement, which, in turn, contribute to positive marketing outcomes, including loyalty and word-of-mouth. According to a recent study in the banking sector of Pakistan, Fida et al. (2023) revealed that the engagement of the customer had positive effects that are strongly associated with the corporate reputation and the financial performance of the study, suggesting the engagement to be symbolically as well as strategically important in a developing economy. Social media engagement can also be explained using the COBRA (Consumption, Contribution, Creation) model, according to which consumer behavior is ranked on a scale of content usage, ranging from being a mere viewer to a creator of content (Schivinski et al., 2016).

Wang et al. (2025) reported that multi-platform engagement approaches increased e-commerce conversion, with the underlying reason being that they enhance

communication around the brand across touchpoints, thereby augmenting sales by 2-5 percent. Similarly, Mubarak et al. (2024) demonstrated that Instagram engagement indicators, such as the comment-to-post ratio and loyalty rate, were modestly correlated with real financial performance, providing strong evidence of the practical importance of online communication. The kind of engagement counts too. Engagement strategies (also known as task-based engagement strategies) that focus on action, like gamified quizzes, user polls, and co-creation campaigns, were found to yield more objective results as compared to experiential or exclusively visual campaigns (Solem et al., 2023). This finding aligns with the conclusions of Bhatti et al. (2019), who analyzed Pakistani textile companies and found that the presence of a CRM social element (i.e., interaction with customer feedback and the resolution of issues publicly) resulted in both increased engagement and improved firm performance.

H_2: Customer Engagement on social media has a significant positive impact on the financial performance of firms.

Platform Interactivity

The concept of platform interactivity encompasses the potential for users to engage with B2B on a social media platform actively (in most cases, in real-time) (McMillan & Hwang, 2002). Such active interaction features include polls, live sessions, stories, direct communication, and interactivity, which help create the impression of immediacy and authenticity in brand-consumer communication. A Pakistani study highlights that user satisfaction and the adoption of social media rely heavily on social media interactivity. Basing their work on the Uses and Gratification Theory, Ahmed, and Zia (2022) demonstrated how social media's interactive features (e.g., immediate messaging, prompt feedback) increased the satisfaction rate and continuous intention of users to use a brand, as evidenced by a demographic survey of Lahore residents. They emphasized that polls and real-time Q&A are the most highly interactive formats, specifically popular among younger demographics (Ahmed & Zia, 2022).

Across the world, websites with a greater element of interactivity — such as Instagram's live feature, TikTok's comment challenges, or Facebook's polling — are increasing interactivity and emotional connection with users (Ko, 2023). This testifies to the Media Richness Theory, which posits that communication is more effective in richer forms of content (Lu et al., 2014). Information provided by recent research on Pakistani social patterns also shows that users are attracted to visual and physical immersive experiences; design features customized toward cultural values (such as Urdu language stickers and regional filters) drive their further engagement, particularly in the rural communities (Qin et al., 2021). The quantitative research conducted in e-commerce reveals that a multi-platform approach, where interactive forms are applied consistently across platforms, can increase the sales conversion rate by 2-5 percent due to repetition and habituation (Wang et al., 2025). On the same note, Mehboob and Khan (2024) found that Pakistani consumers are likely to respond to promotional messages that involve consumer interaction, such as quizzes or one-to-one chats. Interactive content also provides the personalization that boosts parasocial interaction and brand affinity (Sokolova & Kefi, 2019), indicating a more serious emotional investment.

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H_3: Platform activity on social media has a significant positive impact on the financial performance of firms.

Social Listening

The concept of platform interactivity encompasses the potential for users to engage with B2B on a social media platform actively (in most cases, in real-time) (McMillan & Hwang, 2002). Such active interaction features include polls, live sessions, stories, direct communication, and interactivity, which help create the impression of immediacy and authenticity in brand-consumer communication. A Pakistani study highlights that user satisfaction and the adoption of social media rely heavily on social media interactivity. Basing their work on the Uses and Gratification Theory, Ahmed, and Zia (2022) demonstrated how social media's interactive features (e.g., immediate messaging, prompt feedback) increased the satisfaction rate and continuous intention of users to use a brand, as evidenced by a demographic survey of Lahore residents. They emphasized that polls and real-time Q&A are the most highly interactive formats, specifically popular among younger demographics (Ahmed & Zia, 2022). Across the world, websites with a greater element of interactivity — such as Instagram's live feature, TikTok's comment challenges, or Facebook's polling — are increasing interactivity and emotional connection with users (Ko, 2023).

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H_4: Social Listening on social media has a significant positive impact on the financial performance of firms.

Chatbots

Digital marketing and customer service tools and strategies also include chatbots (intelligent systems that automate communication with customers) to make them more responsive and to personalize the customer service system. Aspects such as responsiveness, precision, and understanding in chatbot interactions contribute to high-quality interactions, resulting in a significant increase in customer satisfaction and trust, which in turn leads to brand loyalty and repurchasing intentions (Frontiers, 2022; Liu & Sundar, 2024). Based on the Stimulus-Organism-Response (S-O-R) paradigm, chatbots can be classified as stimuli that elicit cognitive and emotional responses from the user, resulting in the final behavior. Continued adoption is motivated by usability considerations of ease of use, personalization, and perceived intelligence (Cao et al., 2024), and communication style, particularly an informal or friendly manner of communication, may encourage parasocial relationships and positively influence brand attitudes (Cheng et al., 2024; Journal of Retailing and Consumer Services JRC&S,

2023). The quality of chatbot service in the domain of luxury brands and e-commerce has also been associated with e-brand loyalty, mediated by trust and electronic word-of-mouth (JRC&S, 2024). Nonetheless, there is a general complaint that chatbots have low design quality, fail to understand or answer questions, and exhibit no empathy, as people would expect from a human, which makes them rather unbelievable and induces friction in the user experience (Kagan et al., 2025; WSJ, 2024). Also, the issues of hallucinations, over-anthropomorphism, and situations with breach of privacy are more serious ethical and functional problems (Sadler et al., 2024). Nonetheless, when properly developed, chatbots can create significant improvements in digital communication, foster better customer relationships, and have a positive impact on the performance of firms in social media systems.

H_5: Chatbot usage moderates the relationship between content quality and the financial performance of firms, such that the relationship is stronger when chatbot usage is high.

H_6: Chatbot usage moderates the relationship between customer engagement and the financial performance of firms, such that the relationship is stronger when chatbot usage is high.

H_7: Chatbot usage moderates the relationship between platform interactivity and the financial performance of firms, such that the relationship is stronger when chatbot usage is high.

H_8: Chatbot usage moderates the relationship between social listening (including sentiment analysis) and the financial performance of firms, such that the relationship is stronger when chatbot usage is high.

Financial Performance

Financial performance refers to the level of money a firm earns, its control over expenditure, and its ability to become profitable in the long term. With references to digital marketing and social media in particular, scholars are increasingly considering the Internet as a strategic resource that enhances interaction and communication, thereby improving the effectiveness of organizational functioning and financial performance. For instance, research by Fernandez-Miguell et al. (2020) reveals a positive correlation between social media activity and the profitability of restaurant corporations, indicating that digital presence has a direct impact on financial gains. Other researchers who compare Indonesian and Greek corporations note that the active use of social media strategies is correlated with better revenue, return on assets (ROA), and Tobin's Q (Shafa & Puspitasari, 2024; Malliaris & Freeman, 2020).

The overall robustness of this relationship is also supported by meta-analytic evidence: Mao et al. (2022) found a substantial moderate correlation ($r = 0.25$, $p < .001$) between total social media use and organizational performance, encompassing financial, marketing, and operational outcomes, across 165 empirical study results. It aligns with subsidiary-level studies, specifically in this case, the increased profitability associated with assured social media strategies, as substantiated by an impression management approach, which was realized through text mining (Kim & Mauborgne, 2013). The use of social media by microfinance institutions and SMEs in an emerging and developing country context has been shown to have a positive effect on the

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important financial indicators. The research by Daowd et al. (2021) on microfinance institutions in Asia and Africa found that the use of social media significantly increased efficiency, portfolio quality, and outreach, leading to a greater degree of financial sustainability. Mirza (2022) studied SMEs in Pakistan and found that social media involvement has a statistically significant positive effect on business performance, which can be mediated by marketing capacity and cost-cutting, thereby enhancing the professional advantages of online participation among small business owners. Additionally, sentiment-based studies, such as the one regarding ESG discussions, suggest that social media sentiment leads to changes in abnormal returns, underscoring the connection between digital discourse and the well-being of financial markets (Nicolas et al., 2023).

Research Methodology

This paper employed a quantitative research design to investigate the impact of four social media elements—quality of content, customer engagement, platform interactivity, and social listening—on the financial performance of firms, with a moderating variable of chatbot use. A cross-sectional survey methodology approach was used, which permitted the use of data obtained at a single instance. The given approach is most especially helpful in determining the associations between variables and is commonly valuable in the research of social media and marketing (Hair et al., 2019).

Marketing professionals, digital strategists, and customer service executives from various industries formed the target population in Pakistan. A purposive sampling approach has been employed, as it enables the inclusion of individuals who possess the most domain-specific knowledge about digital and social media practices, which is particularly suitable for studies on this topic (Etikan et al., 2016).

Researchers used a structured questionnaire that contains validated scales to collect data. The measure of content quality was based on a five-point Likert scale developed by Felix et al. (2017) in terms of relevance, informativeness, and visual attractiveness. To determine customer engagement, the researchers employed the scale proposed by Hollebeek et al. (2014), which comprises cognitive, emotional, and behavioral dimensions. The four items, originating from McMillan and Hwang (2002), were used to measure platform interactivity, which included real-time interaction tools such as polls and messaging. The social listening was addressed using a scale modified from Chikandiwa et al. (2013), which included responsiveness to feedback and monitoring of customer sentiment. Chatbot usage as a moderating variable was assessed with a scale proposed by Gnewuch et al. (2017), which includes chatbot responsiveness, personalization, and user satisfaction. A five-item subjective scale developed by Kaplan and Norton (1996) for the Balanced Scorecard constitutes a financial performance measure, consisting of profitability, ROI, revenue growth, and cost efficiency.

Each item was measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Descriptive statistics (mean, standard deviation, and frequencies) were calculated using SPSS 26 to analyze the sample characteristics and assess the completeness of the data before hypothesis testing. To compare variable relationships, Partial Least Squares Structural Equation Modeling

(PLS-SEM) was employed using SmartPLS 4.0, which is recommended for complex models, including those with moderating effects and reduced sample sizes (Hair et al., 2019).

The factor loadings, Cronbach's alpha, composite reliability, and average variance extracted (AVE) were also used to evaluate the measurement model, determining internal consistency and convergent validity. Heterotrait-Monotrait (HTMT) ratio was used as a measure of discriminant validity (Henseler et al., 2015). Bootstrapping (5,000 subsamples) was subsequently used to evaluate the structural model and determine whether path coefficients, t-values, and p-values were significant at a 95% confidence level. Interaction terms were generated in SmartPLS between chatbot usage and four independent variables to evaluate the moderating effect of chatbot usage. This rigorous methodological approach ensured the reliability and validity of results, enabling meaningful conclusions about how social media and AI tools influence financial performance in the Pakistani corporate context.

Analyses and Interpretations

Participants Demographic Characteristics

The demographic details, as well as the social media usage behavior of the 300 respondents, are summarized in Table 1. The majority (58%) were male, and 42% were female; hence, this gender chart is moderate. The greatest percentage of participants fell within the 26-35 years (46%) and 18-25 years (28%) age ranges, indicating that most participants were young careerists or workers with only a few years of experience in their workplaces. The sample was also well educated, with a significant proportion of respondents holding a master’s degree (46 percent). Regarding work experience, 37 percent had 13 years of experience, indicating that they are actively operating and strategizing in marketing functions. The distribution among industries was varied, with e-commerce being the most represented (24 percent), followed by banking/finance (21 percent) and FMCG/retail (19 percent), which allows for generalizing the results to all business areas. Regarding the use of social media, 39 percent of the respondents stated that they spent 3-4 hours every day on social media, whereas 27 percent spent more than 4 hours demonstrating a high level of digital activity and relevance in researching the web's influence on firm performance. The demographic and online behavior samples as a whole support the practicality of the chosen sample size in the study of social media strategy, chatbot integration, and financial performance in a digital-savvy company.

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Table 1: Demographic Characteristics			
Category	**Sub-Category**	**Frequency (n)**	**Percentage (%)**
Gender	Male	174	58.0%
	Female	126	42.0%
Age Group	18–25 years	84	28.0%
	26–35 years	138	46.0%
	36–45 years	54	18.0%
	Above 45 years	24	8.0%
Education Level	Bachelor's Degree	129	43.0%
	Master’s Degree	138	46.0%
	M.Phil./PhD	33	11.0%
Work Experience	Less than 1 year	33	11.0%
	1–3 years	111	37.0%
	4–6 years	90	30.0%
	More than 6 years	66	22.0%
Industry	E-commerce	72	24.0%
	Banking/Finance	63	21.0%
	FMCG/Retail	57	19.0%
	Tech/IT	54	18.0%
	Others	54	18.0%
Social Media Usage	Less than 1 hour/day	27	9.0%
	1–2 hours/day	75	25.0%
	3–4 hours/day	117	39.0%
	More than 4 hours/day	81	27.0%

Structural Equation Modeling

The structural model in Figure 1 illustrates how the four components of social media — content quality and customer engagement, platform interactivity, and social listening — can impact financial performance, with chatbots serving as a moderating variable. Indicator reliability is confirmed to be high, as each construct is measured using indicators with reliable scores (outer loadings of 0.7 and above). The model also

exhibits a high magnitude of explanatory power, which is supported by an explanation of 75.8% of the variance in financial performance (R^2 = 0.758). Regarding direct effects, the strongest impacts on financial performance are identified in platform interactivity (β = 0.167), content quality (β = 0.123), social listening (β = 0.106), and customer engagement (β = 0.072). Chatbots have a moderate positive effect on the four relations, with the lowest moderation being the effect hypothesis on the relationships between platform interactivity (beta = 0.147) and social listening (beta = 0.133), as well as financial performance. This indicates that chatbots enhance the strength of interactive platforms and real-time brand tracking. Overall, the model supports the notion that chatbots can serve as a strategic amplifier for leveraging social media to impact financial outcomes at the firm level.

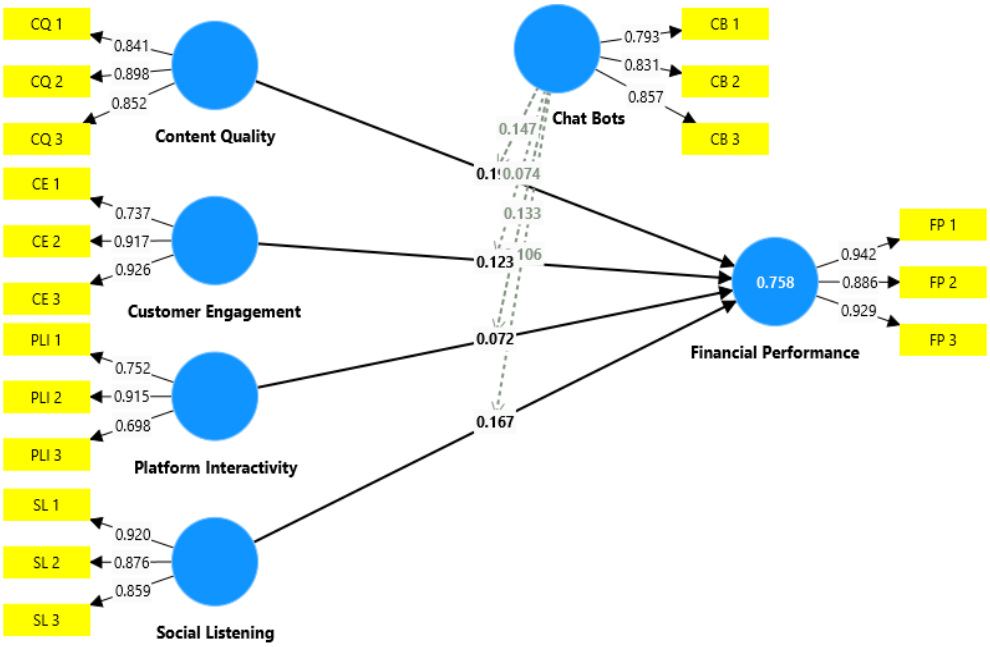


Figure 02: Measurement Model

Outer Loadings

The outer loadings, demonstrated for each construct in the measurement model, indicate high indicator reliability and convergent validity, as most items exceed the suggested minimum value of 0.70 (Hair et al., 2019). In the case of the Chat Bots construct, the loadings are between 0.793 and 0.857, satisfying the measurement repeatedly. Loadings of Content Quality items (0.841 to 0.898) are also high, but Customer Engagement items (0.737 to 0.926) have the highest loadings, with CE2 having the highest value, exceeding 0.90, indicating a strong indicator strength. Financial Performance items are highly stable, fluctuating between 0.886 and 0.942, indicating good firm outcomes. The loadings of Platform Interactivity are bearable (0.6980, 0.915), although PLI3 is less than perfect; however, this is understandable, as the overall reliability of the construct is attained, as shown in Table 3 (Hair et al., 2019). Finally, Social Listening demonstrates high reliability, as the three variables within the category possess loading values of more than 0.85. Overall, outer loadings demonstrate

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that the measurement of the constructs is not only reliable but also confirms the quality of the measurement model and its adequacy for further structural analysis.

Table 02: Outer Loadings

	Chat Bots	Content Quality	Customer Engagement	Financial Performance	Platform Interactivity	Social Listening
CB 1	0.793					
CB 2	0.831					
CB 3	0.857					
CE 1			0.737			
CE 2			0.917			
CE 3			0.926			
CQ 1		0.841				
CQ 2		0.898				
CQ 3		0.852				
FP 1				0.942		
FP 2				0.886		
FP 3				0.929		
PLI 1					0.752	
PLI 2					0.915	
PLI 3					0.698	
SL 1						0.92
SL 2						0.876
SL 3						0.859

Reliability and Validity

The statistics of reliability and validity demonstrate that the measurement model exhibits excellent internal consistency and convergent validity across all constructs. The Cronbach alpha for each variable exceeds the acceptable alpha score of 0.70, and the values for Sc interaction and Social Listening are even higher, at 0.909 and 0.862, respectively (Hair et al., 2019). All the constructs have composite reliability (rho_c) values between 0.834 and 0.942, which exceed the standard set at 0.70, indicating high reliability of the indicators. All constructs have AVE values higher than 0.50, with Financial Performance (0.845) and Customer Engagement (0.748) demonstrating very good convergent validity, indicating that each construct explains a

significant amount of variance in the indicators. Although Platform Interactivity is most likely to be dropped (alpha is the lowest (0.740)), there is also no reason to exclude it in the model because of the acceptable composite reliability (0.834), as well as AVE (0.630). Overall, these findings confirm the reliability and convergent validity of the constructs, as well as the validity of the entire measurement model, allowing for the structural path analysis to proceed.

Table 03: Reliability and Convergent Validity

	Cronbach's alpha	Composite reliability (rho_a)	Average variance extracted (AVE)
Chat Bots	0.794	0.871	0.685
Content Quality	0.831	0.839	0.747
Customer Engagement	0.832	0.901	0.748
Financial Performance	0.909	0.923	0.845
Platform Interactivity	0.74	0.968	0.63
Social Listening	0.862	0.871	0.784

Discriminant Validity

All the HTMT values in this model, as shown in Table 4, are less than their conservative level of 0.85, confirming that the constructs exhibit good discriminant validity. For example, the HTMT between Chat Bots and Financial Performance is 0.840, which is at the conservative end and acceptable. The remaining values, including Content Quality and Customer Engagement (0.139), Platform Interactivity and Content Quality (0.088), and Social Listening and Platform Interactivity (0.190), are significantly lower, further confirming that each construct is related to a distinct concept. Chatbots and Financial Performance (0.840) and Content Quality and Financial Performance (0.602) exhibit the highest correlations, indicating that the constructs are meaningful yet distinguishable.

Table 04: Hetero Trait and Mono Trait Ratio

	Chat Bots	Content Quality	Customer Engagement	Financial Performance	Platform Interactivity	Social Listening
Chat Bots						
Content Quality	0.621					
Customer Engagement	0.545	0.139				
Financial Performance	0.84	0.602	0.537			
Platform Interactivity	0.542	0.088	0.447	0.352		
Social Listening	0.398	0.184	0.258	0.519	0.19	

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R-Square

Financial Performance R-squared is 0.758, with an adjusted R-squared of 0.751, as shown in Table 5. This implies that the predictor variables in the model, which include content quality, customer engagement, platform interactivity, social listening, and chatbot moderation, explain almost 75.8% of the variance in financial performance. Hair et al. (2019) state that in the behavioral sciences, the values of R^2 should be 0.75, 0.50, and 0.25 to represent substantial, moderate, and weak effects, respectively. Thus, the value of R^2 is 0.758, indicating a substantial degree of explanatory power, such that the model is highly effective in explaining variations in financial performance in terms of the variables related to social media and chatbots. Even the adjusted R^2 of 0.751, which makes a minor adjustment in view of the model's complexity, lends credence to the model's robustness and parsimony. The results confirm the high predictive validity of the constructs being studied.

Table 05: R Square

	R-square	R-square adjusted
Financial Performance	0.758	0.751

Hypothesis Testing

The results of hypothesis testing in Table 6 indicate that all direct and moderating relationships in the model are statistically significant, as the p-values of all relationships are lower than 0.05 and the t-statistics exceed the cut-off point of 1.96 (Hair et al., 2019). Chatbots have the most significant positive influence on financial performance (beta = 0.518, t = 10.922, $p < 0.001$), underscoring their importance and primary role in enhancing firm performance. There is also a significant and positive influence of Content Quality ($\beta = 0.196$, t = 4.247, $p < 0.001$), Customer Engagement ($\beta = 0.123$, t = 4.010, $p < 0.001$), Platform Interactivity ($\beta = 0.072$, t = 2.143, p = 0.035) and Social Listening (very important 0.167, t = 4.790, $p < 0$ Moreover, the moderating roles that Chat Bots play in the relations between social media constituents and financial performance are altogether confirmed and have statistical significance, proving the enabling effect. Chat Bots x Content Quality (beta = 0.147, t= 3.617, p<'0.001) and Chat Bots x Platform Interactivity (beta = 0.133, t= 3.234, p= 0.00 2), Chat Bots x Social Listening (beta = 0.106, t= 3.627, $p < 0.001$), Chat Bots x Customer Engagement (beta = 0.074, t= 3.3 These results validate each of the given hypotheses and underline the effect, which sends out a signal that the use of chatbots can considerably increase the efficiency of social media approaches to the enhancement of firm-level finance-level performance.

Table 06: Hypothesis Results			
	Original sample (O)	**T statistics (|O/STDEV|)**	**P values**
Chat Bots -> Financial Performance	0.518	10.922	0.000
Content Quality -> Financial Performance	0.196	4.247	0.000
Customer Engagement -> Financial Performance	0.123	4.01	0.000
Platform Interactivity -> Financial Performance	0.072	2.143	0.035
Social Listening -> Financial Performance	0.167	4.79	0.000
Chat Bots x Platform Interactivity -> Financial Performance	0.133	3.234	0.002
Chat Bots x Social Listening -> Financial Performance	0.106	3.627	0.000
Chat Bots x Content Quality -> Financial Performance	0.147	3.617	0.000
Chat Bots x Customer Engagement -> Financial Performance	0.074	3.303	0.001

Discussion

The findings of this study demonstrate that all four social media elements—content quality, customer engagement, platform interactivity, and social listening—have a statistically significant and positive effect on the financial performance of firms in Pakistan. Additionally, chatbot usage was found to be a significant moderator, strengthening these relationships and thus reinforcing the strategic relevance of integrating artificial intelligence into digital marketing strategies.

First, **content quality** emerged as a strong predictor of financial performance. This aligns with the findings of Felix et al. (2017), who emphasized that brand-consistent, relevant, and visually engaging content enhances consumer trust and purchasing behavior. In the Pakistani context, firms producing video and visual content report higher returns on investment and improved customer acquisition (Asif & Sandhu, 2023; Amin et al., 2025). The predictive power of high-quality content on purchase intention has also been validated in other emerging economies, such as Morocco, where personalized content has been shown to significantly influence online shopping behaviors (Suryani et al., 2024). Thus, content remains a foundational pillar for digital engagement and brand performance.

Second, **customer engagement** was positively linked to firm performance. Engagement in this context is not limited to likes and shares but also encompasses emotional, cognitive, and behavioral interactions, as supported by Hollebeek et al. (2014). Studies by Santini et al. (2021) and Fida et al. (2023) confirm that emotional involvement and active digital participation contribute significantly to financial performance through increased customer loyalty and word-of-mouth promotion. In Pakistan's service sector, customer responsiveness through CRM-integrated social platforms was found to directly affect revenue and brand reputation (Bhatti et al., 2019). These results affirm that firms must move beyond passive broadcasting to dynamic and reciprocal interaction with users.

Third, **platform interactivity** had a strong influence on financial performance, which replicates the idea brought forward by other researchers to emphasize the role

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of real-time features in communication, including polls, stories, and live videos (Ahmed & Zia, 2022; Ko, 2023). The dimension of interactivity enhances the perception of immediacy and authenticity of brand message. Following Media Richness Theory, culturally adaptive and immersive content, such as localized designs and the adoption of the Urdu language, has been found to improve not only user satisfaction but also engagement in Pakistan (Qin et al., 2021). This implies that interactive design is not only useful but also a socio-cultural tool of designing that shapes the behaviour of digital consumers.

Fourth, **social listening** played a vital role in financial performance. This result aligns with past studies, which have held that real-time sentiment tracking and responsiveness to comments reflect strategic decision-making (Barasch et al., 2023; Chikandiwa et al., 2013). The ability to track changing customer needs and trends enables organizations to act proactively, thereby making their brands more credible and increasing conversion rates. In Pakistan, Social listening tools have become popular among e-commerce companies, which are eager to deliver on their campaigns by enhancing performance and customizing messages sent to consumers based on their sentiment (Amin et al., 2025).

Most importantly, the utilization of **chatbots** significantly mitigated the impact on all four functionalities between social media dimensions and financial performance. It supports the conclusion by Cheng et al. (2024), who noted that key dimensions that can help create user trust, as well as enhance digital encounters, are chatbot empathy, responsiveness, and personalization. The implementation of chatbots in the Pakistani context, particularly in industries such as banking and retail, has led to a significant improvement in service efficiency and customer retention rates (Javed, 2021; Hassan et al., 2023). In the present research, the highest scores for the moderating influence were found in platform interactivity and content quality, indicating that responsiveness, still within the realm of AI, contributes to the credibility and richness of interaction. These findings align with the S-O-R (Stimulus-Organism-Response) paradigm, which suggests that technological stimulus (e.g., chatbots) can modulate positive effects on user emotion and behavior, resulting in improved financial performance (Cao et al., 2024).

Moreover, the model can explain the variance ($R^2 = 0.758$) of the proposed framework as being powerful in explaining the financial impacts of digital engagement at the firm level. This finding aligns with previous meta-analytical research, which reported significant correlations between digital media utilization and financial performance indicators, such as ROI and revenue growth (Mao et al., 2022; Fernandez-Miguell et al., 2020).

Collectively, those findings underscore the accumulating evidence that a combination of social media and AI tools, such as chatbots, is a highly desirable, scarce, and inimitable asset —one that conforms to the Resource-Based View (Barney, 1991). Additionally, the significant role of moderation in chatbot use aligns with the Technology Acceptance Model, which focuses on perceived usefulness and ease of use as primary factors influencing the adoption of technology within an organizational environment (Davis, 1989; Venkatesh & Davis, 2000).

Conclusion

This research has found that strategic elements of social media, including content quality, customer engagement, platform interactivity, and social listening, have a positive impact on the financial performance of firms operating in Pakistan. The interconnection of chatbot technologies also enhances such relationships most effectively, particularly when it comes to being responsive in real-time and providing a personalized user experience. The theoretical foundations of the Resource-Based View (RBV) and Technology Acceptance Model (TAM) are reflected in the empirical results, suggesting that social media and AI tools can be leveraged as effective intangible resources that positively impact competitive advantage. The deployment of chatbots is not only a tool for enhancing operational efficiency but also for fostering strong customer engagement, which can lead to significant financial benefits, including revenue increases and expense reductions.

Recommendations

Based on the results, firms are advised to invest in developing high-quality, consistent, and audience-relevant content across their digital platforms. Organizations should adopt an active engagement strategy, using features such as polls, stories, and live videos to increase platform interactivity. Moreover, social listening tools should be leveraged to capture and analyze consumer sentiment, allowing firms to respond to market changes and feedback more effectively. Importantly, businesses should integrate chatbots into their digital marketing systems to enhance user experience, improve service efficiency, and personalize customer interactions. Future research should explore the longitudinal effects of these variables and investigate sector-specific differences in chatbot implementation and effectiveness.

Significance

This study makes a meaningful contribution to the literature on digital marketing and AI integration by providing empirical evidence from an emerging economy context, where research is currently limited. By validating the moderating role of chatbots, the research introduces a novel layer to the relationship between social media strategies and financial performance. The findings are particularly relevant for SMEs in Pakistan, who often lack clear strategies for digital engagement and AI deployment. The study also bridges a theoretical gap by applying RBV and TAM to contemporary digital marketing tools, offering both academic and practical insights for researchers, practitioners, and policymakers.

Limitations

Although the study offers important insights, it has some limitations. First, the use of a cross-sectional design limits the ability to infer causality; longitudinal studies would provide stronger validation of the findings. Second, the sample was limited to professionals working in selected industries within Pakistan, which may restrict the generalizability of results to other sectors or cultural contexts. Third, the study relied on self-reported data, which could be subject to bias. Fourth, while chatbot usage was examined as a moderating variable, the study did not distinguish between different types or quality levels of chatbot systems, which could influence user experience and

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performance outcomes. Finally, non-financial outcomes such as customer satisfaction and brand equity were not included in the model and may offer additional insights into future research.

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