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The strategic role of social media technology in driving E-commerce firm performance: A conceptual framework

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Abstract---This conceptual paper explores the role of Social Media Technology Use (SMTU) in enhancing the performance of e-commerce firms, with a focus on Algeria. Drawing on the TOE framework, Resource-Based View (RBV), and Technology Acceptance Model (TAM), the study proposes a theoretical model linking SMTU to improved business outcomes such as profitability, customer engagement, and brand visibility. Based on a review of recent literature, the paper presents one key proposition and highlights contextual challenges faced by Algerian firms. The findings offer a foundation for future empirical research and practical guidance for digital strategy in emerging markets.

Keywords---Social Media, Firm Performance, E-Commerce, Algeria, Conceptual Framework.

1. Introduction

The digital revolution has fundamentally reshaped global business dynamics, with e-commerce emerging as a transformative force in both developed and developing economies. Online retailing, powered by digital platforms, has significantly altered consumer behavior, purchasing patterns, and market structures. In this context, firm performance in e-commerce is often evaluated through metrics such as profitability, customer acquisition, brand visibility, and operational efficiency. However, as digital ecosystems grow more complex and competitive, sustaining superior performance has become increasingly contingent upon how effectively firms integrate and leverage technology (Mikalef et al., 2023). Among the many innovations shaping today's e-commerce environment, **social media technology** stands out as a critical enabler of firm performance. It serves not only as a marketing channel but also as a dynamic space for customer engagement, brand development, and personalized service delivery. Platforms like Facebook, Instagram, and TikTok are increasingly being integrated into the business strategies of e-commerce firms, offering opportunities to engage directly with consumers, gather real-time feedback, and promote products through interactive and visually appealing content (Bilgihan & Wang, 2021). Despite this growing relevance, many firms—especially those in emerging economies—struggle to strategically utilize these platforms to drive measurable performance improvements.

In Algeria, e-commerce has experienced steady growth in recent years. The sector was valued at approximately \$1.2 billion in 2024 and is expected to exceed \$2.5 billion by 2029, propelled by increased internet penetration and smartphone adoption (Statista Research Department, 2024c). Nevertheless, the growth trajectory of e-commerce in Algeria is tempered by persistent structural barriers. These include unreliable logistics networks, low consumer trust in digital transactions, and insufficient digital literacy among entrepreneurs (BENMIR & Mesnadi, 2023; Diouani et al., 2023). More than 60% of e-commerce ventures reportedly fail within two years, highlighting an urgent need to identify and leverage digital tools—such as social media technology—that can enhance competitiveness and sustainability in the marketplace.

Although substantial research has examined performance drivers in e-commerce—ranging from website usability to supply chain optimization (Erhan et al., 2023; Huang & Rust, 2020)—few studies have focused on the distinct role of social media technology in this process. Much of the existing literature emphasizes traditional digital capabilities or focuses on large, developed markets, thereby overlooking how emerging platforms and content-driven strategies can influence business success in local or regional contexts (Lemon & Verhoef, 2016). Moreover, the Algerian e-commerce ecosystem remains understudied, especially in terms of how firms navigate technological integration under infrastructural and institutional constraints.

A significant research gap thus exists in understanding the extent to which **social media technology use contributes to performance outcomes** in Algerian e-commerce firms. Recent studies have begun to explore the strategic importance of digital tools—such as artificial intelligence and big data analytics—in enhancing

firm capabilities (Chen et al., 2023; Mikalef et al., 2023). However, social media, as a flexible and accessible technological solution, may offer more immediate and scalable benefits for businesses operating with limited resources. This is particularly relevant in Algeria, where many small and medium-sized enterprises (SMEs) are experimenting with social media-based marketing and customer service, yet lack empirical insights into its effectiveness.

Therefore, this conceptual study seeks to explore the **impact of social media technology use on the performance of e-commerce firms in Algeria**. It aims to unpack how different dimensions of social media use—such as content marketing, customer interaction, brand visibility, and data collection—may serve as catalysts for improved business outcomes. This analysis is especially pertinent given the digital aspirations outlined in Algeria's national economic development strategies, which emphasize digital transformation as a pillar of competitiveness and growth.

By focusing specifically on **Algerian e-commerce firms**, this study contributes to both the theoretical literature and practical discourse on technology-enabled business performance in emerging economies. It provides a grounded framework for understanding how social media technology, as an accessible and relatively low-cost tool, can support firms in overcoming traditional barriers to success. The insights derived from this research are expected to inform policymakers, entrepreneurs, and digital strategists seeking to harness social media for sustainable and scalable e-commerce development.

2. Methodology

2.1. Research Design

This study adopts a **conceptual research design** intended to develop a theoretical framework that links the use of social media technology with e-commerce firm performance. The approach is qualitative and theory-driven, relying on a comprehensive review and synthesis of existing academic literature, rather than empirical data collection (MacInnis, 2011; Jaakkola, 2020). This allows for the development of new conceptual insights and testable propositions relevant to the Algerian digital commerce landscape.

2.2. Research Approach

The study follows a deductive approach rooted in established theoretical models such as the Technology-Organization-Environment (TOE) framework (Tornatzky & Fleischer, 1990), the Resource-Based View (RBV) (Barney, 1991), and the Technology Acceptance Model (TAM) (Davis, 1989). These models help explain how firms adopt and benefit from technological innovations, including social media platforms. By integrating insights from these frameworks, the study develops a structured perspective on the mechanisms through which social media technology enhances business outcomes like customer retention, market growth, and operational efficiency (Mikalef et al., 2023; Nadeem et al., 2020).

2.3. Source of Data

The study is based on **secondary data and academic literature**. Sources were selected from peer-reviewed journals, industry reports, and academic databases

such as Scopus, Web of Science, and Google Scholar. Search terms included “social media and business performance,” “e-commerce technologies,” “digital transformation in emerging markets,” and “technology adoption models.” The literature review prioritized studies published between 2015 and 2024 that examined the relationship between social media tools and firm performance (Bilgihan & Wang, 2021; Lemon & Verhoef, 2016).

2.4. Analytical Strategy

A **narrative synthesis** approach was used to identify key themes, constructs, and causal linkages from the literature. These themes were classified into major categories such as: social media engagement, data analytics, customer acquisition, and firm-level performance indicators (Chen et al., 2023; Huang & Rust, 2020). The goal was to organize the findings conceptually and build a theoretical model illustrating how social media technology contributes to performance improvements in e-commerce businesses, particularly in the Algerian context (BENMIR & Mesnadi, 2023; van Gelder, 2025).

2.5. Conceptual Model Development

The final output of this methodology is a conceptual framework that positions social media technology use as a key determinant of e-commerce firm performance. The model draws on prior studies that highlight the strategic role of digital tools in marketing, customer interaction, and data-driven decision-making (Mikalef et al., 2023; Badghish & Soomro, 2024). Although the model is not tested empirically in this paper, it provides a structured foundation for future research that seeks to validate these relationships through statistical analysis.

3. Literature Review

3.1. Social Media Technology Use (SMTU) and Firm Performance

Social Media Technology Use (SMTU) encompasses the integration of digital platforms and applications into customer-facing processes to foster engagement, collaboration, and stronger business relationships (Trainor, 2012). As digital transformation reshapes global commerce, firms increasingly leverage SMTU to enhance communication, responsiveness, and value creation. Existing literature underscores a generally positive, though context-dependent, relationship between SMTU and firm performance across various sectors and regions.

A central finding across studies is that SMTU supports improved **customer relationship management**, **innovation**, and **organizational agility**—all of which contribute to enhanced performance (Tehrani et al., 2024; Tajvidi & Karami, 2021). Tehrani et al. (2024), for instance, provide empirical evidence that SMTU improves innovation capability and agility, which subsequently boost firm performance. Similarly, Foltean et al. (2018) emphasize the mediating role of CRM capabilities in this relationship, suggesting that firms benefit most from SMTU when it is part of a structured digital strategy.

Several studies also highlight SMTU’s **strategic role in internationalization**, particularly in the context of exports. Alarcón-del-Amo et al. (2024) show that social media enhances foreign customer relationships, even if it does not directly reduce export costs. Earlier research by the same authors (Alarcón-del-Amo et al.,

2017; Alarcón et al., 2015) underscores the importance of managerial digital competence, indicating that performance gains depend on strategic engagement rather than mere adoption.

Another important dimension is **social capital**. Kamboj et al. (2017) found that social capital mediates the relationship between SMTU and performance, implying that firms with stronger networks and digital community ties are more likely to reap benefits. This finding aligns with research from Bhatti et al. (2019), who argue that social CRM capabilities significantly enhance customer engagement and firm outcomes.

Nevertheless, some studies present **more nuanced or contradictory insights**. Zu et al. (2019) identified an inverted U-shaped relationship between SMTU and performance, suggesting that while moderate use boosts outcomes, excessive investment may lead to inefficiencies or diminishing returns. Similarly, Ahmad et al. (2018), focusing on SMEs in the UAE, reported no significant relationship between social media adoption and firm performance, pointing to contextual limitations such as resource constraints, lack of digital infrastructure, or limited managerial expertise.

To explain such disparities, Hanafizadeh et al. (2021) introduced a **social media maturity model**, demonstrating that the effectiveness of SMTU depends on the firm's digital development stage. While early adopters primarily use social media for information dissemination and knowledge sharing, more digitally mature firms employ it strategically for process innovation, customer engagement, and long-term value creation.

Taken together, the literature reveals a **contingent relationship** between SMTU and firm performance. While the adoption of social media technologies is generally associated with positive outcomes—such as increased agility, improved innovation, and better customer relations—its effectiveness is mediated by factors such as managerial involvement, firm size and maturity, sectoral characteristics, and the presence of complementary capabilities like CRM systems and social capital.

4. Theoretical Framework and Proposition

This conceptual study proposes a theoretical framework that explains how Social Media Technology Use (SMTU) impacts the performance of e-commerce firms. The framework is grounded in three foundational theories: the Technology-Organization-Environment (TOE) framework (Tornatzky & Fleischer, 1990), the Resource-Based View (RBV) (Barney, 1991), and the Technology Acceptance Model (TAM) (Davis, 1989). These models collectively suggest that the adoption and strategic use of technology—such as social media platforms—can serve as a valuable resource, improve organizational processes, and enhance business outcomes when aligned with the firm's internal capabilities and external environment.

4.1. Key Constructs

- **Social Media Technology Use (SMTU):** Refers to the strategic use of social media platforms such as Facebook, Instagram, and TikTok to

engage customers, disseminate content, build brand visibility, and foster real-time communication. SMTU encompasses activities such as content marketing, interactive feedback loops, customer service, and online community management (Trainor, 2012; Tajvidi & Karami, 2021).

- **E-Commerce Firm Performance:** Represents key business outcomes such as profitability, growth, customer retention, market share, and operational efficiency. In the context of e-commerce, performance also includes digital visibility and responsiveness to consumer behavior (Bilgihan & Wang, 2021; Mikalef et al., 2023).

4.2. Conceptual Relationship

Drawing from the reviewed literature and theoretical underpinnings, this paper posits a direct and positive relationship between SMTU and firm performance in e-commerce contexts. The use of social media enables firms to reach broader audiences, engage customers interactively, and strengthen digital brand identity. Such benefits can translate into tangible performance improvements, particularly in highly competitive and digitally-driven markets.

Prior studies support this conceptual link. For example, Tajvidi and Karami (2021) found that social media engagement enhances marketing effectiveness and customer relationships. Similarly, Bilgihan and Wang (2021) emphasize that social media tools enable personalized communication and consumer trust, leading to increased loyalty and sales. Although the effect may vary by context, the prevailing evidence suggests that well-structured SMTU strategies contribute significantly to business performance.

4.3. Proposition

Based on the conceptual framework and literature review, the following proposition is offered:

P1: Social Media Technology Use positively influences the performance of e-commerce firms.

5. Discussion

This conceptual paper aimed to examine the strategic role of Social Media Technology Use (SMTU) in enhancing the performance of e-commerce firms, with a particular focus on the Algerian context. Drawing on established theories such as the Resource-Based View (RBV), the Technology-Organization-Environment (TOE) framework, and the Technology Acceptance Model (TAM), the study proposed a theoretical linkage between SMTU and firm performance. The proposed proposition suggests that SMTU directly contributes to improved business outcomes by enabling firms to better engage with customers, build stronger brand visibility, and operate more efficiently in the digital environment.

The findings from the reviewed literature consistently indicate that SMTU, when strategically integrated into the firm's operations, enhances customer interaction, personalization of marketing content, and responsiveness to feedback (Tajvidi & Karami, 2021; Trainor, 2012). These capabilities are crucial for firms operating in highly competitive and dynamic digital markets, such as the Algerian e-commerce sector, where over 60% of new ventures fail within the first two years (BENMIR &

Mesnadi, 2023). In such settings, cost-effective and widely accessible platforms like Facebook, Instagram, and TikTok present a unique opportunity for firms—especially small and medium enterprises (SMEs)—to strengthen their market position.

Moreover, the theoretical models underpinning this study reinforce the importance of organizational readiness and strategic alignment in the adoption of social media technologies. According to the TOE framework, external pressures such as market competition and consumer expectations compel firms to innovate technologically. The RBV emphasizes that SMTU can serve as a strategic resource when supported by organizational capabilities like skilled personnel, digital literacy, and adaptive leadership. TAM contributes by highlighting the importance of perceived usefulness and ease of use in determining technology adoption behaviors within firms.

One significant insight from the conceptual analysis is that the benefits of SMTU are not automatic; they depend heavily on how effectively the technology is deployed and integrated. The literature underscores that excessive or poorly structured social media use may lead to diminishing returns (Zu et al., 2019), suggesting that firms must develop mature strategies and avoid over-investment without clear objectives. This highlights the need for managerial digital competence and strategic planning in leveraging social media platforms.

In the context of Algeria, the integration of SMTU also faces challenges such as limited digital infrastructure, low digital literacy among entrepreneurs, and insufficient regulatory support (Diouani et al., 2023). Addressing these barriers is essential to unlocking the full potential of social media as a driver of e-commerce performance. Policymakers and business support organizations have a key role in facilitating digital transformation through targeted training, funding programs, and awareness campaigns.

Overall, the discussion highlights that SMTU holds significant promise for improving the performance of e-commerce firms, particularly in emerging economies. However, its effectiveness is shaped by internal capabilities and external environmental conditions. Future empirical research is encouraged to test the proposition developed in this study using quantitative methods, such as structural equation modeling (SEM), and to explore additional factors that may mediate or moderate the relationship between SMTU and firm performance.

6. Conclusion

This study set out to conceptually explore the relationship between **Social Media Technology Use (SMTU)** and the **performance of e-commerce firms**, with a focus on the Algerian context. Grounded in the **Technology-Organization-Environment (TOE)** framework, the **Resource-Based View (RBV)**, and the **Technology Acceptance Model (TAM)**, the study underscores the theoretical rationale for viewing SMTU as a strategic tool that can enhance firm performance in digital marketplaces.

The paper contributes to the growing body of literature by proposing a structured conceptual model and advancing the proposition that SMTU positively influences key performance outcomes—such as customer acquisition, brand visibility, operational efficiency, and profitability. Drawing on recent literature, it was shown that firms that integrate social media into their core operations are better positioned to compete in dynamic and digitally driven markets. This is particularly relevant in Algeria, where digital engagement is growing, yet many e-commerce firms remain under-resourced and struggle with technological integration.

The discussion emphasized that while SMTU offers low-cost, high-reach tools that can drive business success, its impact is contingent on organizational readiness, strategic alignment, and managerial competence. Additionally, the study highlighted contextual barriers specific to emerging markets, including infrastructure gaps, low digital literacy, and lack of policy support.

Overall, this conceptual research provides a foundation for further empirical studies that aim to validate the proposed model and examine the mechanisms through which SMTU drives firm performance. For policymakers and entrepreneurs in Algeria and similar developing contexts, the findings underscore the importance of strategic social media adoption as a pathway toward more competitive and sustainable e-commerce growth.

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