

Integration of Social Media into Supply Chain Management: Antecedents and Value Outcomes from a Case Study Perspective

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Abstract

It is no doubt that the use social media has gradually crept into business operations in general and supply chain management in particular. However, the how and why of social media usage in supply chains and the associated value outcomes are yet to be understood from the literature. The purpose of this study was to explore the antecedents and value outcomes relating to the integration of social media into supply chain management. The study employed a qualitative research approach through a case study research design. Data was collected from 14 interview participants from two case organisations. Participants were dominantly logistics and supply chain management professionals. Data was analysed using the thematic interview analysis technique anchored on TOE framework and the Dynamic Capabilities View (DCV). The study established that technological, organisational, environmental and social factors influence the integration of social media in supply chain management. Social media integration into supply chain management enhances communication, stakeholder relations, and collaboration and promotes transparency, strategic decision-making and overall business performance. It was ascertained that there are little to no risks currently associated with their supply chain regarding adopting and integrating social media into supply chain operations in Ghana. However, the fear of the system being hacked in the future and vital information leaking is anticipated since customers and employees are on the same social media platform.

Keywords

Social Media, Supply Chain Management, TOE framework, DC theory, WhatsApp platform

1. Introduction

Social media has been integrated into daily life and offers a virtual network where people and businesses can connect, exchange information, and conduct business anytime, anywhere (Chae et al. 2020; Siddiqui 2016). Social media allows communication between employees and the organisation's stakeholders. It also promotes speed, visibility, and traceability inside companies and enables an organisation to build and engage in good customer relationships (Khatua et al. 2021; Ahmed et al. 2019; Lee et al. 2018).

The use of social media also allows the development of virtual relationships that enable people to connect on various levels. Social media comprises blogging and social networking services that enable quick connections between users. In addition, social media involves using Internet-based applications that utilise cloud technologies and are considered Web 2.0 (Ahmed et al. 2019; Irani et al. 2017; McHaney and Sachs, 2016; Brooks 2015).

Social media applications have now moved beyond personal use. Besides, organisations have adopted it as a tool for knowledge sharing and communication. The capability of social media enables businesses to connect with consumers directly, promptly and at a low cost (Parveen et al. 2015). Furthermore, recent data on internet usage suggests that over two billion four hundred thousand individuals, or 34% of the global population utilise the internet for various reasons. The internet, the associated social media platforms, and other social networks have become valuable tools for consumers to search for information (Schivinski and Dabrowski 2016).

Additionally, social media innovation has influenced nearly all business areas and, in many instances, has changed the fundamental interactions between companies and their customers (Chae et al. 2020). Therefore, in recognition of social media's observed significance in most business settings, many industry insiders believe that social media may be making a similar impact in the management of supply chains, yet very little is known in this context (Chae et al. 2020; Huang, Potter and Eyers 2020).

Supply chain management has now become a vital aspect of all businesses. Supply chain activities span an organisation's logistics processes, such as procurement, warehousing, inventory management, manufacturing, distribution, and order processing. Managing the supply chain involves multi-tier relationship management and communications, emphasising social media's importance in advancing this course. The need for businesses and organisations to be innovative in communicating quickly, formally and informally, and transacting business highlights the growing significance of social media usage. From the perspective of Chae et al. (2020) and Daneshvar et al. (2019), one of the fundamental challenges within the supply chain has always been information dispersion and sharing. Hence, integrating social media into various aspects of supply chain management will change communication patterns, permit additional information to be gathered and analysed to understand newly evolving trends better, and ultimately enhance decision-making. Even though this integration has proven vital to business's supply chain management, much is yet to be discussed on the antecedents and outcomes of social media usage in supply chain management within the literature (Huang et al. 2020; Orji et al. 2020; Tajudeen et al. 2018).

Research is therefore needed to deepen understanding of the antecedents and outcomes of social media usage in supply chain management. The successful implementation of social media in the organisational supply chains for competitive advantage will depend on firms' familiarity and awareness of the specific antecedents needed and the outcomes of social media usage among different stakeholders (Aslam 2020; Chae et al. 2020; Huang et al. 2020; Orji et al. 2020).

1.1 The problem statement

The revolution of social media has touched nearly all areas of business; as a result, the way companies and customers communicate and interact has seen a drastic change in recognising social media's value. Besides, social media channels assist organisations in creating ideas for enhancing the supply chain process and detecting and solving problems through understanding (Chae et al. 2020). In addition, prior literature on social media and the supply chain has also suggested various ways social media can benefit the supply chain and enable information collection, such as improving customer communication concerning service, shipping, and feedback issues (Agnihotri et al. 2022; Devi and Ganguly 2021; Papagiannis et al. 2019).

Further, Chae et al. (2020) also suggest using social media to create demand for goods and services, increase market intelligence, and better understand performance. Similarly, Huang et al. (2020), Tajudeen et al. (2018) are also of the view that social media can improve the efficiency of information sharing and knowledge management; hence, examining the value of social media for operations and supply chain management is vital. In addition, some studies, such as Odoom et al. (2017), discussed the antecedents of social media usage and performance benefits in small and medium-sized enterprises. Additionally, Guesalaga (2016) explored the antecedents of social media usage in sales, such as age, social media norms, and customer-oriented selling, in explaining a salesperson's use of social media.

Although social media enormously impacts supply chain activities, academics and industry practitioners believe there is much to be done in terms of research on supply chain management. A minimal number of studies exists on how the use of social media usage impacts businesses in the context of their supply chain operations (Huang et al. 2021; Chae

et al. 2020; Cui et al. 2018). In particular, the potential impact of social media integration into supply chain management, developing stronger relationships with suppliers through the use of social media, using social media for supply market intelligence, exploring the supply market for value, and gathering feedback on customer satisfaction are significant trends in the future supply chain (Devi and Ganguly 2021; Papagiannis et al. 2019; Tajudeen et al. 2018). For instance, researchers have called for future research to explore social media and supply chain management, the behavioural dynamics of stakeholders, and the impact of social media use on B2B supply chain performance (Devi and Ganguly 2021; Huang et al. 2021; Chae et al. 2020). Therefore, this study attempts to respond to this call by exploring the antecedents and outcomes of social media usage in supply chain management from a developing country's perspective.

1.2 Research Objectives (RO)

The study is designed to achieve the underlying objectives:

1. Ascertain the key antecedents influencing social media usage in supply chain management (RO1).
2. Ascertain the dominant outcomes of social media usage in supply chain management (RO2)
3. Explore the risks of social media usage in supply chain management (RO3)

2. Literature Review

2.1 Overview of Social Media

Researchers have defined social media differently. However, according to Carr and Hayes (2015) and Devi and Ganguly (2021), it is not easy to develop a shared understanding of social media because of the various meanings associated with its notion, complexity, focus, and applicability in the different fields of interest. Social media, in general, refers to a way for people to communicate with one another through creating, sharing, and exchanging information and ideas in online communities and networks (Tripopsakul 2018). In like manner, Al-Qaysi et al. (2020, p. 2086) suggested that “social media refers to a wide range of social networking applications that are used as a source of social interaction, collaboration, and creative expression”.

However, the inception of social media has considerably redefined individuals' daily lives, society, and how businesses are conducted. It has also received a massive number of users and has managed to attract internet users faster than any other means of communication online (Tripopsakul 2018; Zolkepli and Kamarulzaman, 2015). It is crucial to understand that social media relies on mobile and web-based technology to produce highly dynamic platforms that support individuals and groups in sharing ideas and information, participating in discussions, and modifying user-generated material. Over the past few years, social media has grown in popularity; its users have reached 3.4 billion, or about 45% of the world's population (Papagiannis et al. 2019; Tripopsakul 2018).

This entrenched use of social media has attracted different individuals and organisations to promote their products and services and interact with their consumers, partners, and investors (Parveen 2015; Xie and Stevenson, 2014). Similarly, social media are being used mainly by organisations as communication tools in the sharing of knowledge, facilitating and promoting businesses at a lower cost, making social media the centre of attention in many industries and the forefront of business decision-making (Venkateswaran et al. 2019; Parveen et al. 2015). Based on this instance, consumers are progressively using social media platforms to conduct information searches whilst taking the opportunity to engage with other users (Schivinski and Dabrowski 2016).

2.2 Supply Chain Management

The supply chain is identified as an advanced logistics network of facilities, and it is responsible for transferring raw materials into finished products by adding value and delivering to the final customers (Frazzon et al. 2019; Cheng and Krumwiede 2018). In other words, the supply chain is seen as a multiplex network of business entities that entails the flow of products or services downstream and upstream of a business and its related information and finances (Serdarasan, 2013). The organisation's network that creates value in goods and services for the final consumer is known as the supply chain (Mentzer et al. 2001).

Supply chain management involves the management and flow of products and services, from procurement of raw materials to delivering the product or service to its destination. It is also seen as a systemic and strategic management process that facilitates procuring and delivering goods, data, and finances related to a product or service. Uniquely, with the intent of cutting costs, increasing customer satisfaction and obtaining competitive advantage (Rezaei et al. 2015; Stadler 2015; Serdarasan 2013; Rosic 2012). Additionally, supply chain management aims to plan, manage,

and coordinate informational, financial, and material flows to meet customer demands affordably and boost supply chain profitability. It involves designing, implementing, and controlling logistics activities, including procurement, warehousing, inventory control, manufacturing, distribution, and order fulfilment (Attaran 2020; Kusi-Sarpong and Gupta 2020; Cao et al. 2018).

2.3 Integration of Social Media into Supply Chain Management

According to Chae et al. (2020), social media can be incorporated into supply chain processing systems to deliver new information that can be advantageous to an organisation and its partners. Integrating social media into the supply chain also promotes organisations in building a decent relationship with their customers and suppliers (Devi and Ganguly 2021). In addition, most companies have recently adopted different social media tools such as Twitter, Facebook, and YouTube to better manage the flow of information and relationships in their supply chain. This management will help reach a wider audience and enhance competitive advantage (Cao et al. 2018; Cui et al. 2018). The integration of social media into the supply chain must start from a general point of view. In most instances, when integrating social media into supply chain management, it is being carried out by five different groups. E.g. (communicating and hearing bring about adjustments jointly, friendship and teamwork, individuality and voice are valuable, and team spirit and friendship) (Chae et al. 2020).

In other words, the supply chain's efficiency could be increased by integrating information sharing via various social media platforms and networks. However, any data shared across the supply chain using social media as a communication channel needs to be carefully managed (Sianipar and Yudoko 2014).

2.4 Benefits of Social Media Usage in Supply Chains

Social media have positively transformed nearly all business areas, fundamentally changing how companies and their customers interact. In light of this, experts and business pioneers have proposed various strategies for how social media may enhance the supply chain and promote information gathering and sharing (Chae et al. 2020). Social media has also been seen to be relevant to knowledge management in developing customer-oriented supply chains, allowing businesses to develop competitive advantages (Agnihotri et al. 2022; Rezaei et al. 2015). The supply chain also helps integrate people, businesses, resources, carriers, warehouses, and technology used in producing and selling a product to meet consumer demand (Frazzon et al. 2019; Rosic 2012).

According to Olanrewaju et al. (2020), most businesses utilise social media in virtually all their operations due to its expected benefits. Hence, researchers and industry practitioners have conducted various studies to scrutinise the perceived benefits of social media use and its expected aftermath or impact (Dwivedi et al. 2021; Nedungadi 2018; Hanafizadeh et al. 2021). In addition, information from social media plays a critical role in affecting consumers' behaviour by attracting their attention or signalling product quality to them (Cui et al. 2018; Raman and Menon 2018). Social media is also known to impact businesses' success and operations substantially. Some social media platforms, like Facebook and LinkedIn, present the possibility of substituting actual proximity with virtual engagement (Jones et al. 2015).

Social media enables businesses to connect with various organisations in a low-cost, timely and collaborative manner by providing relevant knowledge management to develop proper consumer-driven relationships. Similarly, social media can change information and data collected into significant knowledge, which presents an opportunity to develop competitive advantages for businesses (Agnihotri et al. 2022; Lam et al. 2016).

2.5 Challenges of Social Media Usage in the Supply Chains

Although social media and supply chain have proven to offer many benefits to organisations, prior literature has also identified some challenges (Cui et al. 2018; Garcia and You 2015). The implementation of social media in organisations also presents challenges. According to Jones et al. (2015), many small business owners lack technological insight and are unfamiliar with social media. Small businesses face several obstacles due to the time and knowledge needed to establish and maintain a web and social media presence. Social media data management presents difficulties. Because most social media data is unstructured and text-based, which is not the type of data that academics and practitioners have typically dealt with, this poses a significant challenge for practitioners and academics (Cui et al. 2018).

3. Theoretical Framework of the Study

The Technology-Organisation-Environment (TOE) framework and the Dynamic Capabilities (DC) theory are the underpinning theories for the study.

3.1 The Technology-Organisational-Environment (TOE) Framework

The TOE framework is an organisation-level theory introduced by Tornatzky and Fleischer (Tornatzky and Fleischer 1990). The TOE framework proposes that, a firm's decision-making as far as the adoption of technological innovations is concerned, depends on or is influenced by three different factors, namely technological, organisational, and environmental (Ng et al. 2022; Siagian et al. 2022; Ahmed 2020).

From the perspective of Al-Hujran et al. (2018), the TOE also has an advantage over other technology adoption models when it comes to use and value creation in organisational settings because of the addition of technological, organisational, and environmental components to the framework. Besides, the TOE framework is free from organisational and business-size restraints.

Technological Factors

From the perspective of Abed (2020), the technological factors of an organisation usually rationalise IT innovation attributes that influence the organisational adoption of IT innovation. The technological factors also refer to the existing technologies an organisation uses, which are essential for its adoption process since these technologies constraint the extent and pace of technological changes an organisation can assume (Siagian et al., 2022; Al-Hujran et al., 2018; Leung, Lo, Fong & Law, 2015). On the other hand, the TOE framework represents and explains the technological factors as both internal and external technological factors of an organisation that influence the acquisition of technologies (Malik, Chadhar, Vatanasakdakul & Chetty, 2021; Al-Hujran et al., 2018). Internal technologies relate to technologies that an organisation has incorporated into its operations. In contrast, external technologies describe the available technologies in the marketplace that are presently not used by the organisation (Malik et al., 2021; Al-Hujran et al., 2018).

Organisational Factors

The organisational context refers to the characteristics and resources available to an organisation that can influence its decisions about adopting and implementing innovation (Malik et al., 2021; Al-Hujran et al., 2018; Leung et al., 2015). Notwithstanding the benefit of technology, the organisation needs sufficient resources in its acquisition. Thus, the organisations' readiness for resources, finances, and technology competence plays a significant role in adopting innovative technologies. While the technological readiness of the firm is related to the level of sophistication of technology usage and management in an organisation, financial readiness refers to the financial resources available for installing and implementing the technology (Leung et al., 2015; Yeh, Lee & Pai, 2015).

In essence, the organisational context as a system is interrelated with social factors in the dispensation of information in the firm. Social factors are not mentioned in the traditional TOE framework but play a significant role in technology adoption and diffusion. This social factor refers to the attitudes, beliefs, values, and behaviours of the individuals and groups within an organisation that can influence technology adoption and implementation. It includes communication patterns, suppliers, customers, decision-making processes, power structures, and social norms (Bryan & Zuva, 2021; Al-Hujran et al., 2018). Therefore, understanding the social factors within an organisation is crucial for successfully implementing new technology.

Environmental Factors

The environmental context of the TOE framework represents the arena in which the organisation conducts its business (Abed 2020). The environmental context, in other words, assists in providing a better understanding of how the external and internal environment in which an organisation operates is able to influence its business (Malik et al. 2021). In addition, Ahmed (2020), Al-Hujran et al. (2018) and Leung et al. (2015) assert that the environmental context incorporates factors external to an organisation that offers opportunities and threats for the implementation of technological innovations, such as industry environment, laws and other regulations, availability of technology service providers, the organisation's location, the organisation's rigid environment, and the organisation's relations with the government. The reason for selecting the TOE framework for this study is because the framework has the ability to help explain organisational decision-making relative to the adoption of technological innovations and the integration of social media into the supply chain (Malik et al., 2021).

3.2 The Dynamic Capabilities Theory (DC)

The Dynamic Capabilities View is an organisational theory that emphasises that the ability of an organisation to react adequately and timely to external changes requires a combination of multiple capabilities (Teece et al.1997). The dynamic capabilities theory analyses how firms build, integrate, and redesign their internal and external firm-specific proficiencies into innovative proficiencies, matching environmental opportunities and constraints in addressing rapidly changing environments (Teece, 2018; Teece et al. 1997). The theory advocates that businesses with more dynamic capabilities outperform those with fewer capabilities. The idea seeks to comprehend how businesses use dynamic capabilities to respond to and influence environmental changes to gain and maintain a competitive advantage (Alkhamery et al. 2021; Teece 2016).

The choice of the DC as one of the theoretical lenses of this study is due to its ability to analyse how firms build, integrate, and redesign their internal and external firm-specific proficiencies into innovative proficiencies to gain competitive advantage, especially when it comes to the adoption of technologies (Alkhamery et al. 2021; Gupta et al. 2020; Teece 2018). The DC theory also applies to this study because it presents a basis for today's supply chain managers who use a range of social technologies from general free platforms to self-managed communities to paid services and to enhance their dynamic ability to identify the best and precise environment to do business (Arifin 2015). Figure 1. below is the conceptual framework for this study.

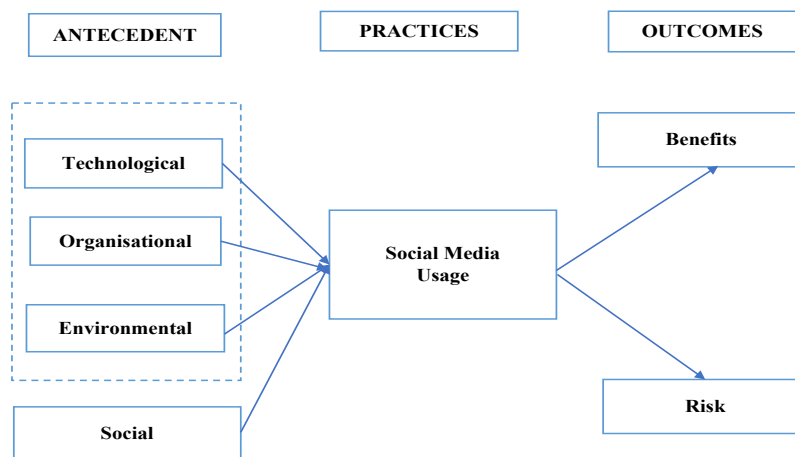


Figure 1. Conceptual Framework Based on the Technology-Organizational-Environmental (TOE) Framework and the Use of Dynamic Capabilities

4. Methods

This study adopts the qualitative research approach to help examine the importance of social media integration in a firm's supply chain and ascertain the key antecedents influencing social media usage in supply chain management. This research method helps better understand how social media redefines individuals' daily lives and society and how firms conduct business through social media. In addition, the study takes the form of a multiple-case study approach to investigate the antecedents and outcomes of social media usage in supply chain management and how this integration has assisted firms in building decent relationships with their internal and external customers and suppliers. For this reason, two firms that have successfully integrated social media into their supply chain management fit the study's selection criteria: one alcoholic and non-alcoholic beverage manufacturing company in Accra and a food processing firm on the Accra-Tema Motorway all in Ghana. The names of the selected firms have been renamed for the sake of anonymity and confidentiality. This assertion is based on the conceptualisation of the TOE framework on a firm's decision-making regarding the adoption of technological innovations (Ng et al. 2022; Siagian et al. 2022; Teece 2018). It is also based on the DC theory's ability to analyse how firms build, integrate, and redesign their internal and external firm-specific proficiencies into innovative proficiencies to gain competitive advantage, especially when it comes to the adoption of technologies (Alkhamery et al. 2021; Gupta et al. 2020; Teece 2018).

4.1 Data Collection

Specifically, this study employed homogeneous and extreme case purposive sampling techniques. With homogeneous sampling, the researcher selects participants with common characteristics or experiences, enabling an in-depth exploration of a specific aspect of the research subject. In extreme case sampling, the researcher intentionally selects peculiar or extreme cases, providing insights into unique or unusual situations. This technique helps researchers understand outliers or rare occurrences. (Rai and Thapa 2015; Suri 2011). Data for the two firms were collected using face-to-face interviews through an in-depth interview guide design based on the study's objectives suggested by Creswell and Creswell (2017) and Saunders et al. (2009). The researchers employed thematic and pattern-matching techniques to be familiar with the interviews. The interviews were transcribed and read over several times. The transcribed documents were broken down into meaningful sentences, and codes were created by generating labels for each sentence. Additionally, meaningful themes and patterns relevant to the research question were created. The data were later linked to derive meanings and concepts.

5. Results and Discussion

5.1 Antecedents Influencing Social Media Usage in Supply Chain Management (Reference to RO1)

Firms' decision-making in adopting social media and other technologies into their supply chain is mostly influenced by some antecedents. These antecedents include technological, organisational, environmental, and social factors, which help improve and manage innovative information, communication technology, and relationships between all stakeholders in supply chain management to enhance their competitive advantage. However, these antecedents are also influenced by the environment (internal or external) in which the firms found themselves. Social media integration also helps improve communication and encourages better coordination and effective information sharing, leading to improved decision-making and rationalised operations in supply chain management (Nguyen, Lit & Cheung, 2022; Siagian et al., 2022; Ahmed, 2020). Similarly, the DC theory also suggests that the adoption of social media, either free platforms, self-managed or paid service, should help enhance a firm's dynamic ability to identify the best and most precise environment to do business as well as be responsive to changing market conditions for the firm to remain competitive (Alkhamery et al., 2021; Nasution et al., 2021; Gupta et al., 2020; Teece, 2018).

5.2 Technological Antecedents Influencing Social Media Integration in Supply Chain Management

Prior literature suggests that factors that usually influence organisations adopting IT innovations are classified as technological factors (Abed, 2020). These technological factors are also seen as the existing technologies that an organisation uses, which are essential for its adoption process since these technologies constraint the extent and pace of technological changes an organisation can assume (Siagian et al., 2022; Al-Hujran et al., 2018; Leung et al., 2015). The findings showed that technological factors influence social media integration into supply chain operations. These technologies empower supply chain professionals to leverage social media data more effectively for decision-making and optimisation. In addition, being part of the global community enables better global connectivity and communication and the implementation of electronic communications, which also allows the electronic exchange of data, invoices, and purchase orders. Hence, aiding digital communication and collaboration among the various stakeholders sets the stage for more advanced digital interaction, which helps gain new knowledge and access to new markets. These findings are in line with the studies of Devi and Ganguly (2021), Chae et al. (2020), and Frazzon et al. (2019), which put forward that supply chain managers need to take lots of things into consideration before the adoption of social media in supply chain management processes, and such decisions should be beneficial to the organisation and its partners.

Besides the technological factors influencing supply chain managers to adopt social media, the findings reveal that there is also the need to implement other tools/technology to enhance supply chain performance. The findings affirm that combining innovative technologies allows supply chain professionals to leverage each other's strengths for effective communication, collaboration, and information sharing throughout the supply chain network. Comparatively, the DC theory suggests that an organisation's ability to react adequately and promptly to changes requires a combination of multiple capabilities. Emphasising that for businesses to gain and maintain a competitive advantage, there is the need to utilise dynamic capabilities (resources and innovative technologies) to respond to and influence environmental changes (Alkhamery et al., 2021; Teece, 2016). In addition, the findings further explain that the case firms have developed QR codes and applications (mobile apps) that can be downloaded from the App Store or Play Store. These mobile apps have been integrated into the firms' other social networks for effective and efficient communication. Once customers download these apps, selecting, paying, and delivering products is easier. This finding also corresponds with the DC theory, which attested to the fact that businesses with more dynamic capabilities

(resources and innovative technologies) outperform those with fewer capabilities to gain and maintain a competitive advantage (Alkhamery, Zainol & Al-Nashmi, 2021; Teece, 2016).

5.3 Organisational Antecedents Influencing Social Media Integration in Supply Chain Management

Organisational antecedents here refer to an organisation's available resources that can influence its decisions regarding adopting and implementing technological innovation, such as social media (Malik et al., 2021; Al-Hujran et al., 2018). Findings from the study reveal that implementing social media in supply chain management requires the support of the internal and external organisational environmental resources such as employees, management and other supply chain partners' readiness, skills and knowledge to accept new technologies. This finding corresponds to Leung et al. (2015) and Yeh et al. (2015), who suggest that despite the advantage of technology, the organisation needs sufficient resources to acquire new technologies. For instance, the organisations' readiness for resources, finances, and technology skills plays a significant role in adopting innovative technologies. Technological readiness of the firm must correlate with the complexity of technology usage and management in an organisation. Financial readiness on the other hand, refers to the financial resources available for installing and implementing the technology. Similarly, Abed (2020) also affirms that the availability of organisational resources significantly and positively influences the adoption of innovative technology.

On the other hand, Malik et al. (2021) and Al-Hujran et al. (2018) are of the view that before the effective implementation or acquisition of innovative technologies, organisations should consider the need to focus on some technological factors that also affect the organisational environment, in particular the internal and external aspects of the organisation where the internal technologies relate to the essential technologies that an organisation has incorporated into its operations. These essential technologies include processes technologies, equipment, techniques, related tools, and emerging technologies (Ahmed, 2020; Bernroider & Schmöllerl, 2013). In addition, external technologies are classified as technologies in the marketplace presently not used by the organisation (Malik et al., 2021; Al-Hujran et al., 2018).

5.4 Environmental Antecedents Influencing Social Media Integration in Supply Chain Management

The environmental factors in the context of the TOE framework help offer a better understanding of how the external and internal environment in which an organisation operates can influence its business (Malik et al., 2021; Abed, 2020). The findings realised that supply chain managers must consider internal and external environmental factors before adopting innovative technologies such as social media. From the findings, some internal factors that influence the implementation of social media in supply chain management include sustainable business operation systems to improve and facilitate business activities. On the other hand, the study found that external influence involves the need to be part of the global community and communicate with the business to position itself better and gain a competitive advantage. This finding confirms the stance of Agnihotri et al. (2022) in their study about social media integration, which states that the internal aspect of social media deals with communication and social interaction among employees within an organisation. External social media enables an organisation to communicate with those outside the organisation, such as suppliers, customers, and the general public. In addition, Abed (2020) suggests that to maintain a firm's competitive position and avoid falling behind their competitors, firms usually identify the need and have a higher intent to adopt new technologies.

5.5 Social Antecedents Influencing Social Media Integration in Supply Chain Management

Considering that, social factors within an organisation are vital for effectively implementing innovative technology, it helps organisations identify potential barriers and develop strategies to promote technology adoption and change management by focusing on social factors (Nguyen, Le & Vu, 2022; Das & Shaw, 2017). Equally important, the organisational context as a system is interrelated with social factors in the dispensation of information in the firm. Social factors, such as attitudes, values, beliefs, communication patterns, power structures, social norms, and behaviours within an organisation, can influence its adoption and implementation of social media and other technological innovations (Bryan & Zuva, 2021; Al-Hujran et al., 2018). From the perspective of AlSaleh and Thakur (2019), social influence differs depending on the type of technology being considered. The findings identified that the quest to give consumers, suppliers, and other stakeholders quality service and support also influences integrating social media and other technologies into their supply chain processes. In addition, the findings attested that consumer behaviour and decision-making processes are now determined by their peers on social media platforms. These findings align with the study of AlSaleh and Thakur (2019), which implies that social factors play a major role in influencing consumers' acceptance of technological innovations.

5.6 Engagement of Social Media Platforms in Supply Chain Management

The findings have shown that social media is a comprehensive platform that facilitates the supply chain's activities. For example, communications, collaboration, information sharing, decision-making, logistics processes, warehousing, inventory management, and placing orders. From the perspective of Hoang et al. (2023), the main objective of social media integration in supply chain management is to manage the tracking, flow and control of materials through an entire organisation and across multiple functions and levels of suppliers. This section discusses the preferred social media platforms utilised and the practice of social media in supply chain management.

5.6.1 The Predominantly Utilised Social Media Platforms

Different social media platforms allow businesses to have their pages and applications on social networks, which have grown in importance over time (Nascimento and Da Silveira 2017). Notwithstanding the various types of social media, an organisation's usage of a particular social media depends on the essence of social media in its business activities (Olanrewaju et al. 2020). The findings ascertained that although various social media platforms like Facebook, LinkedIn and Instagram facilitate sharing industry updates, professional relationships, and regulatory changes where buyers and suppliers can collaborate and share updates. WhatsApp is the most utilised social media platform by supply chain management in Ghana, combined with other innovative technologies. From the findings, WhatsApp is user-friendly, making sending and responding to messages prompt. It is also seen to facilitate and promote communication in supply chain management, for instance, whenever a message needs to be put across that needs immediate attention. In addition, the findings also put forward that WhatsApp platform usage in supply chain management reduces the lead time of communication, making information reach recipients faster and helping firms gain a competitive edge in the industry. These findings align with the findings of Paramitasari, et al. (2020), who state that integrating social media, especially WhatsApp platforms, enhances customer relationships in supply chain management. Hence, integrating social media platforms helps reach a wider audience and enhance competitive advantage. In like manner, the DC theory also affirms that business that adopts digital technologies helps improve their business performance, thereby increasing their competitive advantage (Alkhamery et al. 2021; Gupta et al. 2020; Teece 2018).

5.6.2 Social Media Practices in Supply Chain Management

The justification for implementing social media varies from business to business. However, Cui et al. (2018) and Tripopsakul (2018) believe that if social media is situated well in supply chain processes, it can increase the organisation's productivity, attract consumer attention, and improve product quality, revenue, and profit. The finding recognised that integrating social media into supply chain management effectively helps handle customer complaints more efficiently and faster. Suggesting that using social media is easier than a typical phone call or meeting with the customer. For example, distributors and customers can send pictorial evidence of trade issues to be resolved, preventing such issues from getting into the public domain. This finding aligns with the studies of Cui et al. (2018) and Raman and Menon (2018), which indicated that social media plays a critical role in affecting consumers' behaviour by attracting their attention and impacting businesses' success and operations significantly. The findings again affirm that the social media platforms and the other technological innovation integration in the supply chain help send and receive documentation such as invoices, purchasing orders, and packing lists and create and monitor customer order deliveries. In addition to this, it is responsible for information sharing, collaboration, decision-making, tracking logistics processes, inventory management, and placing orders. These findings equally support the studies of Frazzon et al. (2019), which state that using technologies in the supply chain helps integrate people, businesses, resources, and carriers in producing and selling a product to meet consumer demand. Comparably, from the TOE's perspective, an adopted technology should be relatively advantageous, meaning an innovation adopted by an organisation should be better than the idea it replaces or better than the one currently in use (Kukafka et al. 2003). For instance, management has the conviction that social media would enhance the performance of a firm's business compared to other technological innovations (Tripopsakul 2018; Chiu et al. 2017).

5.7 Outcomes of Social Media Usage in Supply Chain Management (Reference to RO2)

This section explains some outcomes of social media usage in supply chain management. Prior studies on social media integration suggest that, in most businesses, social media is utilised practically in all business operations due to its expected benefits (Dwivedi et al., 2021; Olanrewaju et al., 2020). Social media has also positively transformed nearly all business areas, fundamentally changing how companies and their customers interact (Chae, McHaney & Sheu, 2020). Social media has also been seen to be relevant to knowledge management in developing customer-oriented supply chains, allowing businesses to develop competitive advantages (Agnihotri, Kalra, Chen & Daugherty, 2022; Rezaei, Ortt & Trott, 2015). Although social media has gained ground and shown many benefits in supply chain management, its outcomes vary from organisation to organisation (Huang, Potter & Eysers, 2020). This study also

identified that integrating social media into the firm's supply chain has various benefits for supply chain management. For instance, social media integration helps close the confidence gap between stakeholders through improved communication, faster problem resolution, enhanced collaboration, and monitoring and evaluation of products. In addition, the study affirms that social media in supply chain management improves information sharing as social media is always available and creates transparency between the firm and its stakeholders. This finding also relates to the study of Chae et al. (2020), which acknowledges that social media usage enhances the supply chain and promotes information gathering and sharing in supply chain management.

5.8 The Possible Risk of Social Media Usage in Supply Chain Management (Reference to RO3)

Social media usage in businesses tends to present IT security risks such as spam, viruses, and malware, as well as disclosing corporate login and password information (Demek et al., 2018). Social media usage can also increase the risk of intended or unintended leakage of confidential information, for instance, employee or customer data, and, more importantly, proprietary intellectual property (Rehman, Baharun & Salleh, 2020; Demek et al., 2018). Sadly, some of these confidential information leakages can even be propagated by employees. In addition, the immense utilisation of social media in supply chain management can also present some risks to businesses. For instance, how information is disbursed on social media can enhance interruptions in supply chain management, causing panic and inefficiencies. Thus, accidental or deliberately misleading information enters the supply chain (Hoang et al., 2023). Even though prior literature (Rehman et al., 2020; Sherly, Halim & Sudirman, 2020; Cui et al., 2018) on the associated risk of social media usage in supply chain management, the findings of this study showed otherwise.

The findings suggest that there are little to no risks currently associated with their supply chain regarding the adoption and integration of social media into supply chain operations. From the case findings, the interviewed supply chain managers stated that there had not been any risk since the firms started using social media; however, the fear of the system being hacked in future is anticipated. With this in mind, precaution is taken on the type of information on the firm's social media platforms; messages are specifically intended for business. The findings also ascertained that the business's WhatsApp platform posed no risk. Hence, the only potential risk anticipated is that customers can leak vital information to other platforms. Since customers and employees are on the same social media platform (WhatsApp). Again, the findings ascertained that even though there has not been any substantial risk regarding social media, these firms are aware that social media can threaten their business. Compelling evidence from the findings indicated that although social media has not posed any risk, the good always outweighs the bad when implementing social media in supply chain management. On average, the benefit derived from social media will be between 95% -98%, while the risk level will be between 2% - 5%. Figure 2. below is the redefined conceptual framework.

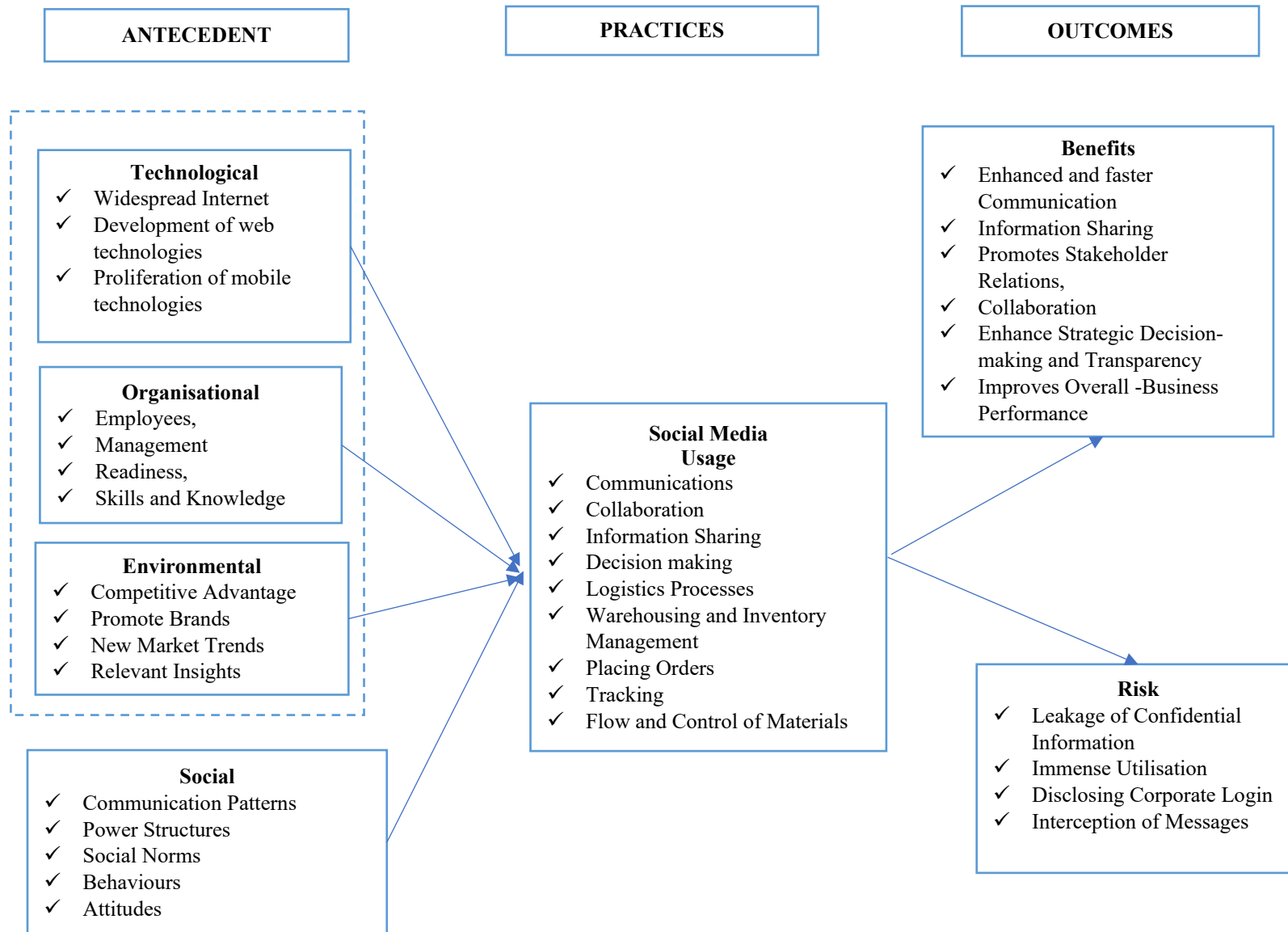


Figure 2. The Redefined Conceptual Framework for Social Media Integration into Supply Chain Management

5.9 Proposed Improvements

The findings of this study bear significant implications and suggest avenues for further research. This study adopted a qualitative approach to examine the antecedents, motivations, outcomes, and risks of integrating social media into their supply chain management. Even though this qualitative exploration provides valuable insights, it is imperative to recognise that a quantitative examination may yield different outcomes. Therefore, the researcher advocates quantitatively exploring the phenomenon to enable an extension of the knowledge from the study. Second, this study centred only on manufacturing firms' perspectives; hence, future research can necessitate a subsequent study encompassing social media integration within the service-providing firms, such as the telecommunication and tourism sectors, to offer a more comprehensive understanding of the subject matter.

6. Conclusions

This study sought to investigate the antecedents and outcomes of social media integration in supply chain management processes and how this integration enhances stakeholders' relationships and overall business performance. Based on the research purpose, three main research objectives were developed. The first objective sought to ascertain the key antecedents influencing social media usage in supply chain management. To achieve this objective, the study employed the TOE framework to understand a firm's decision-making regarding adopting technological innovations. The second objective was to ascertain the dominant outcomes of social media usage in supply chain management. The second objective was attained by employing the TOE framework, which suggests that both the organisation's internal and external environment have the potential to determine the effectiveness of the business so far as technological innovations are concerned; hence, relative advantages can be seen in businesses when they adopt new technologies. The third and final research objective was to explore the risks of social media usage in supply chain management. The study achieved this objective by reviewing the risk associated with social media platforms in supply chain management.

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