

Journal of Business Research

The Microfoundations of Social Media Use: Artificial Intelligence Integrated Routine Model

--Manuscript Draft--

Manuscript Number:	JOBR-D-21-01607R2
Article Type:	VSI: ML in Marketing
Keywords:	Microfoundation of social media use; routine; process; B2B; artificial intelligence
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Manuscript Region of Origin:	
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Document Name: JBR_Article_Final_-sent_for_pr.docx**Document ID:** 845763**Submission Date:** 1/17/2022 12:56:01 AM**Word Count:** 9844**Priority:** Standard (72-hour turnaround time) \$ 0.0363 per word**Writing Style:** Leave The Format As It Is**English Type:** US English**Editing Charge:** \$357.34**PaperTomb:** \$0.00**SMS Charge:** \$0.00**Surcharge:** \$0.00**Certificate Charge:** \$0.00**Total Charge:** \$357.34

THE MICRO FOUNDATIONS OF SOCIAL MEDIA USE: ARTIFICIAL INTELLIGENCE
INTEGRATED ROUTINE MODEL

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Ms. Ref. No.: JOBR-D-21-01607R1

Title: The Microfoundations of Social Media Use: Artificial Intelligence Integrated Routine Model

Respected Editors,

We thank you for considering our paper titled ‘The Microfoundations of Social Media Use: Artificial Intelligence Integrated Routine Model for possible publication in your esteemed journal.

As recommended, we have formatted the whole manuscript as per JBR author guidelines, and it was thoroughly proofread by professional proofreader.

We hope the revised manuscript meets the expectation of JBR. If you still find that anything missing in compliance, kindly let us know, we will be happy to carry out the changes.

On behalf of author’s

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The Microfoundations of Social Media Use: Artificial Intelligence Integrated Routine Model

Abstract

Increasingly, firms' social media (SM) use is on the rise; therefore, effective communication on SM remains a challenge for firms in the digital era. This study explores firms' different SM engagements with respect to artificial intelligence (AI) and proposes an empirically validated model. A qualitative research design was adopted in which semi-structured interviews were conducted with the chief executive, director, chief entrepreneur, and/or associated top management of firms that use AI. Based on an analysis of these interviews, the study proposes the "microfoundation of social media routine framework" that consists of three processes and four stages. This routine integrates AI manage the engagement of users on firms' SM. This routine provides the opportunity to establish strong relationships with customers. At the end of the study, we discuss the contributions and implications of the routine and conclude with future research directions.

Keywords: Microfoundations of social media use; routine; process; B2B; AI

1. Introduction

Implementing decisions with the input of machine learning (ML) helps firms' optimize their performance. From the perspective of business, numerous studies have been conducted in different domains of ML. Extant literature has emphasized the importance of artificial intelligence (AI) (Brynjolfsson and McAfee, 2017; Ransbotham et al., 2017) and its implications (Belanche et al., 2019; Rodgers et al., 2021) and the importance of big data (Chen et al., 2012; Wiener et al., 2020) and its implications (Chen et al., 2017; Lawrence et al., 2019; Liu, 2019). AI is changing the way people work, live, and solve challenges (Dignum, 2020). Social media (SM) can be managed and developed under the domain of AI. The widespread adoption of SM has created various prospects for gathering appropriate and timely information to improve firms' operational performance (Castillo, 2016; Imran et al., 2020). Consumers always explore options to reduce the amount of cognitive effort they must apply to decision-making and information-gathering tasks (e.g., Shugan, 1980; Verma et al., 2012). In the past, studies conducted on SM emphasized smooth interaction through social listening and connectedness with stakeholders (e.g., Cao et al., 2021; Istanbulluoglu, 2017). Effective integration of AI and electronic word-of-mouth (E-WOM) on a firm's SM pages improves communication and management. This study integrated AI and E-WOM to manage communication on firms' SM pages.

ML is widely used in SM to resolve managerial problems. Van Zoonen and Toni (2016) shared the importance of the coding for SM content through supervised ML. Similarly, Dhaoui et al. (2017) employed ML for SM sentiment analysis to unearth customer issues. Other examples include Cui et al. (2018), who implemented a variety of ML methods to forecast daily sales, and Vermeer et al. (2019), who engaged ML algorithms focused on the relevance of brands and identified the pertinent E-WOM. Some studies have shown positive linkages between ML use and

financial performance (Reis et al., 2020). Arora et al. (2020) used the ML techniques of bagging and boosting to train different weak learners (customers) on SM. In the same vein, Liu (2020) adopted ML user-generated content on business-to-business (B2B) firms' SM and predicted stock performance. Kaiser et al. (2020) employed ML and predicted users' brand love, brand loyalty, and word-of-mouth endorsement from the content of their brand photos posted on Facebook. Amin et al. (2020) utilized ML to unveil tweets' topics automatically and reveal financial disclosure tweets. Thus, ML plays an important role in firms' SM management and the E-WOM of customers.

The rapid growth of information-related technologies has had a huge impact on how, when, and where B2B marketers interact and do business with their customers (Schultz et al., 2012). SM has characteristics of participation, openness, conversation, community, and connectedness (Maresh-Fuehrer and Smith, 2016). Karjaluoto et al. (2015) proposed that people tend to act similarly in different roles on SM. Previous studies have suggested that B2B firms often find it difficult to identify and integrate SM platforms into their digital marketing mix (Iankova et al., 2019; Quinton and Wilson, 2016). Herhausen et al. (2020) conducted a systematic review and survey to find the knowledge gaps in digital marketing. However, the study by Herhausen et al. (2020) further revealed that the majority of firms lack knowledge on SM engagement and use. This gap was further defined as a lack of routines and processes that enable B2B firms to engage in successful SM conversations. Herhausen et al. (2020) named it the "microfoundations of social media use."

To strengthen this area of knowledge, this study proposes to address the gaps and suggests a routine that consists of three processes and four stages through which firms can manage SM engagement.

Jimenez-Marquez et al. (2019) proposed a two-stage framework for SM big data analysis. The first stage is dedicated to data preparation, i.e., aggregating unstructured data and finding an optimal ML model for the data, and the second stage relies on establishing layers of big data architectures

focused on getting an outcome from the data by employing most of the ML model from the first stage. This framework manages all the data from SM sources, blogs, chats, and microblogging services. On the other hand, Vermeer et al. (2019) tracked and analyzed E-WOM about brands, products, and services. This study applied “supervised ML” that decides whether seven different types of E-WOM are relevant for a brand and how the firm should be responded to them. Vermeer et al. (2019) proposed the response-worthy E-WOM identification process, but it was limited to the relevance of the E-WOM, type of the E-WOM (unsatisfied, neutral, satisfied), and whether a response to specific E-WOM is required. Their study did not cover the technology-related details in the model. The extant literature covers various methods and aspects of SM use in relation to AI and its benefits in various propositions but lacks a clear framework or standards. To address this research void, this study attempted to answer the following research question:

1) How can AI be integrated with a firm’s SM pages to communicate effectively and satisfy customers by answering queries in the minimum time possible?

Thus, the present study is an AI-integrated effort to provide a model that emphasizes the effective and efficient reply to customer queries on SM on an as-needed basis. To address the above research question, we formulated the following research objectives: a) to explore how AI can be integrated with firms’ SM pages to communicate effectively and ensure customer satisfaction by answering queries in the minimum time possible and b) to corroborate evidence from multiple cases to propose a framework for the “Artificial Intelligence Integrated Routine Model.”

In light of the available literature, our study contributes to the current body of knowledge in the following ways. First, our study proposes a detailed routine and processes for B2B customer engagement on SM (e.g., Facebook, YouTube, Twitter, Instagram). This routine comprises a three-process model consisting of four stages, from customer engagement on SM to the appropriate

customer-engagement response. Second, this study covers the knowledge gap of the microfoundations of SM use, as Herhausen et al. coined it in 2020, encourages people and institutions to conduct digital marketing research, and confirms that SM enhances firms' digital capabilities.

The second section discusses the previous literature on the elements of our proposed routine. This is followed by methodology in the third section and analyses and results in the fourth section. We propose the routine in the fifth section, followed by its contributions and implications. We conclude the paper with recommendations for future research in the final section.

2. Literature review

2.1. Theoretical background

The relationship marketing theory (RMT) is applied in marketing research to explore how customer engagement facilitates dialogue, which is a prerequisite to developing desirable relationships between firms and consumers (Lacoste, 2016; Lo and Campos, 2018). This theory originated from the idea of being relationship-focused instead of transaction-focused (Grönroos, 1994). The RMT emphasizes the importance of communication and expertise as the antecedents of a seller's success. Relationship marketing evolves from a dualistic relationship to a multiparty relationship (Gummesson, 2017) involving consumers, referrals, influencers, and internal markets (Payne et al., 2005). Gummesson (2008) called it the reason to manage money worth networks and relationships efficiently. The RMT also suggests that the sellers' efforts help create emotional ties with and commitments to the targeted customers (Palmatier, 2008). Using the tenets of the RMT, this study is proposing a new routine with three processes to handle SM customer

engagement/communication as merited. Firms should understand the needs, emotions, and social genetics or orientation of their SM users. Therefore, handling the engagement on its level helps promote the firm's message properly and gain the confidence and trust of the customers. This study adds a new dimension to the RMT knowledge by adding a new routine named the microfoundation of SM use, consisting of three processes and four stages.

2.2. Routine

Organizational routines are commonly understood to be a central element of organizations and a fundamental mechanism for coordinating work therein (e.g., Cohen et al., 1996; Cyert and March, 1963; Lin et al., 2017). Feldman and Pentland (2003) defined routine as a repetitive, recognizable pattern of interdependent actions involving multiple actors. Vromen (2006) described routine as the source from whom or where organization members receive inputs and to whom or where they send their information-processing outputs. Routines usually turn into habits of doing and dealing with firm operations. Routines follow a particular pattern(s) and enforce a range of actions that provide firms stability. Feldman (2000) and Schriber and Löwstedt (2020) called these patterns "repeated behaviors." Like human life, behavior is supposed to change against the change. Hence, if patterns of behavior don't change regarding the need for adjustment, the possibility of unseen consequences could be problematic for a firm in the short or long run.

In contrast, Feldman (2000) demonstrated that routines are the sources of continued endogenous changes in firms. Micro or macro factors are compelled to change the patterns over time. Howard-Grenville (2005) explained that the context in which routines are embedded is an important variable that can drive change or flexibility in those routines. Sometimes, routines were considered

rules for dealing with specific situations, which were treated as a firm's defining characteristic. This aspect is consistent with the performative aspect of the routine consisting of specific people's specific actions in specific places and times (Geiger and Schröder, 2014; Makowski, 2020). Howard-Grenville (2005) also added that routines ensure efficiency, legitimacy, accountability, and reliability in a firm (i.e., collective performance pattern). Feldman and Orlikoski (2011) shifted the focus of routines as performances.

Therefore, to achieve efficiency and effectiveness, firms need to introduce innovative routines to perform well in operations. In the perspective of this study, the routine is proposed to increase the efficacy of and competence in communication with customers on firms' SM.

2.3. Process

Van de Ven (1992) shared three meanings of process: 1) process as an explanation for variance theory, 2) process as a category of concepts, and 3) process as a developmental event sequence. In the present study, we consider process as a category of concepts encompassing individual and organizational actions, such as communication frequency, workflows, decision-making techniques, strategy formulation and implementation, and corporate venturing (e.g., Van de Ven, 1992). Garvin (1998) described the process as an interconnected series of activities that ensure completion of a given task. Activities help create interactions with customers and firms dependent on the firms' people, goods, physical resources, systems, and infrastructures. Occasionally, effective/innovative processes use nonexistent or unused resources.

Process studies develop an understanding of how and why things emerge, develop, grow, or terminate over time (Langley et al., 2013). Van de Ven and Rogers (1988) explained that routine

or special events prompt change in an existing process. This revision of a process requires the systematic mapping of its existing steps. These efforts provide room for change in the process and seek people who can develop and execute the change in the process, communicate with other stakeholders how to do the transactions in the process, share the context of developments, and report the outcome of the newly defined process. Processes of firms bolster the value co-creation activities offered (e.g., Alves et al., 2016; Payne et al., 2008; Vargo et al., 2015). Spring and Araujo (2017) proposed that the process is linked with the firm's competencies, skills, and knowledge. Therefore, understanding the process facilitates the firm's performance (e.g., Gomez- Mejia, 1992; Mollick, 2012).

Processes are well detailed parts of routines and are considered the event sequence. In the present study, the processes of a routine are defined to manage the communication on a firm's SM.

2.4. AI use in businesses

ML is transforming industry routines, processes, and business models (Fromhold-Eisebith et al., 2021; Sung, 2018). AI is an integral part of ML and helps firms add value and achieve efficiencies and effectiveness in their offerings. According to Overgoor et al. (2019), AI is a valuable tool that can identify and solve abstract and complex problems. Libai et al. (2020) believed that AI is useful for the interrelated CRM tasks of customer acquisition, customer retention, and customer development. Human-like chatbots for communication became a well-established method for dealing with service failure and hence churn avoidance (De Keyser et al., 2019). Such recoveries and benefits are gained due to the system's ability to interpret data correctly, learn from such data, and use those learnings to achieve specific goals and tasks through flexible adaptation (Kaplan and

Haenlein, 2019). AI can be described as a feature of intelligence that is more efficient and capable of processing more information than humans (Reim et al., 2020). Its complicated algorithms provide solutions to abstract and complicated issues.

Okuda and Shoda (2018) shared the following example of the use of AI in a firm's operations: Pecotter is a restaurant search app using a chatbot provided by BrightTable, Inc. After the user inputs their preferences, the chatbot begins by introducing eating or drinking establishments that match the customer's input conditions. It then presents locations recommended by other Pecotter users in posts. If the user finds a restaurant that they would like to go to, Pecotter enables the user to make a reservation and even change or cancel a reservation. Tarafdar et al. (2019) claimed that ECC—an AI-based application—can automate repetitive, formulaic tasks and, in doing so, deliver orders-of-magnitude improvements. Its call center applications can answer customer calls within 5 seconds on a 24-7-365 basis, accurately address customers' issues on the first call 90% of the time, and transfer complex issues to employees, with less than half of the customers knowing that they are interacting with a machine.

It's been observed that AI is an effective tool for managing users or customers online. Business enterprises or IT firms implement it according to the needs of the business. Previous literature lacks research that provides a framework for dealing with customer engagement using AI involvement. The classical study of Weizenbaum (1966) suggested the steps in the groundbreaking program ELIZA for natural language conversation between man and computer. Famous AI-based systems and programs, such as Google Now, Holmes, and P.A.N., all follow certain stages, steps, or sequences to fulfill a user query. Based on the discussions and extant literature, we propose four stages of the microfoundations of SM use as a routine that consists of three processes for dealing with customer engagement and queries.

3. Proposed process

The proposed process consists of four stages, each entailing unique characteristics and tasks for communicating efficiently with customers.

3.1. Stage 1: Social media engagement

This is the first process of the microfoundations of SM use routine. In this process, the AI filters and decides whether engagement should go further to stage 2. The meaning of engagement on SM is proactive and interactive communication and E-WOM between the consumer and the SM platform of a firm. Additionally, it has been observed that nonconsumers also engage with firms through SM platforms. Making customers engage on SM has always been a challenge for firms (Ashley and Tuten, 2015). In the digital age, it is necessary for firms to attract consumers and nonconsumers on their SM platforms to obtain their opinions/feedback in text form. Engagement on SM provides the possibility for customers and noncustomers to transform into active participants, and customers could become “prosumers” (e.g., Eckhardt et al., 2019; Hanna et al., 2011). From the firm’s perspective, engagement is the first step toward gaining insight and customer trust (e.g., Fletcher-Brown et al., 2020; Santini et al., 2020).

SM is an easy tool for customers to communicate with their favorite or least favorite brands. An advantage of E-WOM is that it offers more self-disclosure opportunities because of the greater anonymity the Internet allows (Anjum et al., 2012; Sun et al., 2006). Studies have suggested that engaged customers exhibit more emotional bonding (Harrigan et al., 2018), strong consumer–brand relationships (Weijo et al., 2018), satisfaction (Priporas et al., 2020), loyalty (Gibson and Trnka, 2020), and positive word-of-mouth communications (Chu et al., 2020). Engaged customers

become part of co-creation and direct interaction with firms and share their experiences with ongoing life, offerings, and value.

3.2. Stage 2: Types of engagement

This is the second process of the microfoundations of SM use routine. This process defines the type of message received on firms' SM. AI filters understand the type of engagement and decide whether that engagement should go further. Engagement is usually created on a want and need basis when a human or institution wants to indulge with SM activity for a reason (excluding off-topic or inflammatory messages). Increasingly, consumers easily express to fellow consumers their experiences with products and services (Schindler and Bickart, 2003). In general, there are a few reasons for which engagement is initiated on SM. First, sharing the experience of a product or service offering on SM in text form allows the user to validate their feelings and beliefs based on others' experiences (e.g., Felix et al., 2017; Lim et al., 2012). Second, responding to a published SM engagement enables confirmation, disagreement, or extension of the engagement to gather more information. Therefore, comments on SM usually share experiences and judgments on similarities/dissimilarities and influence other people's choices about products and services (e.g., Lee et al., 2018; Lim et al., 2012; Xue et al., 2020). These comments can be further divided into five actionable categories and one non-actionable category for the firms in the context of this research. The actionable E-WOM categories are as follows: 1) acknowledgment, 2) complaint, 3) question, 4) rejection, and 5) suggestion, and the non-actionable E-WOM category spam (e.g., Aswani et al., 2018; Vermeer et al., 2019). The engagement tag usually results in any of the E-WOM categories we discussed earlier. Every comment on a firm's SM has its worth (Yakhlef and Nordin, 2020). A discussion of the comment categories is presented in the following sections.

a) Acknowledgment

An acknowledgment E-WOM/comment on SM shows love or like from the SM user about the product or service. This customer shows gratitude or appreciation on the firm's SM. If such E-WOM comes from credible sources, it could be more persuasive for others than E-WOM information from less credible sources (e.g., Park and Lee, 2009). Acknowledgment E-WOM shows product attributes, characteristics, and performance (e.g., Lee et al., 2008; Rosario et al., 2020; Zhang et al., 2020). Sometimes, acknowledgment E-WOM combined with recommendation reviews provides positive evaluations (praise) or criticisms of a product or service (e.g., Park and Lee, 2008; Yu et al., 2020). Acknowledgment E-WOM impacts those who are more likely to act on the information they receive. Therefore, such E-WOM helps create a perception (positive or negative) and attitude about a product/service based on external information (e.g., Jin and Phua, 2014; Park and Jeon, 2018).

b) Complaint

Complaint E-WOMs and comments on SM are usually shared by unhappy and dissatisfied customers of a product or service. Customers criticize the product or service on the firm's SM. The reasons for this unhappy and dissatisfied behavior could be a malfunction or a low quality of products and service, a breaking of promises on offerings, unprofessional staff, and other problems (i.e., Fornell and Wernerfelt, 1988; Triantafillidou and Yannas, 2020). Customer complaints and the consequences of a firm's poor complaint handling are as old as business itself (Morgeson III et al., 2020). An amplified complaint environment can create "online firestorms" of negative publicity with immense financial consequences (Hauser et al., 2017; Herhausen et al., 2019).

Previous studies showed the adverse effects of complaints through SM on product sales and corporate image. On the other hand, complaints may provide corporations with strong customer references for service recovery and the improvement of products (e.g., Homburg and Fürst, 2005; Istanbulluoglu, 2017).

c) Question

E-WOMs in question forms and comments on SM usually appear when someone presents a matter which requires resolution or discussion about a product or service. This matter is sometimes resolved when a firm shares elicited information (i.e., Ge and Gretzel, 2018; Labrecque, 2014). Frequently, E-WOM questions are part of the learning process about a product or service and firm for the users (i.e., Chua and Banerjee, 2013; He et al., 2019). The SM of a firm is therefore a source of information for the customer. Hennig-Thurau et al. (2010) suggested that real-time content can provide a real-time experience, like a customer making a query about product handling on SM and getting responses from a firm's representatives. Customers engage in the SM of a firm to gain knowledge about products, brands, services, and issues (Blackshaw and Nazzaro, 2004). Smith and McKeen (2005) called it "knowledge for customers" that enhances the trust (value) of the customer in a firm.

d) Rejection

Rejection E-WOMs or comments on SM represent the dismissal or refusal of a product or service. Such E-WOMs provide insight into the quality of the offerings on the SM of a firm (Tukker, 2004). This is usually first-hand experience exchanged among customers who reject the product that can influence other potential buyers' decisions (i.e., Lengnick-Hall, 1996; Tukker, 2004). Wang and Herrando (2019) and Sweeney et al. (2014) suggested that the rejection of E-WOMs by dissatisfied

customers can ultimately result in product or service denigration. Consumers tend to weigh negative product reviews more heavily and with more impact than positive product reviews during purchase evaluation and decision-making (Chevalier and Mayzlin, 2006; Cheung and Thadani, 2012; Trusov et al., 2009). Therefore, firms usually remain careful about rejecting E-WOMs. Rejection of E-WOMs may break the trust and loyalty of a customer on specific offerings. On the other hand, firms could use such E-WOMs as an opportunity for improvement (e.g., Appel et al., 2020; Chu et al., 2020; Lee et al., 2020).

e) Suggestion

Suggestion E-WOMs or comments on SM appear when an SM user suggests an idea or plan as an opinion regarding the offerings. Suggestions on SM can be vital sources of information for a firm (Nadeem et al., 2015). Filieri et al. (2018) explained that online consumer reviews in forums have proven to be particularly influential. Murphy et al. (2014) called SM a resource for the firm in qualitative and quantitative applications. Therefore, firms capitalizing on the talents of their customers and including them as potential partners may incur competitive advantages over other firms (Bettencourt, 1997). Sometimes suggestions are unrealistic and sarcastic, and therefore, firms need to have a system which filters the useful and inappropriate contents from suggestion E-WOMs. Suggestion E-WOMs have the potential to add value to the product and service and help in planning future offerings (i.e., Osatuyi and Turel, 2019; Rosenbaum and Massiah, 2007; Van Doorn et al., 2010).

e) Spam

Spam E-WOMs and comments on SM are unwanted content shared by users. Such E-WOMs are shared by non-serious or opportunistic users. Hansen et al. (2010) suggested that spam WOM leads

to a huge waste of system resources, including bandwidth or disk space. We have proposed a method in which AI filters the spam E-WOM at the start of a conversation over SM.

f) Tag

Tag E-WOMs and comments on SM occur when one entity engages another entity by mentioning them. The purpose of this is to show specific content on SM with the expectation of action. It is the easiest way to process information on SM (McShane et al., 2019). Inclusion of a hashtag or a tag for another user are usually aimed at increasing the engagement of stakeholders (Surucu-Balci et al., 2020). A tag allows a user to be involved in concurrent communication rather than as a trade-off of cognitive communication (Zhang and Watts 2008). Dodson (2016) explained that the shorter the message, the greater the user engagement. Tag E-WOMs suggest that many people want to engage others in the content and show loyalty to some extent (e.g., Dolan et al., 2019; Lim et al., 2015; Yoon et al., 2013).

3.3. Stage 3: Dealing with engagement

This is the third process of the routine of the microfoundation of SM use. This process involves engagement with the marketing department. Therefore, it occurs after the filtration process of E-WOM reaches the “dealing stage.” Therefore, the E-WOM concerns the merit of the marketing department or sub-department in the next stage as it takes appropriate action (i.e., Cooper, 2008). In this stage, E-WOM involves relationship marketing (Goyette et al., 2010). In this study, E-WOM was divided into six categories, with each category requiring a unique handling to keep customer interest with the offering or firm. Neutral or positive E-WOM (acknowledgement, question, and suggestion) are easy to manage compared to negative E-WOM (complaint and rejection). Negative E-WOM could mitigate the harmful effect on the image of a firm’s offerings.

Previous studies have suggested that firms should develop strategies to address E-WOMs (Belanche et al., 2020; Lo and Lin, 2017; Zhou et al., 2020). Personal response and template response are two ways to deal with E-WOM (Mousavi et al., 2020; Wu et al., 2020). Personal response is a personalized and discreet reply to the commenter (e.g., Abney et al., 2017). This message reply should cover all aspects of the message based on the use of intelligence, especially question-form E-WOMs. On the other hand, template messages are reusable, standard messages to reply to an E-WOM (e.g., Lui et al., 2018). This message response addresses specific E-WOMs. We propose the inclusion of several departments of a firm in this process. The rationale behind this proposal is that AI or CR personnel cannot be experts in dealing with every kind of engagement, as in a firm offering several models of vehicles. Therefore, one CR personnel member cannot handle all the questions or complaints about each and every vehicle due to technicalities. Another reason to include other departments of a firm in the third process is to provide a proper and effective response—which could also be a detailed response—to E-WOM. This response would consist of the specific details to meet the merit and requirement of the purpose of the engagement. This complete consideration of the engagement is part of effective communication in the literature (Felix et al., 2017; Kim and Ko, 2012).

In the case of stage 3, the addressing of each E-WOM should be completed with either personal or template messages or a blend of both types. In this process, an E-WOM is filtered by an AI that should answer the question, whether among the personnel of AR or CR or another concerned department. In an acknowledgement E-WOM, the template message fulfills a response such as “thank you” or “appreciated.” In response to a question E-WOM, a personal message should be required. Simple questions would be covered by AI or CR personnel, and typical questions refer to the concerned department. AI or CR personnel would inform the user (by template message)

that the question is being forwarded to the concerned department. Personnel in the concerned department should answer the forwarded question in a minimum amount of time and share it with AI or CR personnel again with a proper answer. At the end, AI or CR personnel would forward the reply to the user. For dealing with suggestions in E-WOM, appreciation template messages should fulfill the response, and AI should send the suggestion to the concerned department based on merit.

The role of a department is crucial in dealing with complaint and rejection E-WOMs. If it is difficult to manage E-WOM complaints, AI or CR personnel should forward them to the appropriate department. The department responds to the engagement and shares it with the customer through AI or CR personnel. The same process should be followed in addressing rejection E-WOMs. If AI or CR personnel are not able to deal with the engagement, the message will be forwarded to the concerned department to address it. That department would share the reply with AI or CR personnel and send it later to the user.

3.4. Stage 4: Closure of engagement

When a commenter receives a response from the firm addressing an E-WOM, it is considered a closure of engagement. It is possible that users may engage further in communication in the same thread. Therefore, that engagement would start from stage 1 in the process of the microfoundation of SM use. There are immense chances that engagement 2 would be different from engagement 1—for example, engagement 1 = acknowledgement of the E-WOM, engagement 2 = a question E-WOM.

Marketers attempting to influence customers using SM to gain positive E-WOM can expect to have customers in different stages of engagement. Customers in these different stages vary in terms of the degree of relational exchange and emotional bonds (Sashi, 2012). Parveen et al. (2015) explained that the main reason for firms to use a high amount of SM is to develop a good relationship with customers, to have effective communications with them. Satisfactory addressing and closure of communication creates an effective influence on customer loyalty (Zhang and Li, 2019), satisfaction (Wang et al., 2016), equity (Kim and Ko, 2012), commitment (Balaji, 2014), relationship and trust (Rose et al., 2021), inspiration (Oh et al., 2017), and intimacy (Hasan et al., 2017). It also influences brand image (Ibrahim et al., 2017), brand equity (Supphellen, 2000), service recovery (Luong et al., 2021), value creation (Kao et al., 2016), firm innovation (Muninger et al., 2019), firm value (Kim et al., 2015), and the performance of institutions (Daowd et al., 2020).

4. Research design

This research followed an exploratory multiple case-study approach. Multiple case-study methods are predominantly used when the problem under investigation is in infancy. With these methods, researchers seek to explore answers to the “why” part of the phenomenon. Multiple case studies allow replication between cases and help as a means of corroboration of proposition among cases (Yin, 2017). This research method can specify clear gaps in existing theory and help to advance current theories (Ridder, 2017). We concentrated on the business sectors that use the SM engagement process as part of their daily business activities. All cases were in Malaysia and Pakistan, countries that share remarkable similarities in terms of culture, religion, and close relations and have a rich tradition of natural beauty and tourism. Furthermore, both are emerging

countries with common economic and political ties as well as government-to-government contacts. Similarly, both nations are making strides toward digitization and AI. Numerous previous studies (i.e., Atkin et al., 2017; Ghazali et al., 2018; Rahi et al., 2019; Siew et al., 2020) have also used the targeted population from Malaysia and Pakistan to conduct studies on comparable issues. The case study method is suitable in its specific context to investigate a complex and unexplored phenomenon (Eisenhardt and Graebner, 2007). Multiple case studies are presumed to be more reliable since they allow phenomena to be observed and studied in many contexts, thereby helping to provide replication logic for particular cases to be viewed as independent experiments (Yin, 2017).

This study is inductive in general and derives common patterns among cases. The design is stronger, providing more compelling evidence as well as more robust implication. This design is also useful for testing theory, and the method of multiple case studies offers more powerful analytical generalizability (Yin, 2017). The rationale for choosing multiple case-studies from two distinct countries and sectors was to enable generalization of the findings across a larger set of the population. A purposive sampling technique of non-probabilistic sampling was used to investigate the SM engagement mechanism of business sectors in Malaysia and Pakistan, using the method of incremental selection (Teddlie and Yu, 2007). Case variation was examined on the basis of industry in order to achieve a deeper understanding of the micro-foundations of SM use.

4.1 Sample and data collection

Participants were chosen from two industries that received and handled most of the recurring complaints—banking and online retail stores. The choice of companies was made based on their

prior AI adoption. The authors have collected catalogues and other promotional documents and visited the prospective companies' web pages a priori to ensure that the companies have prior AI adoption. The top three banks and online retail stores in each country were chosen based on online ratings and SM followers. The rationale for choosing two distinct countries and sectors was to enable generalization of the findings across a larger set of the population. The firms' HR divisions were contacted via personal contacts and e-mail through the research teams in Pakistan and Malaysia. Of the organizations approached, 42% of Pakistani firms and 36% of Malaysian firms participated in the survey. A total of 12 organizations, six in each region, participated in this research, with a sufficient sample proportion to produce adequate narrative records to provide viewpoints directly relevant to the problem under study (Teddlie and Yu, 2007).

To gather the data for this study, researchers conducted a series of semi-structured in-depth interviews with 15 participants. The study employed a semi-structured interview protocol. The interview protocol was developed based on the available literature and opinion from an expert committee formed for this purpose. The interview protocol consists of a consent letter, open-ended questions, prompt questions, and probes to get a better and more thorough understanding of the phenomenon. In the consent letter, the respondent was assured that the collected responses would be kept confidential and secure and that the responses would be used only for academic purposes. The open-ended questions were as mentioned in the appendix, and are appropriate for understanding circumstances and phenomena through the lens of the subject's point of view (Kvale, 1995). Prompt questions—such as “Can you clarify this with an example?”—were posed at several points during the conversation to aid in understanding. Additionally, the probing questions were asked to seek maximum information related to the phenomenon; it was necessary to use several probes to elicit detailed responses to the specified questions (Merriam and Tisdell,

2015). All questions were double-checked for accuracy and readability. This technique successfully mitigates interviewer bias and allows respondents to correct any flaws or discrepancies in their responses. Furthermore, two subject experts were employed to proofread and test this interview protocol to ensure that it was well aligned with the goal of the study. Experts further confirmed that the interview questions used in the protocol addressed the study's key research issue.

The sample was chosen based on their position in the organization, competence, and experience in the relevant field. The in-depth interviews spanned between 60 and 90 minutes (McCracken, 1988), based on their thorough understanding of organizational features such as systems and processes (Miller and Toulouse, 1986). These interviews were held with the chief executive, the director, the chief entrepreneur, and/or associated top management. The different perspectives of participants reduce the dependence on a single participant's perspective and enrich the data obtained (Kumar et al., 1993). Furthermore, related records, such as project reports, operational policies and other paperwork, were gathered and reviewed to reinforce the credibility of the themes established during data analysis and triangulation (Yin, 2017). Where applicable, interviews were conducted at the organization's facilities, and observations were recorded and reviewed later.

4.2. Data analysis

All the interviews were audio-recorded, transcribed word-for-word and analyzed via NVivo qualitative data analysis software. This study applied thematic analysis where codes are generated inductively (Braun et al., 2019). In the process of thematic analysis, the themes were carefully searched to match the phenomenon, which required a meticulous process of generating themes

from in-depth analytical reading and understanding of data (Yin, 2017). First, there is a categorization process for identifying common phrases, codes, and words from the transcription (Yin, 2017) and then content analysis is applied to the data. First and foremost, the codes were identified from the interview transcript and then categories were created from codes (Yin, 2017). The thematic analysis was conducted by recognition and classification of key patterns from the participants' responses. All the words, phrases or ideas relevant to the central research questions were extracted from the transcript, and then from this, the codes were generated. And finally, similar codes were accrued to generate themes (Yin, 2017). To ease data analysis, each researcher autonomously coded answers to the open-ended questions to fully understand notions not easily obtainable from existing theories or field research.

Reliability was accomplished by means of an interview protocol that described philosophy, processes and questions (Eisenhardt, 1989). To learn more about the situation, open-ended questions with relevant prompts were used. The in-depth dialogue elucidated key findings by reflecting on one or two newly deployed developments in the organization, with which the respondents in this study were quite acquainted. Rich narrative evidence was gathered as the same ideas were analyzed in depth with various participants having diverse viewpoints. Both researchers later compared their coding and when there was a disagreement, they continued their discussions until they both arrived at a consensus. This independent cross-case study, both inside and around the countries, was carried out to enhance the understanding of the SM engagement mechanism across AI and to improve the capability to generalize due to the variety of sectors involved (Eisenhardt, 1989).

5. Results and findings

This section describes emerging themes and stages in the microfoundation of SM use. The main findings identify four stages in the course of SM engagement. The first stage is to set up communication with the company's SM site. The AI classifies the type of engagement in the second stage. The answer is organized in the third stage. The fourth stage completes the engagement loop by responding to the question. The following section describes the identified themes and categories in detail.

5.1. Engagement starts on SM

The microfoundation of SM use emerged as the first stage of the SM engagement process where customers create contact with the firm and initiate a message in any mode of communication. When asked whether they had used or planned to use AI for engagement, the majority said they were willing to try it. Some argued that they would try it out for easy questions first and then determine if they liked it afterward. The benefit of a shorter wait time was mentioned multiple times. However, it was also mentioned that with this form of technology, there might be a learning curve for customers. "If it was the only choice, the customers would try it a few times if they needed service or only had a small task," said respondent 3.

When asked if they thought the technology was simple to use, the majority of respondents said it was simple to use and did not require a lot of effort from the users. The AI will provide quick and efficient responses and reduce wait times as compared to traditional service, as specified in the responses. As one of the benefits of engagement through AI, respondent 9 listed "the customers would like to skip to engage with a real person often, and dislikes waiting." It appears to be

straightforward and effective. However, one of the criticisms, as mentioned by respondent 12, was that “AI would never be able to fully replace a person.”

Since real-life social experiences can be used to develop a good understanding when the customer needs assistance. Respondent 8 said, “Though it is easier to speak with a genuine person, I trust that the customer will understand more properly than an AI. Automatic responses are less complex in social media engagements.”

5.2. Types of engagement

The types of engagement guided through AI emerged as the second stage in the SM engagement mechanism. The data revealed that consumers have various forms of SM interaction with companies. Customers typically create relationships with firms through SM for a variety of reasons, including acknowledgment, complaint, question, suggestion, rejection, spam, and tag. We describe each section in detail in the following parts.

a) Acknowledgement

When asked how AI technology would impact waiting times in comparison with regular services, respondents usually agreed with the notion of social engagement through AI. The benefits of AI, according to respondent 11, are that “it allows the company to answer more queries at once and that it allows them to have longer opening hours, giving customers more flexibility about when they would like to engage.” They were all confident, however, that engagement through AI could greatly reduce wait time for basic and routine queries.

b) Complaint

It was identified that customers also engage with SM with the purpose of making their complaints. The majority of respondents believed that the AI's simple functions were still limited and did not help them solve their problems. Respondents 4 and 13 mentioned that they'd rather speak to a human technician than go through the procedures of an AI for complicated issues. Several respondents expressed concern about AI and its use among the elderly, claiming that its function could be considered irrelevant. One set of respondents with conventional notions believed that technology was insufficiently tailored to assist elderly people with traditional values. Respondent 2 said, "The younger people adopt technology, but the older don't."

c) Question

It was also determined that customers engage with SM to raise their questions. According to respondent 5, "the AI was most effective depending on the questions and queries they were engaging in." Making an after-hours contact, for example, was an instance where AI proved to be most useful, but those were unusual occurrences.

d) Suggestion

Customers may also establish their engagement with the firm to make their suggestions. When asked about their opinions as to whether AI engagement is more effective than traditional service, the respondents offered similar responses as before (5.2-b). If the technology is well developed and mature enough to understand the user, it could save time by providing quicker service to the customer. However, respondent 10 indicated, "this form of technology would require a great deal of patience and would be extremely challenging for some users, especially the elderly and those who are unfamiliar with technology."

e) Rejection

Many respondents were hesitant to use AI due to the adoption barrier, which serves as a disadvantage. It has been argued that AI can prevent consumers from deteriorating and losing essential facilities, which could otherwise have been resolved very quickly if human contact had occurred. This revealed that it was not obvious to the respondents what the AI was all about. The general opinion among respondents concerning their engagement with the AI was negative. Respondent 1 said, “No, this is a means of stopping you so that people get bored and stay put. Because of AI, they are able to save money.”

Some respondents expressed concerns about the AI system’s credibility and insecurity, as well as about disclosing confidential and sometimes sensitive details such as personal information. They were worried about the unintended consequences of providing information to an AI. Their doubts centered on the technology and its maturity level, with some respondents claiming that the technology is still too young to handle issues like handing out personal information. “Yes, it will certainly be better in the future,” said respondent 7. Respondent 9 added, “It has numerous advantages over standard operation. Wait time, opening hours, and not having to speak with a live person if you're exhausted or in a bad mood are all factors to consider.”

f) Spam

The majority of respondents were open about their negative experiences with this technology—that is, whether it was with their families, coworkers, or close friends. Respondents’ positive and negative feelings about the use of AI, especially their negative experiences, were not obscured in any way. They claimed to have expressed such a negative experience of their interaction at least once, but the AI had never left a lasting impact on any of the respondents, prompting them to communicate their joy among their friends. According to said respondent 6, “Yes, I'm sure I'd talk about bad encounters.”

g) Tag

The SM tag refers to when a person engages another by mentioning someone else. The idea of SM tagging originated after the participants were asked what other types of messages they use SM for. Tagging, according to a majority of the participants, is when one customer engages with another on SM by mentioning them. According to respondent 14, “The aim of a tag message is to display a person’s unique experiences on social media in the hopes of eliciting a response.” Respondent 8 also added that “The easiest way to filter information on social media is usually to increase participation using a hashtag or marking another user.” Tagging in SM engagement is thereby identified as another type of SM engagement.

5.3 Dealing with engagement

Dealing with AI-led SM engagement as the microfoundation of SM use emerged as the third stage in the SM engagement process, which organizes the response and specifies the need for an alternative in the form of a regular service in order to obtain assistance if customers are unable to engage via AI or CR personnel. Very few respondents were extremely pleased with the AI program, owing to the fact that they did not have to repeat the same process. In contrast with a human contact, where transferred calls to various departments involved describing the users’ issue again and again, they did not have to explain it more than once.

Several respondents have mentioned the need for an alternative in the form of a daily service so that anyone can get assistance if they are unable to engage with the AI or if it is incapable of providing accurate answers. “If I have important questions and would like to engage with a human or an executive, I would want that choice right away because I think that AI can’t provide solid answers for anything at this time,” said respondent 15.

5.4 Closure of engagement

Closure of engagement emerged as the last step in the SM engagement process when a commenter received a response against E-WOM from the firm, and then it was considered as closure of engagement. Several respondents agreed that the engagement cycle is deemed to be concluded when the customer receives a response to the question asked. However, respondent 14 argued “There is a likelihood that the person will engage in further communication with the same thread.”

Based on our results, in a nutshell, the microfoundation of SM use is completed with three processes and four stages. In the first stage, communication is initiated on the AI-led SM platform. In the second stage, the type of engagement is decided by AI. In the third stage, the AI or CR personnel manages the response with other department input. The engagement loop is concluded in the fourth stage by responding to the raised question.

6. Proposed microfoundation of social media use routine

Figure 1 depicts the microfoundation of SM use. This model consists of four stages. The stage 1 process starts when an internet user writes the message on the firm’s SM. The engagement would

be forwarded to stage 2 with the help of AI if it is in a text-based and detectable format. Types of messages, such as emojis, GIFs, and pictures, are not filtered so that they can be forwarded to stage 2. In stage 2, the AI filters the text message and assigns the specific category to engagement. The possible categories include the following: acknowledgement, complaint, question, rejection, suggestion, spam, and tag. The stage 3 process begins after identification of the message (except for spam E-WOM). Marketing department involvement starts from this step. This message reaches the marketing department, and AI or CR personnel try to reply to or resolve the engagement at the first instance. If engagement is outside of the expertise, practice, and knowledge of the AI or CR personnel, the message is forwarded to the concerned department. The AI or CR personnel decide on the most appropriate department to reply to the message. The appropriate department personnel will reply to the message and share it with the AI or CR personnel. In the last stage (4), the AI or CR personnel reply to the user's engagement, and it is considered as closure of the engagement. In several cases, the same user can start a new engagement by replying to the AI or CR personnel message; thus, it is considered as a new engagement, and it is dealt with according to the merit.

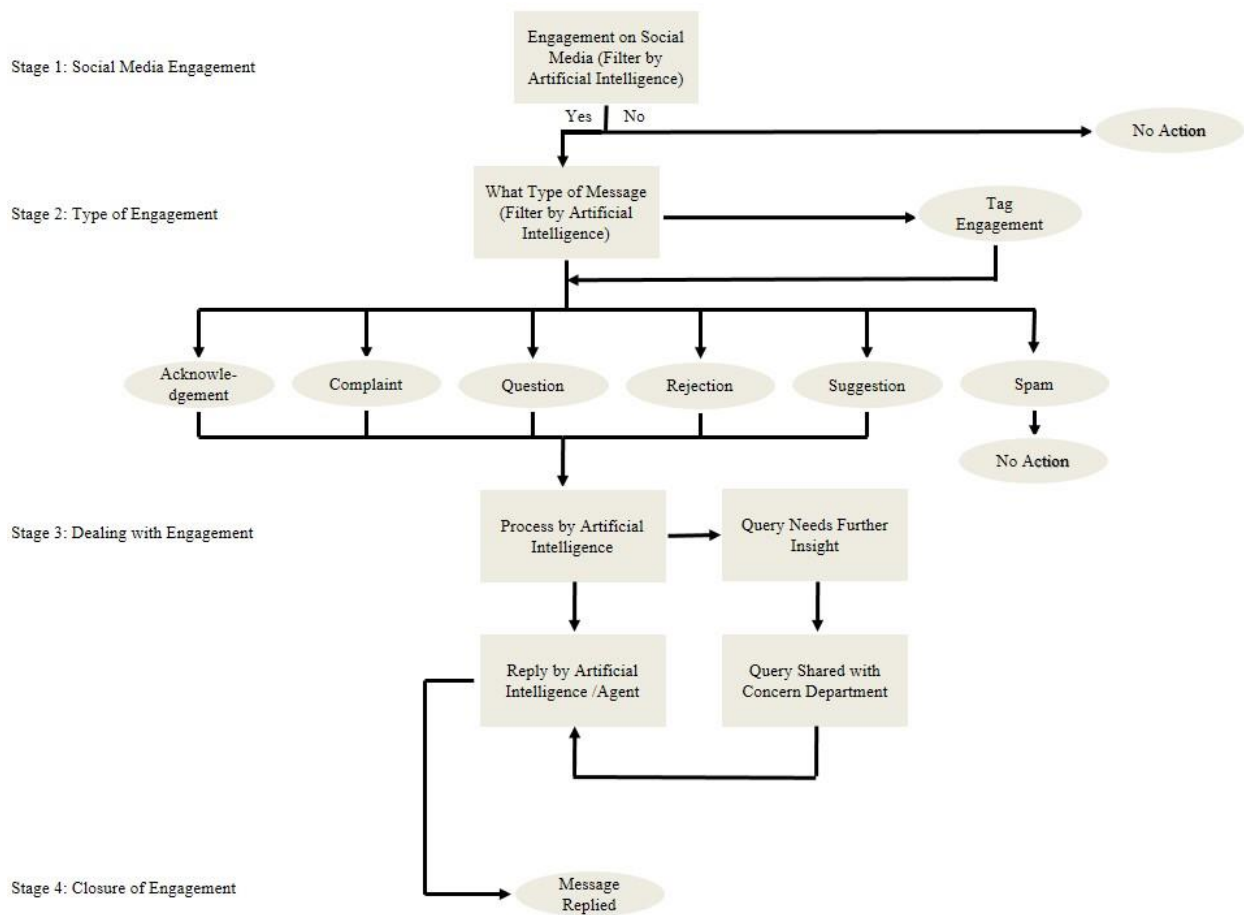


Fig 1. The Microfoundation of Social Media Use.

7. Conclusion and contributions

SM is used as an effective tool to improve customer experience in the digital era, and it is considered an important element of firms' marketing strategy. Therefore, it contributes to a firm's marketing capability strength. First, we explored the literature and built the framework that describes the various stages and steps of firms' SM engagement. These processes, including stages and steps, were further validated by empirical data collected from two different samples obtained

from Malaysia and Pakistan. Second, based on our findings, we proposed an empirical routine that consists of four stages and three processes. The proposed routine can be used to engage successfully in B2B SM conversations.

7.1. Theoretical contributions of microfoundation of social media use

Firms' SM is an important tool to promote the offerings and engage the customer with a brand (i.e., Drummond et al., 2020; Hollebeek, 2019; Swani and Milne, 2017). Studies have suggested devoting more resources toward SM so as to manage it effectively (Herhausen et al., 2020; Wu, 2016). When technologies are well designed and integrated, they can support efficient communication (Shim et al., 2002; Wilkinson et al., 2012). This study suggested a microfoundation of SM use routine that firms can integrate into their operations. This model provides four stages of the routine to manage customer engagement. Different types of customers contact the firms for various purposes. Therefore, it is not practical or possible for AI or CR personnel to manage and reply to every engagement.

This research contributes to the effective management of B2B communication between firms. According to the type of engagement, the firm will respond in order to fulfill the requirement and expectation of the user. The second contribution of the research is to propose a routine (with three processes) against the knowledge gap of the microfoundations of SM use. This routine and processes provide a guideline to manage user–customer engagement. The studies suggest that the enhanced digital capabilities of the firm are pivotal in a competitive environment (e.g., Coreynen et al., 2020; Nasiri et al., 2020). This microfoundation of SM use is the latest contribution in RMT, as well in terms of routine and processes, to oversee the customer relationship.

SM is the place where users communicate openly in the absence of nonverbal cues. For the management of such communication extents, firms are established and improved upon through effective communication and SM, either to enable or hinder a firm's value offerings in the market (Leonardi et al., 2013). This study proposed the inclusion of AI in the SM communication process, which corresponds to the results achieved by Alsamhi et al. (2019), who confirmed that AI is an essential tool for effective communication between humans in the business world. The proposed framework covers, stage by stage, the microfoundation of SM use from the user's perspective. If an entity wishes to communicate seriously with the firm and write a detectable and readable message, it would handle it on the basis of the need and intention. Therefore, either AI or CR personnel, as well as a specific department, would reply to user messages. It is increasingly important to lead and work efficiently in virtual cross-functional teams, as well as take part in effective SM communication, which results in agile follow-up (i.e., Daim et al., 2012; Muninger et al., 2019).

This study further contributes to and enriches RMT knowledge by adding a new routine consisting of three processes and four stages known as the microfoundation of SM use. RMT originated from the idea of being relationship focused. The present study added a new routine after conducting interviews with the firms' caretakers. This routine is an engagement facility to develop the desirable and positive relationship between the firm and the customer. Palmatier (2008) suggested that sellers should create emotional ties with customers. The processes of the routine could inspire the customers to perform as influencer and referral agent for the firm. Smooth, fast, and related communication generate positive energy among customers (e.g., Sharma et al., 2020; Zhang et al., 2020).

7.2 Managerial implications of the microfoundation of social media use

ML and AI involvement in customer communication have recently attracted considerable managerial and practical interest. Now that technology is so influential in the daily interactions between firms and customers, and that consumers are increasingly active in SM, managers must prioritize actions that directly enhance the customer engagement process (Baldus et al., 2015; Libai et al., 2020). AI's contribution in managing customer relationships can be easily embedded in technology-enabled processes. Previous studies have suggested that managers should focus on finding new methods of customer interactions and their overall consequences on the customer relationship (i.e., Kuehnl et al., 2019; Reinartz et al., 2004). In the microfoundation of SM use, customers are managed individually by AI, and we suggest the routine and processes on customer equality base. If managers want to implement the customer prioritization strategy, they can define two or more microfoundations of SM use as per the customer rankings/profitability, and the same logic can also be applied to customer prioritization approaches. Many firms might be targeting specific sector(s) based on their specificity; in such a scenario, they define the prioritization of customers' microfoundation of SM use routine and processes accordingly (i.e., Libai et al., 2020; Wirtz et al., 2018). For such arrangements, firms should have top performing algorithms integrated with SM. Additionally, they need skilled staff, industry data, firm agility capabilities, and a powerful IT infrastructure.

We propose a routine with three processes to deal with the messages and queries on the firm's SM. This model could fulfill the expectations of customers with a firm's customer care department. Perfect implication of the proposed model's four stages could enhance the customer- and firm-related aspects, such as trustworthiness, enchantment of the customer satisfaction, engagement, and so on. Previous literature has proven that happy and trustworthy customers pay off intrinsically

and extrinsically (Audrezet et al., 2018; Hu et al., 2020). Furthermore, we recommend that managers compress the time between stages 1 and 4. Additionally, in stage 3, the response time may increase if other departments do not efficiently provide a timely and proper response. Therefore, to overcome this possible weakness in managing SM operations, firms could hire more people to support the microfoundation of SM use. The other possible solutions are to train the existing employees to manage the responses and increase the benefits of the remuneration package. Chatbots may be more cost-effective than human employees, and the service experience they provide can be subpar in the earlier stage, generating consumer frustration (Kannan, 2019).

Investments into the microfoundation of SM use result in the attainment of big data (i.e., volume, variety, and velocity), and that can be harvested as an asset in the future. These data can be effectively used to target the customers based on their old queries, and they may indicate the trend and frequencies of the customer queries and intentions. Managers can consider such data as value exchange in the perspective of capital investment on the microfoundation of SM use. Diverse data present the firm with more opportunities and freedom to find future directions to acquire, develop, and retain customers. New or continued routines and processes allow managers to learn and introduce improved routines and processes over time. This progress results in gaining a competitive advantage or learning curve in a specific timeframe. In the microfoundation of SM use, the managers can introduce a similar set of communication routines and processes within the organization to bolster the value co-creation activities.

The microfoundation of SM use stimulates firms' repeated customer-oriented behavior on SM. Therefore, this repeated behavior helps to create a specific habit among the firm and the user. As the image of the firm develops as a customer-oriented business on SM, it receives added pressure and responsibility to continue this practice. In the perspective of users or customers, firms'

repeated customer-oriented behavior admires the user and could create a favorable attitude of habitual interaction with the firm through SM from smart devices.

8. Limitations and future research directions

We proposed a microfoundation of SM use routine with three processes in the study. As with any other study, our research also suffers from some limitations. Accordingly, we describe several limitations and future directions for scholars to consider in future work on the microfoundation of SM use as a concept. We interviewed the heads and managers of the well-established firms. Therefore, we believe that well-established firms have more standardized and formal work processes than less established ones (e.g., Rerup and Feldman, 2011). We also understand that, with age, type, size, capital, and market position, the firm's capabilities also create a disparity in its adjustment to and adoption of routines and processes (i.e., Eisenhardt and Martin, 2000; Hart and Banbury, 1994; Ramaswami et al., 2009; Ray et al., 2004). Thus, we suggest that future research can consider the effects of the microfoundation of SM use under different sectors and characteristics of firms. Second, we assume that pre- and post-eras of change show the discrepancies in results/performance (i.e., Harp et al., 2014). We recommend that future studies gauge the pre- and post-microfoundation of SM use performance. Such studies could adopt a qualitative, quantitative, or mixed approach. Third, we can gauge the differences in the efficiency through the involvement of humans and AI in stages 3 and 4 of the microfoundation of SM use. This efficiency can be gauged internally (e.g., timely reply, proper reply by either agent) or externally (e.g., customer satisfaction level in engagement). Fourth, it can be argued that this study has a rather static approach to analysis. These static approach studies and topics are suggested to be verified by longitudinal studies. Therefore, future longitudinal research exploring the rapid

development of SM engagement could offer interesting perspectives. The sample size and properties in the study were also restricted given the limited scope. Therefore, future studies with a large sample size and diverse sample properties are encouraged.

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