

On the Role of Social Media Analytics in Steering the Digital Transformation of Organizations through Developing Data-driven Dynamic Capabilities

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ABSTRACT

Digital transformation is probably the most attention-grabbing phenomenon in contemporary business-related and managerial discourses. Nowadays, organizations have acknowledged the fruitful impacts of digital transformation on their businesses, so they are trying to implement this transformative journey. However, they have recognized that this is not a short-term project or an easy-going process, so they are struggling to find an appropriate organizational asset to empower them in following this journey appropriately. In this theoretical study, we have introduced social media analytics as such an asset. Accordingly, drawing on the dynamic capability view, we attempted at developing eight propositions and elaborating a theoretical framework in which social media analytics is seen as a great source of data-driven dynamic capabilities (i.e., data-driven environmental scanning, data-driven organizational agility, and data-driven product / service innovation). These propositions are, in turn, positively associated with the main building blocks of digital transformation implementation including digital disruption detection, digital strategy formulation, and digital value creation. Our theoretical framework describes some of the mechanisms through which social media analytics can benefit organizations in steering their digital transformation journey.

KEYWORDS

Data-driven Dynamic Capabilities, Digital Transformation Of Organizations, Social Media Analytics, Theory Building.

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Introduction

Digital transformation has emerged as a critical imperative for organizations striving to remain competitive in today's dynamic business landscape (Nwankpa & Roumani, 2016; Vial, 2019). Despite its significance, the role of social media analytics in steering this transformative journey remains underexplored (Holsapple et al., 2018). This study addresses this gap by proposing a novel theoretical framework that positions social media analytics as a strategic asset for cultivating data-driven dynamic capabilities—specifically, data-driven environmental scanning, data-driven organizational agility, and data-driven product/service innovation—that propel digital transformation. Theoretically, we enrich the dynamic capabilities and digital transformation discourses by delineating how social media analytics uniquely enhances these processes (Teece et al., 1997; Vial, 2019). Practically, we offer managers actionable insights to leverage social media analytics for detecting digital disruptions, formulating digital strategies, and creating digital value, providing a clear roadmap for navigating this journey.

Digital transformation, defined as improving an entity by significantly changing its properties through using digital technologies (Vial, 2019), has become a buzzword in our business world (Hausberg et al., 2019; Talafidaryani & Asarian, 2024; Talafidaryani et al., 2021; Talafidaryani et al., 2023). The recent research has acknowledged that the digital transformation of organizations has positive effects on their performance (Nwankpa & Roumani, 2016; Talafidaryani, 2023) and is a strategic imperative for them to remain competitive in contemporary, constantly shifting, and digitally disrupted business environments (Marx et al., 2021). Today's business environment is increasingly characterized by ambiguity, complexity, stormy changes, and uncertainty (Hafezniya & Ansari, 2024). Accordingly, it is evident that every organization needs to initiate and pursue this transformative journey to benefit from such expected organizational impacts.

However, the problem is that this journey is not a short-term project or an easy-going process in organizations. Instead, the digital transformation of organizations is “an ongoing process of using new digital technologies in everyday organizational life” (Warner & Wäger, 2019, p. 326), which requires some transformative capabilities such as organizational agility as the mechanisms for the ceaseless strategic renewal of the digitally transforming organizations (Warner & Wäger, 2019). In more precise terms, drawing on the notion of dynamic capabilities, digital transformation can be defined as an organization's capacity to “sense and shape opportunities and threats, to seize opportunities, and to maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and tangible assets” (Teece, 2007, 1319). Warner and Wäger (2019) have introduced the digital transformation of organizations as an ongoing process of creating sensing, seizing, and transforming dynamic capabilities for the continuing strategic renewal of the organizations that enables them to constantly benefiting from new digital technologies. Accordingly, the organizations interested in implementing their digital transformation need to possess some powerful assets that empower them to continually build these

dynamic capabilities and continuously follow their strategic renewal. For instance, [Fasanghari and Asarian \(2024\)](#) highlight how 5G technology, through prioritized smart tourism projects, serves as a critical infrastructure asset that enhances data connectivity, supporting digital transformation efforts. Similarly, [Khodabakhsh et al. \(2024\)](#) demonstrate that customer knowledge management, mediated by open innovation, strengthens service quality, suggesting a complementary data-driven asset for building dynamic capabilities. However, our current knowledge lacks a comprehensive understanding of these assets, without which organizations cannot initiate and steer their digital transformation journey toward expected outcomes such as performance improvement and competitive advantage.

We do believe that social media analytics, defined as “all activities relating to gathering relevant social media data, analyzing that data, and disseminating findings as appropriate to support business activities” ([Holsapple et al., 2018, p. 33](#)), can be considered as one of such assets because of its specific characteristics. First, it is argued that social media data represents a vast and ever-evolving resource for observing human behavior, offering unique possibilities for gaining insights into communities, societies, and individuals ([Batrincea & Treleaven, 2015](#)). Accordingly, analyzing such data enables organizations to understand the business events and technological trends in their digitally disrupted business environments effectively which is considered as the initiating point [or probably the most important point] of the digital transformation process ([Vial, 2019](#)). Second, the recent studies have introduced social media use as the source of some sorts of dynamic capabilities such as organizational agility ([Ye et al., 2022](#)) which are in perfect harmony with the dynamic capabilities required for digital transformation ([Warner & Wäger, 2019](#)). Third, the dynamic nature of social media data along with the potentiality of analytics techniques in timely tracing this dynamism allows organizations to see social media analytics as a source for constantly building the dynamic capabilities that is needed for ongoing strategic renewal of organizations in the pursuit of digital transformation ([Warner & Wäger, 2019](#)). Accordingly, the current study aims at proposing a theoretical framework in order to describe the role of social media analytics in steering the digital transformation of organizations through data-driven dynamic capabilities. To do so, we rely on the dynamic capability framework ([Teece et al., 1997](#)), as one of the most popular theories in strategic management ([Heidari & Talafidaryani, 2021](#)) and information systems ([Talafidaryani, 2021](#)), and conceptualize the dynamic capabilities enabled by social media analytics as data-driven dynamic capabilities. Also, we see the digital transformation journey of organizations as an ongoing process described by [Vial \(2019\)](#).

This study offers several novel contributions to the literature. First, we propose a pioneering theoretical framework that positions social media analytics as a strategic asset uniquely suited to steer digital transformation by fostering three specific data-driven dynamic capabilities: data-driven environmental scanning, data-driven organizational agility, and data-driven product/service innovation. Unlike prior studies that broadly link social media use to organizational outcomes, our framework delineates precise

mechanisms through which social media analytics enhances digital transformation, extending beyond existing literature (e.g., [Ye et al., 2022](#); [Warner & Wäger, 2019](#)). Second, we advance the understanding of big data analytics by spotlighting social media data's distinctive role in capability building, a critical yet underexplored aspect of digital transformation. Third, by integrating the dynamic capability view with digital transformation processes, we provide a fresh synthesis that bridges the emerging literatures on analytics-enabled capabilities and digital transformation dynamics, offering a novel lens absent in prior work (e.g., [Teece, 2007](#); [Vial, 2019](#)).

Literature Review

Conceptual Background and Theory Development

Social Media Data and Analytics

Social media refers to digital platforms that enable users to generate and exchange content ([Kaplan & Haenlein, 2010](#)). [Carr and Hayes \(2015, p. 50\)](#) define social media as “Internet-based channels that allow users to opportunistically interact and selectively self-present, either in real-time or asynchronously, with both broad and narrow audiences who derive value from user-generated content and the perception of interaction with others”. Social networking platforms like Facebook, photo and video-sharing sites like Instagram and Pinterest, business and professional networking platforms like LinkedIn, and micro-messaging and news sharing services like Twitter are some examples of social media ([De Oliveira et al., 2020](#)).

At the beginning of 2021, active social media users reached 4.20 billion worldwide - more than half of the world's total population. This figure has grown by 490 million (more than 13 percent) compared to the same period in 2020 ([Kemp, 2021](#)). As a consequence of this eye-catching reach, social media applications have had ground-breaking implications in different aspects of people's daily lives such as business and commercial life, social and political life, and even learning and educational life ([Abed et al., 2015](#); [Alalwan et al., 2016](#); [Alalwan et al., 2017](#); [Algharabat et al., 2017](#); [Hawkins & Vel, 2013](#); [Hinz et al., 2011](#); [Rathore et al., 2016](#); [Usher et al., 2014](#); [Zeng & Gerritsen, 2014](#); [Zhu & Chen, 2015](#)). For example, consumers usually use user-generated comments to review products and services' characteristics, tourists often use social media to define their destinations based on others' ratings, patients generally use these platforms to consult with medical experts and services to facilitate the process of treatment, and students or their parents usually use social media platforms to exchange their opinions about their intended programs and target colleges ([He et al., 2015](#)).

Due to such pervasiveness and implications, a huge amount of user-generated content is accessible on social media platforms. In comparison with traditional data, social media data has unique characteristics such as reflecting users' opinions about almost all aspects of their life, being timely and constantly updated by numerous online users, and shaping a metadata with various attributes such as time, locations, users, likes, and dislikes ([He et al., 2015](#)). Scholars such as [Batinca and Treleaven \(2015\)](#) argue that social media data is

the biggest, richest, and most dynamic evidence for tracing human behavior that brings some exceptional opportunities for understanding societies, communities, and people.

According to such invaluable characteristics and potentialities of the data available on social media channels, these platforms have gained a remarkable attention in business discourses, and organizations have greatly tried to invest their resources on using social media to support both overall and specific business activities such as marketing and competitive intelligence (He et al., 2015; Orlandi et al., 2020). One of these investments is deploying social media analytics systems in organizations to analyze social media data and implement business intelligence / analytics initiatives. Social media analytics is defined as “all activities relating to gathering relevant social media data, analyzing that data, and disseminating findings as appropriate to support business activities” (Holsapple et al., 2018, p. 33). Drenik (2021) believes that social media is shaping the future of business intelligence / analytics. Social media analytics is related to establishing and assessing some informatics frameworks and tools in order to achieve a specific target application by gathering, scanning, analyzing, summing up, and visualizing social media data (Zeng et al., 2010). In the social media analytics process, social media data is gathered from various platforms, the data is analyzed based on some advanced analytics such as topic modeling, sentiment analysis, opinion mining, trend analysis, and social network analysis, and the results of such analyses are presented in meaningful and insightful ways (Fan & Gordon, 2014).

Data-Driven Environmental Scanning as a Dynamic Capability

According to the discussions provided by De Oliveira et al. (2020), Mention et al. (2019), Orlandi et al. (2020), Song et al. (2021), and Ye et al. (2022), social media empowers organizations to develop the ability of detecting opportunities and threats in their business environments. These scholars argue that social media information enriches organizational activities in obtaining highly desirable insights about emerging technological trends and shifts in customers' demands / needs. This ability that reflects a sensing dynamic capability (Teece, 2007), refers to the ability of environmental scanning. Environmental scanning involves collecting and utilizing information about external events, trends, and connections to support organizational leaders in shaping strategic plans (Aguilar, 1967). Song et al. (2021) uses the term “social media-enabled environmental scanning”. However, we prefer to use the term “data-driven environmental scanning” because of our focus on the social media analytics concept grounded in the big social media data and advanced analytics notions.

Social Media Analytics and Data-Driven Environmental Scanning

Clearly, this capability relies on analyzing social media data, as simply maintaining a social media presence yields vast user-created content that remains unproductive without the necessary technical and analytical expertise to process its intricate, sporadic, and unorganized nature (Orlandi et al., 2020). In other words, social media-enabled insights can be gained based on advanced big data and business intelligence / analytics

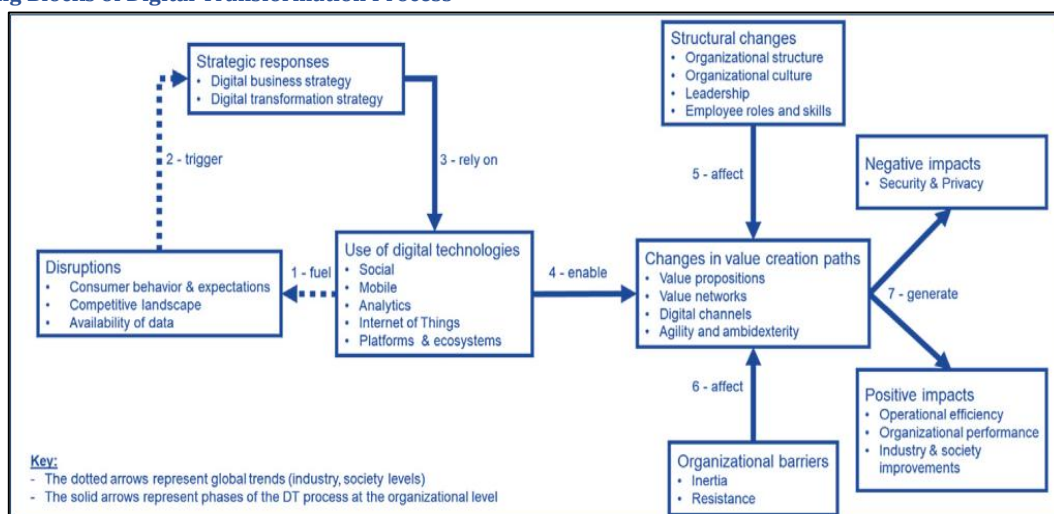
technologies (Lau et al., 2012). Therefore, we should say that data-driven environmental scanning is developed by organizations as a consequence of leveraging social media analytics. Accordingly, we propose the following proposition which is also consistent with the recent discussions on the positive association of big data analytics with sensing capability (Wamba et al., 2020) or the positive relationship between business analytics and ecosystem / environmental scanning (Chatterjee et al., 2021; Duan et al., 2020).

Proposition 1 (P1): *The greater social media analytics, the greater data-driven environmental scanning is likely to be.*

Digital Transformation Building Blocks: Digital Disruption Detection, Digital Strategy Formulation, and Digital Value Creation

Digital technologies are described as inherently disruptive technologies (Karimi & Walter, 2015). Therefore, the advent of a new digital technology and its usage bring about some sorts of disruptions for organizations (Vial, 2019). Using disruptive technologies leads to new generations of products / services with new performative attributes that may not be appreciated by the current customers of an organization (Downes & Nunes, 2013; Ganguly et al., 2010). According to the framework proposed by Vial (2019), the digital transformation process is initiated by the disruptions fueled by the use of digital technologies like social, mobile, analytics, internet of things, and platform technologies. In the next step, organizations respond to these disruptions, and this obviously requires being able to sense the disruptions caused by digital technologies. If organizations cannot understand new technological trends and their disruptive consequences, they will not be able to respond to them. And this, in turn, will lead to the inability of organizations in technological opportunism and maintaining their competitive positions in business environments (Orlandi et al., 2020; Srinivasan et al., 2002). Accordingly, the first step for organizations to initiate their digital transformation journey is to develop the required capabilities to appropriately detect digital disruptions.

Figure 1.
Building Blocks of Digital Transformation Process



(Source: Vial (2019))

Data-Driven Environmental Scanning and Digital Disruption Detection

We contend that the ability to conduct data-driven environmental scanning through social media analytics equips organizations to identify digital disruptions effectively. According to [Vial \(2019\)](#), a primary form of disruption driven by digital technologies involves transformations in consumer behavior and expectations. Indeed, digital tools grant consumers widespread access to information and communication channels ([Vial, 2019](#); [Yoo et al., 2010](#)), significantly influencing their actions ([Chanias, 2017](#); [Hong & Lee, 2017](#); [Vial, 2019](#)). Moreover, these technologies facilitate consumer participation in dialogues between organizations and their stakeholders ([Kane, 2014](#); [Yeow et al., 2018](#)), profoundly shaping their expectations for the services organizations should provide ([Vial, 2019](#)). Given that social media serves as a powerful platform for consumers to voice their views ([Alkhodair et al., 2020](#); [Chang et al., 2019](#); [Choi et al., 2020](#)), the environmental scanning enabled by social media data and analytics allows organizations to monitor shifts in consumer behavior and expectations, a key aspect of digital disruptions. Based on this, we put forth the following proposition.

Proposition 2 (P2): *The greater data-driven environmental scanning, the greater digital disruption detection is likely to be.*

Data-Driven Organizational Agility as a Dynamic Capability

The recent literature has confirmed that there is a positive relationship between social media use and organizational agility ([Ye et al., 2022](#)). Organizational agility is generally defined as “an ability to be proactive as well as responsive to changes” ([Ketchen & Hult, 2007, p. 574](#)). Organizational agility reflects the organizational capability of sensing the events and changes in the business environment and responding to them in a timely manner in order to effectively and efficiently seizing opportunities and addressing threats ([Lee et al., 2015](#); [Overby et al., 2006](#); [Park et al., 2017](#); [Roberts & Grover, 2012](#); [Sambamurthy et al., 2003](#)). The notion of agility has close links to both adaptability and flexibility concepts ([Zhang et al., 2022](#)). Some researchers such as [Christopher and Towill \(2001\)](#) conceptualize organizational agility with regard to the adaptability notion, and some others such as [Teece et al. \(2016\)](#) consider agility as an approximate synonym for flexibility. It should also be noted that in contrast to these perspectives, there are some other scholars like [Lee \(2004\)](#) and [Swafford et al. \(2006\)](#) who try to distinguish these concepts from each other. Previous literature has introduced different types of organizational agility. As a case in point, [Lu and Ramamurthy \(2011\)](#) defined market capitalizing agility and operational adjustment agility, or [Sambamurthy et al. \(2003\)](#) introduced customer agility, partnering agility, and operational agility. Although previous studies have introduced various conceptualizations and different types of organizational agility based on the theoretical frameworks adopted by them, almost all of them have tried to reflect some ways to effectively sense changes in market environments and effectively respond to them to seize business opportunities ([Park et al., 2017](#)). As one of the best exemplars of this conclusion, we can refer to the [Roberts and Grover \(2012\)](#) that defines the organizational agility notion as the ability of a firm in sensing and responding

swiftly to customer-related market opportunities in order to innovate and act competitively and accordingly, introduces two types of agility including sensing agility and responding agility.

In the current study, we adopt the conceptualization of organizational agility proposed by [Park et al. \(2017\)](#) because we believe that this conceptualization is an extended and improved version of previous ones and better supports our research foci and context. [Park et al. \(2017\)](#) considers organizational agility as a manifested type of dynamic capability ([Teece et al., 2016](#)), and drawing on the information-processing view of organizations ([Daft & Lengel, 1986](#); [Daft & Weick, 1984](#); [Galbraith, 1973](#); [Morgan, 1986](#); [Thomas et al., 1993](#)), they introduce three types of agility including sensing agility, decision making agility, and acting agility as strategic tasks of organizational sense-response process. According to the conceptualization proposed by [Park et al. \(2017\)](#), sensing agility is concerned with acquiring information about business events and changes that may have effect on the organization's performance, competitive advantage, and strategy such as shifts in consumer preference and the advent of new technologies; decision making agility is related to understanding and interpreting the acquired information in the form of opportunities and threats and subsequently, formulating an action plan for benefiting from the identified opportunities and avoiding the perceived threats in business environments; and acting agility is concerned with reconfiguring organizational resources and business processes based on the formulated acting plan with the aim of initiating new competitive activities like launching new products / services in the market. According to the discussions provided by [Park et al. \(2017\)](#), an agile organization should be able to timely perform a constellation of these tasks to capture opportunities in the business environment.

Social Media Analytics and Data-Driven Organizational Agility

[Ye et al. \(2022\)](#) suggest that utilizing social media boosts organizational agility by facilitating instantaneous exchange, gathering, and synthesis of information via its function as a communication channel ([Dellarocas, 2003](#)). This capability allows organizations to demonstrate flexibility in accessing current information and promptly identifying opportunities and challenges among diverse stakeholders ([Weber & Tarba, 2014](#)). Consequently, we propose that social media analytics, as an embodiment of social media utilization encompassing three core functions—data collection, processing, and interpretation ([Fan & Gordon, 2014](#))—is positively linked to organizational agility, or more precisely, data-driven organizational agility. Supporting this view, [Park et al. \(2017\)](#) found that business intelligence and communication technologies play a significant role in fostering organizational flexibility. Clearly, social media serves as a communication medium. Furthermore, [Choi et al. \(2020\)](#), through their review of studies on social media analytics-driven business intelligence, highlight the diverse applications of social media data in business intelligence efforts. Additionally, [Park et al. \(2017\)](#) note that certain features of business intelligence and communication technologies align closely with the operational aspects of social media and its analytics, such as real-time information

sharing with partners, identifying and visually presenting data trends, and notifying organizations of market shifts while offering robust tools for analysis. Based on these insights, we put forward a proposition that aligns with recent research affirming the positive connection between big data analytics, business intelligence, and various forms of organizational agility (Chen & Siau, 2020; De Medeiros & Maçada, 2021; Ghasemaghahi et al., 2017; Hajli et al., 2020; Hyun et al., 2020; Shirazi et al., 2021; Wang & Ali, 2021; ZareRavasan, 2021).

Proposition 3 (P3): *The greater social media analytics, the greater data-driven organizational agility is likely to be.*

Data-Driven Organizational Agility and Digital Transformation Building Blocks

The digital transformation literature introduces organizational agility as one of the most essential capabilities needed for organizations to digitally transform themselves (Verhoef et al., 2021). Verhoef et al. (2021) argues that organizational agility enables firms to continuously sense and seize the market opportunities provided by new digital technologies. By possessing this capability, organizations become capable to respond to the altering customer demands and the advent of new digital technologies based on constantly reconfiguring and modifying the existing organizational resources, i.e., organizational assets and capabilities. As a consequence, firms will be able to alter their traditional ways of doing business by launching new products / services and establishing novel digital business models / digital value creation logics.

Accordingly, we do believe that the data-driven organizational agility enabled by social media analytics has a positive impact on the main building blocks of the digital transformation process described by Vial (2019). As discussed before, the organizations interested in initiating their digital transformation journey should be able to detect the digital disruptions fueled by the introduction of new digital technologies (Vial, 2019). Data-driven sensing agility enables these organizations to do so because this capability is concerned with acquiring information about strategic business events and changes such as the advent of new technologies and the shifts in consumer needs (i.e., disruptions) (Park et al., 2017) that are well reflected in social media data and can be well revealed by analyzing this data. In the next step, the organizations engaged in their digital transformation processes should strategically respond to the detected digital disruptions by formulating their digital business strategy and digital transformation strategy (Vial, 2019) both of which are considered as digital strategy in the current study. Data-driven decision-making agility empowers these organizations to achieve this because the decision-making agility capability is responsible for understanding the detected information about the environmental events and changes (i.e., the disruptions) and interpreting them in order to formulate an action plan (e.g., a strategy) aimed at capturing the opportunities and addressing the threats (Park et al., 2017). Next, the organizations in the pursuit of digital transformation change their value creation paths such as value propositions and value networks by creating new digital values (Vial, 2019). Data-driven acting agility enables these organizations to do so because this capability is concerned

with modifying organizational resources and business processes based on the formulated acting plan (i.e., the strategy) with the aim of initiating new competitive activities like launching new products / services in the market (i.e., delivering new sorts of values to the customers) (Park et al., 2017). Accordingly, we propose the following propositions.

Proposition 4 (P4): *The greater data-driven organizational agility, the greater digital disruption detection is likely to be.*

Proposition 5 (P5): *The greater data-driven organizational agility, the greater digital strategy formulation is likely to be.*

Proposition 6 (P6): *The greater data-driven organizational agility, the greater digital value creation is likely to be.*

Data-Driven Product / Service Innovation as a Dynamic Capability

Social media has remarkably grabbed the attention of innovation research in recent years (Bhimani et al., 2019; Testa et al., 2020). In the pertinent literature, there are numerous studies like Alhaimer (2021), De Oliveira et al. (2020), Hassani et al. (2021), Mpandare and Li (2020), Papa et al. (2018), and Salim et al. (2020) in which the researchers have tried to support the positive link between social media use and different types of innovation in organizations. In 2019, Bhimani and his colleagues performed a systematic literature review on social media-innovation interactions, and as a result, they discussed that considering social media as enabler and driver of innovation is the most prominent paradigm in this discourse (Bhimani et al., 2019). In a similar vein, in 2020, Testa and her colleagues conducted a literature review on social media-based innovation, and accordingly, they mapped the discourse to a framework based on two main actors including the seeker of innovation and the provider of innovation and three main questions including why, how, and what that are respectively about determinants, activities, and outcomes (Testa et al., 2020).

Social media enhances the relationships of firms with employees and stakeholders as well as their collaborations with each other (Hoffman & Fodor, 2010; Jorge et al., 2020; Leonardi et al., 2013; Sharma & Bhatnagar, 2016). Therefore, knowledge management, exchange of experiences and ideas, and knowledge sharing are facilitated among the internal and external organizational actors (Ali et al., 2020; Benitez et al., 2018; He et al., 2015; He et al., 2017) that, in turn, will improve the innovation performance of organizations (Benitez et al., 2018; Kim et al., 2011). Social media gives organizations the opportunity of becoming aware of technological trends, competitors' actions, and customer needs (Itani et al., 2017). Also, by relying on social media, organizations will be able to obtain new knowledge from customers and recognize creative ideas with regard to the business environment that can lead to new product / service development (He et al., 2015; He et al., 2017; Martini et al., 2014; Roch & Mosconi, 2016). In this regard, it is interesting to note that there are some studies such as He and Wang (2016), Mention et al. (2019), and Mount and Martinez (2014) in which the scholars have tried to clarify and explain the role of social media use in the process of open innovation defined as "the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and

expand the markets for external use of innovation, respectively” (Chesbrough, 2006, p. 1). In this regard, Lindegaard (2014) discusses that social media can support open innovation with regard to key aspects of better communicating with organizational partners, generating new ideas and receiving feedbacks on the current ideas, understanding the business ecosystem (i.e., business intelligence), identifying new assistants for innovation, and promoting innovation outcomes and capabilities. In the current study, we consider product / service innovation (i.e., new product / service development) as our focus on innovation because most of the companies use social media for this type of innovation (Roberts & Piller, 2016). However, we know that social media can support all types of innovation (Aral et al., 2013; Bhimani et al., 2019) as well as all stages of innovation process (Muninger et al., 2019). It is worth noting that in the capability literature, innovation is considered as a dynamic capability (Ganesh & Marathe, 2019; Perdomo-Ortiz et al., 2006; Saenz et al., 2012).

Social Media Analytics and Data-Driven Innovation in Products and Services

According to Moe and Schweidel (2017), social media analytics offers companies a lens into consumer preferences, capturing customer perspectives that drive marketing insights and significantly enhance product and service innovation. In recent years, several studies have explored social media analytics methods to support organizations in developing new products and services. For instance, Khodabakhsh et al. (2024) demonstrated that managing customer knowledge improves service quality through open innovation, indicating that incorporating customer insights—similar to those obtained from social media data—into innovation processes can strengthen data-driven product and service advancements. A notable example is Jeong et al. (2019), who devised an analytical framework leveraging social media mining tools, such as topic modeling and sentiment analysis, to identify opportunities for new product development. These findings underscore a positive connection between social media analytics and innovation in products and services. We refer to this as data-driven product and service innovation, as it stems from social media data and sophisticated analytical methods. Based on this, we put forward a proposition that aligns with the broader association between business intelligence, big data analytics, and innovation (Božič & Dimovski, 2019; Eidizadeh et al., 2017; Ghasemaghaei & Calic, 2020; Maghrabi et al., 2011; Niebel et al., 2019).

Proposition 7 (P7): *The greater social media analytics, the greater data-driven product / service innovation is likely to be.*

Data-Driven Product / Service Innovation and Digital Value Creation

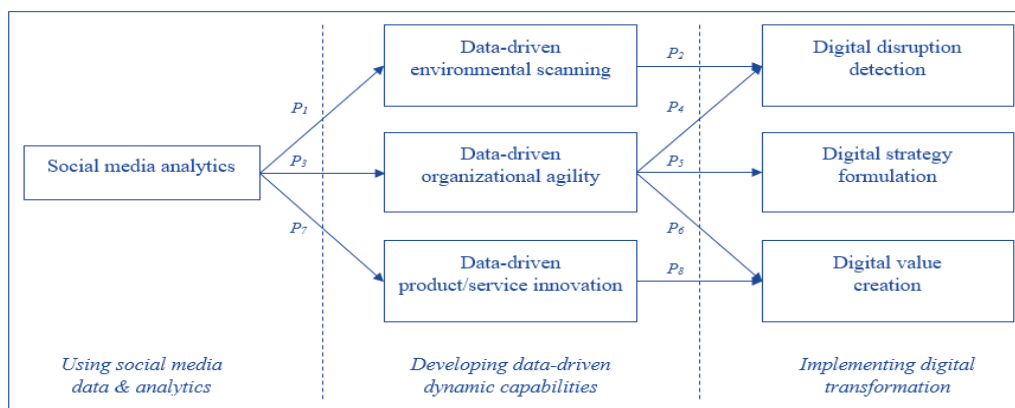
In the digital transformation process (Vial, 2019), after detecting digital disruptions and formulating digital strategies, the digitally transforming organizations are attempted at changing their paths of value creation by leveraging digital technologies that is called digital value creation in the current study. In this regard, the organizations try to change their value propositions as one of the main ways of changing the current value creation paths (Vial, 2019). For example, Khodabakhsh et al. (2024) illustrate how customer

knowledge management, mediated by open innovation, enhances service quality, providing a parallel mechanism whereby social media-derived insights can refine value propositions and bolster digital value creation. According to the discussions provided by Osterwalder et al. (2014), designing a value proposition means finding a way to create products / services that customer's want. This is exactly what data-driven product / service innovation enabled by social media analytics can give organizations. This data-driven dynamic capability has roots in social media data that is one of the richest sources for gaining insights about consumer needs. Hence, this capability empowers firms to develop new products / services or innovate their existing products / services in a way that meets what exactly customers want, i.e., an appropriate value proposition. Accordingly, we propose the following proposition. It is worth noting that in the current research, data-driven product / service innovation is positively associated with digital value creation from two aspects: first, this capability is grounded in social media analytics which is a digital technology according to the SMACIT framework describing the different categories of digital technologies (Sebastian et al., 2017). Therefore, our discussion implies using a digital technology (i.e., social media analytics) to propose new values. Second, data-driven product / service innovation enables firms to establish new value propositions with regard to every digital technology that has had disruptive effects on consumer behavior because this capability has roots in social media data, and this data can reflect such shifts in customer behavior.

Proposition 8 (P8): *The greater data-driven product / service innovation, the greater digital value creation is likely to be.*

Figure 2 depicts our theoretical model based on the developed propositions. This model shows how using social media data and analytics is a great asset to steer the digital transformation journey of organizations by developing some data-driven dynamic capabilities that, in turn, are positively associated with digital transformation implementation.

Figure 2.
The Theoretical Framework



(Source: Researcher's Findings)

Discussion and Conclusion

This study advances the field by proposing a novel theoretical framework that elucidates how social media analytics uniquely steers organizational digital transformation through the development of three data-driven dynamic capabilities: environmental scanning, organizational agility, and product/service innovation. Grounded in the dynamic capability view (Teece et al., 1997) and Vial's (2019) digital transformation process, our framework departs from prior work by specifying how social media analytics, beyond generic big data analytics, enables organizations to detect digital disruptions, formulate digital strategies, and create digital values. This integration not only extends the theoretical discourse on dynamic capabilities (e.g., Warner & Wäger, 2019), but also offers a distinct contribution by linking social media analytics to the full spectrum of digital transformation implementation, an area underexplored in existing literature. In our view, this is one of the possible mechanisms through which social media analytics can help organizations to direct their digital transformation journey. It is interesting to say that based on the proposed theoretical framework, we can conclude that data-driven organizational agility plays a central role in the digital transformation journey of organizations.

Implications

Our theoretical framework delivers distinct theoretical and practical implications. Theoretically, it enriches the dynamic capabilities literature by positioning social media analytics as a pivotal driver of data-driven dynamic capabilities—environmental scanning, agility, and innovation—that uniquely propel digital transformation, extending beyond prior general analytics studies (e.g., Wamba et al., 2020). Practically, it equips managers with a strategic blueprint to harness social media analytics for detecting digital disruptions, crafting responsive digital strategies, and innovating digital value propositions, thereby clarifying its practical value in steering organizational digital transformation.

For practitioners, our framework offers a roadmap for leveraging social media analytics, as a strategic asset, in digital transformation journeys. Organizations struggling with the complex and ongoing nature of digital transformation can benefit from understanding how social media analytics enables the detection of digital disruptions, formulation of appropriate digital strategies, and creation of new digital value. Specifically, managers should recognize that investing in social media analytics capabilities is not merely a marketing decision but a strategic imperative that can fundamentally enhance their organization's ability to sense, seize, and transform in response to digital disruptions.

The central role identified for data-driven organizational agility has particular implications for organizational structure and leadership. Organizations aiming to succeed in digital transformation should cultivate agility across their sensing, decision-making, and acting processes. This suggests a need for flatter hierarchies, cross-functional teams,

and leadership that embraces data-driven decision-making and rapid experimentation. Moreover, our framework highlights that social media analytics should be integrated across organizational functions rather than isolated within marketing or communications departments.

To elaborate more on the practical relevance of our theoretical framework, a real case in which social media analytics has been used to steer a digital product transformation could be noted here. In line with our propositions on the contribution of social media analytics to data-driven product/service innovation and, subsequently digital value creation, [Jeong et al. \(2019\)](#) have leveraged a social media mining approach built on topic modeling and sentiment analysis of social media data related to the Samsung Galaxy Note 5 (SGN5) to identify the opportunities for the product's further improvements.

Future Research

One of the limitations of our endeavor is that we have developed the theoretical framework only relying on the bright sides of social media analytics. However, it is necessary to consider the dark sides too. As a case in point, we should note that the low quality of social media data would be an important issue. In fact, if an organization wants to benefit from the total affordances of social media analytics, it should rely on credible social media data. As another case in point, algorithmic biases would be another significant problem that needs attention. Accordingly, social media data quality and algorithmic fairness or accountability would be considered as some moderators to address such limitations of the theoretical framework.

This theoretical investigation opens several avenues for future research. First, we recommend empirical studies to test our propositions across diverse industries (e.g., retail, healthcare) and organizational contexts (e.g., SMEs vs. large firms), using quantitative methods such as surveys to validate the links between social media analytics, data-driven dynamic capabilities, and digital transformation building blocks, along with qualitative case studies to explore contextual nuances. Second, future research should examine potential moderators influencing our framework's relationships, such as organizational culture (e.g., adaptability vs. rigidity) or market turbulence (e.g., stable vs. volatile environments), to identify boundary conditions and enhance practical relevance. Third, we propose investigating ethical considerations tied to social media data use for strategic decision-making, including privacy risks, consent issues, and biases in data representation, to ensure the responsible application of our framework. Additionally, exploring the dark side of social media analytics, such as algorithmic biases, over-reliance on digital signals, or reactive decision-making, could balance its opportunities and risks. Finally, longitudinal studies tracking the evolving interplay between social media analytics and digital transformation amid rapid technological advancements would keep our framework dynamic and feasible.

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