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Utilising Enterprise Social Media for Product Innovation: The Role of Market Orientation

Magadlene Mpandare * and Guoxin Li

School of Management, Harbin Institute of Technology, Harbin 150001, China; liguoxin@hit.edu.cn

* Correspondence: mmpandare@gmail.com

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Abstract: The literature on the role of enterprise social media (ESM) utilisation in driving the innovation profiles of organisations has not provided an understanding of the mechanisms of this positive relationship. By conceptualising ESM as including internal and external social media use, this study examined the mediating role of market orientation strategies in the link between ESM use and product innovation. The results of structural equation modeling, among a sample of organisations based in South Africa, show that ESM use positively affects the market orientation strategies of companies and these have a positive effect on product innovation. While inter-functional coordination does not mediate the external social media–product innovation link, it does so in the internal social media–product innovation link. These results imply that organisations that wish to pursue product innovation (and perhaps strategies of differentiation) should use ESM, leveraging their value in knowledge generation and assimilation.

Keywords: internal enterprise social media; external enterprise social media; market orientation; product innovation

1. Introduction

Interest in the benefits of enterprise social media (ESM) has been increasingly receiving the attention of managers and academicians. ESM refers to Internet-based platforms that enable communication within companies, as well as between companies and their external stakeholders. They permit employees to post, edit, and arrange text documents and view messages communicated by everyone in the company [1]. However, in practice, there are two ways in which organisations use ESM. In one way, organisations deploy social media for use among their internal stakeholders—employees, that is, internal enterprise social media (IESM). Examples of IESM platforms include Yammer, Jive, and IBM connections. In contrast, external enterprise social media (EESM) are social media platforms utilised by organisations for communication with their external stakeholders. These include connecting with customers via Facebook, Twitter, YouTube, and similar platforms. These platforms are considered mechanisms of knowledge-sharing [2,3], collaboration [4], and learning both within and outside organisations.

Initially, ESM platforms have popularly been deployed to aid managers' communication, particularly with their customers. Increasingly, however, companies are also deploying similar platforms for use among their workforce [5]. The literature shows that the utilisation of IESM by companies provides them the benefit of increased collaboration, increased organisational learning [6], communication visibility, increased communication [7], increased sharing [8], and increased knowledge transfer [9]. The enterprise social media literature also shows that through the deployment of EESM similar benefits accrue to affected companies [10–12]. These define the innovation profiles of companies, at both the organisational and the product/service levels [13,14].

In this study, product innovation is considered a good or service which is new or with notable improvements, including notable improvements in software, components and materials, technical

specifications, user-friendliness, or other functional traits [15]. Being innovative has become a necessary prerequisite for being competitive in the current dynamic global marketplace and signifies an organisation's openness to new ideas [16]. Hirunyawipada, Beyerlein and Blankson [17] suggested that for service innovation to have performance benefits, calls for the input of multidisciplinary and cross-functional sources of knowledge. Innovation positions companies to gain competitive advantages in the market [16,18], notwithstanding the changing needs, values, and demands of customers, as well as imitation by competitors. The continued and unprecedented growth of information communication technologies (ICT) ensures that the success status of companies at a given time is always under threat. Companies, therefore, will need to continually learn from their institutional environment how to survive. They will, furthermore, need to link the knowledge gained, particularly through their use of ESM, with their organisational strategies in developing their innovation profiles.

The extant ESM literature—though extensive—has not, to date provided a theoretical development of the mechanisms that drive the positive effect of ESM use on companies' product innovation profiles. An understanding of this is useful for at least two reasons. First, the innovation profiles of companies can serve two disparate objectives: (1) to improve the internal efficiency of the affected organisation; and (2) to present the organisation as relevant among its constituents. Second, organisations are described to have many stakeholders with the power, legitimacy, and urgency to affect the realisation of their strategic orientations. The literature suggests that in the event that organisations face competing demands from among their stakeholders, they are likely to prioritise the needs of their stakeholders that have the power, legitimacy, and urgency [19] or the demands that have the power, legitimacy, and urgency.

Therefore, it is an interesting extension of the enterprise social media literature to understand how the utilisation of ESM affects the market orientation strategy of companies. It is, furthermore, a useful extension of the literature to develop an understanding of how the market orientation strategy of companies affects their innovation profiles. Market orientation is an interesting variable in the innovation matrix as it is both an organisational culture and strategy [20], where culture is important for the execution of strategy. This study fills the gaps in the literature by empirically investigating the path through which companies' use of ESM drives their innovation. Specifically, it examined the role of companies' market orientation strategies, namely customer orientation, competitor orientation, and inter-functional coordination, in mediating the positive effect of the use of ESM on the innovation profiles of companies.

Three research questions were answered: (1) Does ESM utilisation affect the innovation strategies of affected companies? (2) Does market orientation mediate the relationship between ESM and innovation? (3) Why is it crucial to utilise ESM in an integrated manner for product innovation? This study responded to the call for a deeper understanding of IT-enabled change in companies [21]. It, furthermore, responded to the call for research on the effects of ESM use to companies that deploy ESM [22]. Moreover, this research responded to the call for greater insight on the role of ESM in fostering innovation management [5].

This study developed an understanding of the mechanisms that lie between companies' deployment of ESM and their innovation profiles. Furthermore, it specifically identifies the role of companies' market orientation strategies in linking the utilisation of ESM by companies to their innovation profiles. To the best of our knowledge, no study has investigated this. However, it is important that ESM deployment becomes aligned with companies' strategic orientations that have been found to drive their innovation profiles [23,24]. This study is among the first to investigate the integrated effects of both internal and external social media use on the innovation profiles of organisations. The study conceptualised ESM to incorporate both the external use and internal use of ESM by organisations. The current literature is fragmented in its study of IESM and EESM in a holistic manner, notwithstanding the fact that organisations are deploying both to realise organisational goals. This paper provides the understanding of the strategies that best facilitate the effect of the deployment of ESM on the product innovation profile of companies. It proposes that the use of ESM by

organisations has a positive effect on their product innovation by positively influencing their market orientation strategy as illustrated in Figure 1. A final contribution of this study is: (a) its focus on an African country context. This is particularly useful to complementing studies that have generally been focused on the contexts of Western and Eastern country contexts [9,25–29]. And (b) its ability to provide a deeper understanding of whether ESM deployment has a positive effect on the innovation profiles of affected companies when the context for companies' interaction with their stakeholders is fraught with less developed internet technology infrastructure and relatively higher costs of accessing this. Although South Africa is an emerging economy, it is located in Sub-Saharan Africa where universal internet access rates remain well behind the rest of the world [30]. Internet access is crucial for organisations to flourish in modern economies; it engenders increase in productivity and efficiency, builds human capital, and enables organisations to stay connected to the global village.

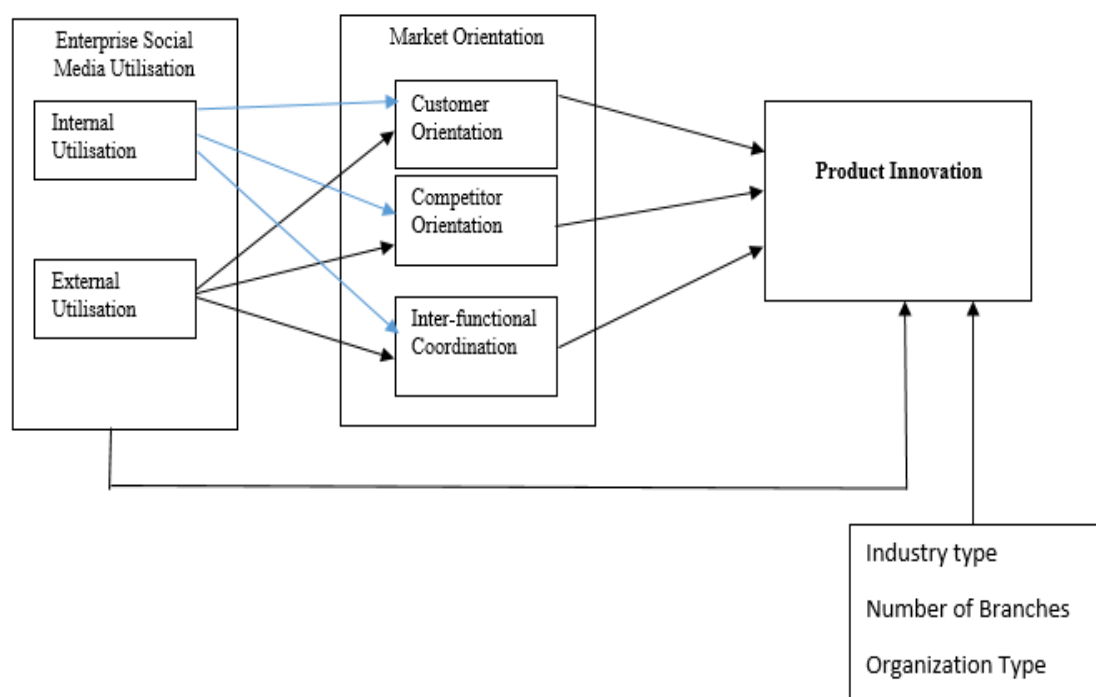


Figure 1. Illustration of the mediating role of market orientation in the ESM-product innovation link.

The rest of this paper is organised as follows. Section 2 provides a review of the relevant literature, before presenting the hypotheses. Section 3 elaborates on the study methodology including data collection, demographics of the sample, and construct operationalisation. Results of the data analysis are presented in Section 4. The results and their theoretical and practical implications are discussed in detail in Section 5. Section 6 presents the limitations of the study.

2. Literature Review

2.1. The Enterprise Social Media Construct

The use of social media in organisations appears in three forms [31]: within the organisation, among partners of the organisation, and with their customers. The two popular forms are: (1) within the organisation, i.e., interaction within the confines of the organisation; and (2) externally, which entails interaction with external parties such as customers, vendors, and the public at large [1]. This study focused on these two popular forms and conceptualised ESM as a variable that includes two constructs, i.e., IESM and EESM utilisation. IESM utilisation is the deployment and use of social media among the employees of a given organisation. EESM utilisation is the deployment of social media for communication between an organisation and its external stakeholders such as its customers. Enterprise

social media platforms are deployed either as a creation of the organisation that utilises it or as an off-the-self purchase [22]. This study focused on both typologies.

EESM platforms are frequented by many people; for example, Facebook has in excess of 1.79 billion active users, Instagram has in excess of 500 million users and Twitter has at least 317 million active subscribers [32]. Consequently, these platforms can be sources of vital market knowledge which can be assimilated for the generation of new ideas, for innovation, and for gaining a sustainable competitive advantage. If utilised correctly, market knowledge they can engender a competitive advantage in organisations. Enterprise social media utilisation improves information circulation, communication visibility, and encourages employees to share information which becomes visible to everyone enabling employees to learn vicariously from following and reading posts on the ESM platform. Enterprise social media utilisation, furthermore, improves knowledge sharing among employees [22]. It is of paramount importance in organisations given that it affords visibility, editability, persistence, and association [8]. They have the capacity to nurture innovation in organisation [7,33]. However, despite its importance in organisational performance, there is a conspicuous gap in the literature on enterprise social media and how it influences innovation. The role played by market orientation has been largely omitted in linking ESM and innovation, and this is rather surprising given that market orientation is both an organisational culture and strategy.

Integrating Internal and External ESM for Product Innovation

Academic literature is littered with studies on social media, numerous scholars have extensively investigated publicly available social media platforms such as Facebook, Twitter, and YouTube including finding out how organisations use these in their marketing pursuits and for crowd sourcing and open innovation. Recently, however, scholars are developing interest in the emerging organisational social media platforms which are being deployed for use within organisations. Scholars have been studying these two disparate social media typologies separately even though there is increasing evidence of organisations deploying IESM in tandem with EESM. This paper, therefore, integrates focus on both typologies of ESM platforms. By taking an integrated approach to the ESM study, this paper contributes evidence of the integration of organisations' internal and external stakeholders' concerns in driving their innovation profiles. This approach supports the view that organisations cannot succeed on one stream of knowledge but would need to rely on both in-house and externally-generated knowledge [34]. The basic premise of this investigation is that EESM enables the organisation to amass the interests of its external stakeholders while IESM allows it to capitalise on the views of its internal stakeholders. Surprisingly, there is minimum integration between the emerging ESM literature and the rich literature on innovation. To the best of our knowledge, there are no studies depicting the combined effect of internal and external social media on the innovation profiles of organisations. For the purpose of this study, ESM is the integrated use of social media by an organisation, and entails the use of both internal social media and external social media.

2.2. Hypotheses

2.2.1. Internal Enterprise Social Media Utilisation and Product Innovation

Stakeholder theory—as has been used in information technology, strategic management, marketing, human resources, production, health, law, business ethics, and public policy—suggests that, as organisations attend to the needs of their stakeholders, they are likely to attain positive performance [35]. A key prerequisite, however, for attending to the needs of stakeholders is the ability to undertake surveillance of the needs of stakeholders. The absorptive capacity theory indicates that knowledge needs to be first acquired before it can be exploited through assimilation [36]. In this sense, we propose that the IESM platforms, which serve foremost as fora for knowledge acquisition, are vital to organisations building their innovation profiles in a manner that ensures their relevance among their constituents. The literature shows that increasingly organisations are realising that they can

become more innovative by capitalising on their employees' insights and ideas, given employees' direct involvement in the operations of organisations and their direct interaction with a key stakeholder group—customers. The tacit and explicit knowledge of employees on goods, processes, and services can foster innovation [37]. It has been found that junior employees provided ideas that were more likely to progress in the organisational innovation process compared to those of senior employees [37]. This is so because they are part of the day to day business operations and can provide well informed knowledge on products. Moreover, there is a positive correlation between enterprise social media utilisation and employee creativity. Data collected from tourism players in Greece confirm that the creativity of employees is correlated with their engagement in social networks and use of social media for internal cognitive and external cognitive processes [38].

IESM utilisation, furthermore, affords organisations the ability to foster collaboration among their employees. Collaboration has been found to be a stimulant to innovation [39], generally, and to service innovation, specifically [39]. IBM Connections, Jive, Yammer, and Mingdao ESM platforms are some of the leading ESM platforms [40] being used internally for communication and collaborative purposes by organisations. Communication visibility has been the most vital foundational affordance proffered by IESM [41]; the visibility affordance is argued to be the most distinctive attribute of IESM, which makes it peculiar from other typologies of computer mediated communication in the workplace [1]. When the once invisible communication among employees becomes visible to everyone, employees are able to improve their knowledge through vicarious learning. It also increases meta knowledge which can lead to reduction of work duplication if employees find new ways to work [7].

What makes IESM platforms unique for communication in organisations is their ability to afford transparency and visibility in dyadic communications. These dyadic communications can be seen, stored, and added to by any employee making vicarious learning from fellow employees' communications a possibility for third parties [42]. By virtue of continuous vicarious learning, employees are able to coalesce information at hand into new ideas and steer clear of work duplication [7]. Furthermore, it assists employees to proactively process information received daily instead of partaking in reactive searches when confronted with a challenge [7]. Proper utilisation of IESM enhances the learning environment and improves productivity [6]. Although studies show that ESM platforms foster innovation, the question of whether ESM make excellent platforms for actual and potential innovations is still far from clear [37]. IESM allows communication visibility, collaborations, knowledge sharing, and vicarious learning, which breed and foster innovation. In light of these arguments, it is proposed that:

Hypothesis (H1). *Internal social media utilisation positively influences product innovation.*

2.2.2. External Enterprise Social Media Utilisation and Product Innovation

In an endeavour to come up with new products and services, organisations are leveraging technology to assist them in reaching out to their external stakeholders such as customers and competitors. EESM platforms have brought about new ways of innovation in organisations around the globe. These have facilitated the transformation of the role of customers from being only consumers of end products to being active participants in organisations' innovation processes. EESM utilisation allows a two-way direct interaction between the customer and the organisation. Direct customer interaction and specific customer data collected may facilitate the germination of new products [26], as organisations' learn of customers' specific changing needs. The use of EESM has led to the strategic use of "online user innovation communities" (OUICs) for open innovation initiatives [43]. Organisations such as Dell and Starbucks have successfully used the online user innovation communities to develop innovative products, services, and processes [11,43]. Similarly, Barilla, an Italian organisation operating in the food industry, developed a social media platform for customers to discuss and submit ideas to

the organisation. Proctor and Gamble through the Connect + Develop program also makes use of their customers' suggestions for the building of their innovation profiles [44].

These organisations have managed to turn their customers from passive recipients of finished products and services into active contributors of innovation through EESM utilisation. Organisations such as Starbucks (www.mystarbucksidea.com), Dell (Idea Storm, www.ideastorm.com) [43], Tata Group (Inno-Verse platform), and SAP (Idea Space) have excelled in this regard [37]. EESM utilisation enables open innovation via customers and other external parties such as competitors and government; it also allows the use of online innovation communities. EESM enables the organisation to listen and pay attention to external stakeholders such as customers. Social media brand pages are playing a pivotal role in enabling customers to participate in providing ideas/feedback that contribute to the innovation efforts of organisations [45]. Based on this evidence, it is proposed that:

Hypothesis (H2). *External enterprise social media utilisation positively influences product innovation.*

2.2.3. The Mediating Role of Customer Orientation

Customer orientation is the sufficient understanding of one's target market that creates continuous superior value for them [20]. The stakeholder view classifies customers as important stakeholders of organisations who if ignored can lead to negative performance outcomes [46]. ESM platforms have served to connect organisations with their customers' communications. Both IESM and EESM platforms assist organisations in understanding their customers' needs and wants in an intimate manner. ESM enhances communication visibility while giving organisations the ability to interact with their external stakeholders, often in real time. Similarly, these platforms provide internal stakeholders the convenience to connect at any given time. Organisations are leveraging EESM to acquire knowledge from their external stakeholders [47]. EESM platforms allow organisations to directly solicit suggestions and/or feedback from their customers [45].

Hence, EESM utilisation enables organisations to become more customer oriented, possibly leading to customer satisfaction. Customer satisfaction is a key goal in most, if not all, organisations as it gives an organisation a sustainable competitive advantage. There is a positive relationship between customer orientation and customer satisfaction [48]. Customer satisfaction is linked to perceived performance, actual performance, and disconfirmation. While EESM platforms enhance customer orientation through extracting and harnessing knowledge from external stakeholders, IESM platforms also enhance customer orientation through harnessing and sharing knowledge from and among their internal stakeholders, and through converting those into new products and services. IESM platforms enhance collaboration, knowledge sharing, and vicarious learning which ensures that employees within the organisation become more knowledgeable about customer needs as feedback from EESM is shared on IESM platform. Through IESM use, employees are able to meet in the hallways of technology regardless of their geographical location and share knowledge, and information about customer trends. This is especially so given that IESM affords communication visibility even for those employees who seldom participate on the platform and can learn vicariously, hence creating an environment that enhances the organisation's customer orientation profile.

Customer orientation has been linked to innovation; a study by Ozkaya, Droge, Hult, Calantone and Ozkaya [49] confirmed the positive relationship between customer and competitor orientations and enhanced market based innovations. Similarly, Wang, Zhao and Voss [50] examined the impact of customer orientation on innovation performance in manufacturing and service firms and their results indicated that customer orientation positively impacted service and product innovativeness in both service and manufacturing firms. Customer orientation enhances innovativeness by encouraging organisations to unwrap both the express and latent needs of their customers [51]. Such action assists the research and development function of organisations through the amassing of customer knowledge early enough, and thereby stimulating new ideas and innovations [52]. However, some scholars

contend that customer orientation stifles innovation because customers find it difficult to articulate their latent needs any further than current consumption needs [53].

There is some evidence that the fostering of a culture of customer orientation leads to the creation of value within an organisation [54]. Customer oriented organisations always strive to first understand and then satisfy the requirements of their customers. Organisations that are customer oriented are always constantly monitoring the market environment so they can provide employees with vital information for employees to adapt to the dynamic needs of customers and yield new products and new solutions. A customer orientation assists organisations to convert market reactions into innovative goods and services. Hence, organisations that have a superior customer orientation are better positioned to come up with innovative products because they have a broad and substantial understanding of customers' latent and express needs.

Product innovation that leads to organisation success requires that organisations understand the needs of their customers. Given the evidence of ESM platforms being useful to organisations first learning of their customers' needs and then being able to stimulate collaborations among employees, it is proposed that ESM platforms facilitate product innovation through the development of a customer orientation. Therefore, the following hypotheses are proposed:

Hypothesis (H3a). *Customer orientation mediates the positive relationship between IESM utilisation and product innovation.*

Hypothesis (H3b). *Customer orientation mediates the positive relationship between EESM utilisation and product innovation.*

2.2.4. The Mediating Role of Competitor Orientation

Competitor orientation is evident when an organisation has an intimate understanding of the short-term weaknesses and of the long-term capabilities and strategies of both their main and their potential competitors. For organisations to acquire such knowledge, there has to be a deliberate attempt on their part. In the past half-century, advancements in information systems have made competitor-oriented information such as market share more detailed, timely, accurate, and cost effective, making it less complicated to pursue competitor orientation objectives [55]. EESM allows companies to monitor and analyse customer-generated content not only on the organisation's EESM platforms but also on their competitors' EESM platforms [56]. Both customer- and marketer-generated content on competitors' EESM platforms provides a wealth of data, which organisations can analyse to uncover interesting patterns and new knowledge, thus helping the organisation to better understand its competitors' actions and how the market/industry is evolving [57].

Consequently, organisations make use of such findings to come up with better strategies, make informed decisions, and develop new products. EESM platforms also provide the environment for organisations to anticipate their competitors' strategies. The accurate anticipation of competitor moves is important for competitiveness. EESM utilisation enhances/augments competitive intelligence, which assists organisations in realising their strengths and weaknesses, improving their effectiveness and efficiency, and in turn leading to improved customer satisfaction [58]. Given that use of ESM platforms somewhat provides organisations with a more intimate understanding of their competitors' strategies, this information therefore can enrich the discussions/brainstorming sessions that are done on IESM platforms. The result of this is the creation of relevant and dynamic market orientation strategies that are able to adapt to the rapidly changing and complex market environment. In summary, ESM utilisation enables the organisation to be more competitor oriented by using EESM to gather market intelligence and subsequently using IESM to discuss how to attain a sustainable competitive advantage.

To establish as strong competitor orientation organisations should have a complete understanding of their competitors' strengths and weaknesses. Competitor orientation has been significantly

linked to organisational performance [59]. Scholars have confirmed that organisations that prioritise competitor orientation perform better [60,61]. There is some evidence that successful small- and medium-sized enterprises that are competitor oriented engage in radical and incremental customer oriented innovations [60]. A competitor oriented culture enhances innovation by serving as a stimulant for organisations to capture a dominant position in the market [53]. It encourages organisations to differentiate their products from their competitors' offerings, and thus stimulates innovativeness [62]. Competitor orientation gives the organisation an insight into the planned strategies of their competitors, and this helps the organisation to enhance organisational innovation, through improved processes. This was supported by Lin, Evans, Kharel, and Williams [63] who concluded that competitor intelligence has a direct positive effect on an organisation's innovative product development. Competitor orientation also assists the organisation to have intimate knowledge on what new products its competitors maybe working on.

An organisation becomes competitor oriented when its management is constantly supplied with information about competitor performance [55], thus assisting managers with strategy formulation and decision making. For example, an organisation that is privy to what new products its competitor will be releasing can make a decision to release their products to the market earlier than their competitor does and gain the first mover advantage. Competitor orientation may be a source of new innovations through imitating competitors [64]. It also enables organisations to benchmark their products with the competition, hence improving their product or organisational innovation. Given the arguments above, the following hypotheses are proposed:

Hypothesis (H4a). *Competitor orientation mediates the positive effect of IESM utilisation on product innovation.*

Hypothesis (H4b). *Competitor orientation mediates the positive effect of EESM utilisation on product innovation.*

2.2.5. The Mediating Role of Inter-Functional Coordination

Inter-functional coordination (IFC) is the coordinated use of an organisation's resources in creating value for its target customers. It mirrors the level of communication and interaction within an organisation [62], and is often defined as "a process of interaction and collaboration in which business functions work together in a cooperative manner to arrive at mutually acceptable outcomes for their organization" Furlan and Arnaldo [65]. Any point in the consumers' value chain offers an opportunity for the organisation to create value. Hence, any employee in any department has the potential to contribute to value creation of customers [20]. Communication visibility is a natural consequence of IESM utilisation in organisations. When communication is visible it improves metaknowledge, which may lead to less work duplication [7]. ESM utilisation enhances communication visibility, enabling improved co-ordination within the different departments and branches in an organisation. Therefore, employees work in unison with one goal and are able to rapidly consolidate information amassed from both outside and within the organisation. IESM utilisation enhances inter-branch and inter-departmental coordination. Effective IFC increases the effectiveness of knowledge management and corresponding activities, such as empowering employees to utilise their knowledge for innovation [16]. Effective and efficient IFC capacitates employees to rapidly assimilate, process information within the organisation, and to respond to the rapidly changing business environment.

Previous studies have demonstrated the ability of IFC in improving organisational performance, and for new product development [66]. Inter-functional coordination is of paramount importance in successfully integrating, coordinating, and implementing strategies in order to create an innovative output. Organisations are more effective with new innovations when they have shared objectives and show higher levels of integration among all their departments and branches [62]. When an organisation establishes an open-minded, sharing, inter-functional organisation, it ensures the dissemination of

external knowledge for internal application [63]. In the innovation process, IFC encourages the recognition of complementarities among functions and should usher the organisation to enhanced organisational performance [52]. Managers must promote an inter-functional coordination culture to enhance the exploitation of both internal and external knowledge for product innovation. IFC enables the organisation to share knowledge in an effective and efficient manner with different departments within the organisation. Knowledge sharing enables employees to learn vicariously, gaining tacit and implicit knowledge, which fosters innovation.

IFC's ability to facilitate the dissemination of novel market information enhances problem solving, consequently improving innovation [53]. The internal use of social media platforms grants employees in different departments and different geographical locations unlimited opportunities for professional and social interactions, and information sharing. IESM affordances such as: (a) continuous engagement between employees; (b) constant feedback; (c) a cost effective and fast way of relaying messages to fellow employees; and (d) enhanced mutual cooperation and collaboration, enable the organisation to swiftly arrive at mutually acceptable outcomes. IESM use provides an opportunity for employees to network and bond. Recurring participation by employees on the platform increases emotional closeness and trust in colleagues, leading to denser networks and thus improving social capital [22] and boosting co-innovation [10]. EESM is often used to get feedback from the market and external environment; this feedback is then fed into IESM where every employee can see it and utilise it to improve their work. It gives different people and departments the opportunity to appreciate what the customer needs and wants and this helps employees to work towards one goal. This was supported by Cohen and Levinthal [34], who dictated that organisations cannot succeed on one stream of knowledge, but rely on both internally and externally generated knowledge. In as much as IESM facilitates the dissemination of novel market information within an organisation, EESM platforms are equally important as they facilitate the extraction of market information from external sources. Based on these arguments, the following hypotheses are proposed:

Hypothesis (H5a). *Inter-functional coordination mediates the positive effect of IESM utilisation on product innovation.*

Hypothesis (H5b). *Inter-functional coordination mediates the positive effect of EESM utilisation on product innovation.*

3. Methodology

3.1. Data Collection

To test the proposed model and hypotheses, a questionnaire survey was formulated and deployed among organisations in Johannesburg, South Africa. Conducting the research in Sub-Saharan Africa generated fascinating insights and expanded ESM studies which have been largely administered in Western [25] and Eastern countries [29,40]. It also provides a better understanding of whether ESM utilisation has a positive impact on the product innovation of organisations operating in an environment with less developed Internet technology infrastructure and a relatively higher cost of accessing it. Although South Africa is an emerging economy, it is located in Sub-Saharan Africa where universal Internet access rates remain well behind the rest of the world [30]. Internet access is a pre-requisite for ESM utilisation and is important for organisations to thrive in modern economies. To be included in the study sample, organisations had to have been using both EESM and IESM platforms. This was verified by short interviews of a few employees from different departments in every sample organisation. An explanation on the purpose of the survey was provided to participants and an agreement was made to provide them with the results of the study. Surveys were administered in both hardcopies by hand delivery and soft copies by email and message (by LinkedIn and WhatsApp) to 276 eligible respondents. Reminder emails, messages by WhatsApp and LinkedIn, and phone calls were placed to participants. In six months, 251 responses were collected, allowing for a response rate of 78.9%. 33 questionnaires were incomplete and were subsequently discarded from subsequent analysis. A test

of the non-response bias was done following the prescriptions of Jia, Guo and Barnes [40], that is, a comparison of the first 25% and the last 25% of respondents on each variable was made with use of the chi-square test. The results of this test show that there were no significant differences between the two groups, thereby implying that non-response bias was not a crucial matter in this study.

Respondents may have had a supportive attitude towards completing the questionnaires, which could have led to a positive bias among them. To minimise the influence of this potential bias, several mitigating actions were undertaken. First, a note was included in the questionnaire, indicating: (1) that required responses should be anonymous; (2) that the current research is solely intended for academic purposes; and (3) that the responses will be disseminated in aggregate form. Second, the research objective was clearly explained to respondents. Finally, there was no use of organisational help in the distribution of questionnaires among the employees; managers' assistance was limited to only indicating the organisation's departments.

Since data were collected from homogeneous groups of respondents at the same time, it raised potential common method variance (CMB) as the data may have false internal consistency. Therefore, to test and control common method bias, the mitigating strategies proposed by Armstrong and Overton [67] were used. 37 industry practitioners picked from a business conference, 6 professors, and 13 PhD students in the commerce department were invited to review the questionnaire. We eliminated irrelevant constructs and unclear measurement items were reworded. Their comments were incorporated into the final design of the questionnaire, which was distributed among sample respondents. The final questionnaire included brief explanations on the meanings of key concepts including EESM and IESM. To further mitigate CMB, the statistical remedy recommended by Armstrong and Overton [67] was used. The Harman's single factor approach to the testing of CMB availability in the data set was used. It is commonly utilised by researchers to tackle the common method variance issue [68,69]. All variables were loaded onto a single factor and constrained to avoid rotation. The results from a factor analysis undertaken showed that CMB was not an issue, given the attainment of a 36.2% result having used the SPSS software (the extraction method employed was the principal component analysis).

3.2. Measures

Items appearing in published studies were used. However, they were sometimes adapted to suit the context of the current study. A five-point Likert scale was used to measure all items, ranging from 1 = strongly disagree to 5 = strongly agree. The measurement items for both EESM and IESM were adapted from those used in [25,28,70]. Both EESM and IESM variables consisted of four major constructs, namely communication, collaboration, knowledge sharing, and learning, which have been touted by the literature to be what ESM affords [7,8]. The mediating variable market orientation is a construct comprising three behavioural constructs, namely customer orientation, competitor orientation, and inter-functional coordination, and was measured using items adapted from those used in [20]. The dependent variable of this study is product innovation, which was measured using items adapted from those used in [71]. Measurement items for each construct are shown in Appendix C. There is some concern of indigeneity bias in the model; therefore, to avoid this bias, the current study includes control variables as the established way to deal with indigeneity bias in structural equation modeling. Control variables included: (1) a measure of the industry to which a respondent's organisation belongs; (2) the number of branches; and (3) the organisation type.

Data analysis was undertaken by structural equations modeling. Structural equation modeling (SEM) is a multivariate technique used to examine relationships between latent constructs [72]. Although SEM technique has been discredited by some scholars, it has several advantages worth noting. First, it enables the simultaneous analysis of several depended variables. Second, it considers measurement errors in the analysis. Third, it permits correlations among all variables. Finally, it gives room for working with theoretical propositions that are complex in non-experimental data [72].

4. Data Analysis and Results

4.1. Descriptive Statistics

Appendix B shows an almost equal gender balance among respondents. It, furthermore, shows that the two main industries of respondents are telecommunications and retail. The organisations generally have many branch offices and are generally locally-owned. It was found that the surveyed organisations use eight IESM platforms, namely Chatter, Workplace by Facebook, Yammer, IBM connections, Skype for business, Jive, Lync, and Slack, while the external enterprise social media utilised by these organisations include Facebook, Twitter, Instagram, YouTube, and LinkedIn. Not surprisingly, the organisations generally use the popular EESM of Facebook and Twitter.

The analysis of this study used Amos version 23. Given the advice of scholars that even confirmed scales adapted from previous studies still need to be checked for content validity [72], an initial confirmatory factor analysis (CFA) was undertaken to observe the model fit. It was found that the initial model fit indices were below the recommended thresholds. Hence, attempts were made to improve the fit indices using methods recommended by Byrne [73]. All individual constructs that were not displaying adequate construct validity were discarded. One redundant item from customer orientation (CUSO4) and four redundant items from both EESM (EESM3, 6, 11, and 18) and IESM (IESM 8, 10, 14, and 17) variables were excluded from the subsequent analysis. Having done this, the CFA analysis was conducted again and the fit indices improved to acceptable levels. The table for standardised factor loadings and individual item reliabilities is shown in Appendix A. Factor loadings were all above the recommended threshold of 0.70 and all individual item reliabilities exceeded the recommended 0.5 threshold [72].

The next step in the analysis entailed the checking of the reliability of the constructs. Reliability is the extent to which a research instrument measures a construct consistently. To measure construct reliability and validity, three indicators were used: convergent validity, composite reliability (CR), and discriminant validity. Table 1 shows the master validity tables indicating the thresholds attained by the various metrics for assessing reliability. To further determine reliability and internal consistency, the study also made use of the Cronbach's alpha measurement of internal consistency. It was found that all constructs were above the minimum threshold of 0.7, as evident in Table 2.

Table 1. Master Validity.

	CR	AVE	MSV	IESM	EESM	PI	IFC	CO	COMP
IESM	0.991	0.889	0.158	0.943					
EESM	0.981	0.79	0.208	0.155 ***	0.889				
PI	0.984	0.913	0.156	0.254 ***	0.351 ***	0.955			
IFC	0.991	0.958	0.158	0.397 ***	0.156 ***	0.395 ***	0.979		
CO	0.975	0.886	0.204	0.118	0.452 ***	0.215 ***	0.245 ***	0.941	
COMP	0.993	0.972	0.157	0.396 ***	0.130	0.220 ***	0.358 ***	0.237 ***	0.986

Bolded values show the extracted variances. *** means $p < 0.001$. PI, Product Innovation; IFC, Inter-functional Coordination; CO, Customer Orientation; COMP, Competitor Orientation.

Table 2. Reliability and validity of constructs.

Construct	Number of Items	Cronbach's Alpha	Mean	Standard Deviation
IESM	16	0.993	51.68	20.518
EESM	16	0.982	56.96	17.279
CO	5	0.974	17.26	6.3
COMP	4	0.993	13.48	5.569
IFC	5	0.991	17.03	5.984
PI	6	0.985	20.86	7.152

PI, Product Innovation; IFC, Inter-functional Coordination; CO, Customer Orientation; COMP, Competitor Orientation.

4.2. Structural Model Analysis

To test the proposed relationships among the variables, this study followed a two-step approach as recommended by Anderson and Gerbing [74]. The results of the CFA indicate that the fit between the data and the measurement model was satisfactory: CMIN/DF = 1.122, GFI = 0.830, AGFI = 0.813, NFI = 0.939, CFI = 0.993, and RMSEA = 0.024. The R^2 values for customer orientation, competitor orientation, IFC were 0.44, 0.23, and 0.22, respectively, and 0.31 for product innovation. Based on these, path analysis was performed. Table 3 shows the results of the path analysis undertaken. The results confirm the positive effect of both IESM and EESM use by organisations on their product innovation. Therefore, both Hypothesis 1 (H1) (0.343; 0.000) and Hypothesis 2 (H2) (0.480; 0.000) are supported. Table 3 shows the results of the mediation analysis.

Table 3. Structural equation modeling analysis.

Hypothesis	Relationship	Total Effect	Direct Effect	Indirect Effect	Mediation Type
H3a	IESM-CO-PI	0.343 (0.000)	0.298 (0.003)	0.006	Partial
H3b	EESM-CO-PI	0.480 (0.000)	0.365 (0.000)	0.000	Partial
H4a	IESM-COMP-PI	0.343 (0.000)	0.296 (0.004)	0.002	Partial
H4b	EESM-COMP-PI	0.480 (0.000)	0.361 (0.000)	0.002	Partial
H5a	IESM-IFC-PI	0.343 (0.000)	0.194 (0.107)	0.004	Full
H5b	EESM-IFC-PI	0.480 (0.000)	0.176 (0.000)	0.043	None

PI, Product Innovation; IFC, Inter-functional Coordination; CO, Customer Orientation; COMP, Competitor Orientation.

4.3. Mediation Analysis

The macro in Hayes and Preacher [75] was used to calculate the significance of the indirect effects. According to Preacher and Hayes [76], this macro is more advanced than the generally used mediation macro and yields superior bootstrap tests compared to the Sobel test [77]. This enabled us to test the mediation effects of customer orientation, competitor orientation, and inter-functional coordination (multiple mediators) between IESM and EESM (multiple dependent variables) and product innovation (dependent variable). The level of significance for the bias corrected confidence was 95%.

4.4. The Mediating Role of Market Orientation

Table 3 presents mediation results. It shows the total, direct, and indirect effects as well as highlights mediation types (i.e., full vs. partial). Table 3 shows that IESM had a positive total effect on PI of 0.343, ($p < 0.000$). It also shows a positive direct effect of 0.298, ($p < 0.003$), and a significant indirect effect of $p < 0.006$. Hence, it indicates partial mediation, supporting H3a. EESM had a positive total effect on PI of 0.480, ($p < 0.000$). It has a positive direct effect of 0.365, ($p < 0.000$), as well as a positive indirect effect (0.000). It indicates a partial mediation supporting H3b. IESM had a positive total effect on PI of 0.343, ($p < 0.000$), as well as a positive direct effect through competitor orientation 0.296, ($p < 0.004$). It had a significant indirect effect of $p < 0.002$, indicating a partial mediation fully supporting H4a. EESM had a significant total effect on PI of 0.480, ($p < 0.000$), and a significant direct effect through competitor orientation 0.361 ($p < 0.000$). It had a significant indirect effect of $p < 0.002$, indicating a partial mediation, thus supporting H4b.

IESM had total positive significant effect on PI of 0.343, ($p < 0.000$) and an insignificant direct effect through IFC of 0.174 ($p < 0.107$). It had a significant indirect effect of $p < 0.004$, indicating full mediation, therefore supporting H5a. EESM had a total significant effect on PI of 0.480, ($p < 0.000$), and a significant direct effect through IFC of 0.176 ($p < 0.002$). It had an insignificant indirect effect of $p < 0.043$, indicating non-mediation, thus H5b was not supported. While the results show that inter-functional coordination mediates the positive relationship between IESM used and product innovation, thus supporting H5a, there is no support for the hypothesis that inter-functional coordination mediates the positive relationship between EESM use and product innovation. The unexpected lack of support for H5b can be explained as the standalone use of EESM platforms is inadequate for the generation of the

elements of employee collaboration and knowledge sharing, which are instrumental to the generation of innovations in products.

5. Discussion

This study aimed to contribute knowledge on the mechanisms that link the positive effect of ESM use on the product innovation profiles of organisations. It is premised on the view that organisations generally seek to secure their competitive advantages by continual innovation. This study confined its focus to the product innovation profiles of organisations and investigated the role of three market orientation strategies (customer orientation, competitor orientation and inter-functional coordination) in driving the effect of ESM utilisation on product innovation.

The results of structural equation modeling confirm and support extant studies that ESM utilisation has a positive effect of product innovation: IESM [7] and EESM [44,78]. These results highlight that managers should strongly consider the use of IESM and EESM platforms if they seek to position their organisations as product innovators in the market. By doing so, these organisations would be better able to leverage both express and latent needs of their customers and would be able not only understand their competitors' current directions and performance but also anticipate those. These results, in a sense, also support the implications of stakeholder theory and emphasise the important role of responding to stakeholder needs and signal for the securing of organisation success.

The contribution of this study to existing knowledge is its finding that the product innovation profiles of organisations are established by their use of IESM and EESM platforms through the defining of their market orientation strategies. The use of both IESM and EESM leads to customer orientation and competitor orientation strategies which both have a positive effect on organisations' product innovation profiles. These significant findings offer the lesson for managers that organisations can leverage and harness the information communication technologies (ICT's) such as ESM platforms to attain organisational objectives such as innovation. Results also reveal the mediation of customer orientation between EESM and product innovation (H3b) to be more significant compared to H3—IESM and PI—highlighting the importance of utilising EESM for product innovation. This reflects the importance of EESM utilisation in enhancing the customer orientation of organisations for product innovation. Customer orientation is the sufficient understanding of customers' expresses and latent needs; EESM platforms allow organisations to directly interact and get constant feedback from customers, therefore explaining the statistically stronger relationship shown by H3b. Results also demonstrate that the organisations sampled have strong customer orientation cultures within their organisation.

The relationship between IESM and PI being mediated by competitor orientation (H4a) was significant, signifying that the organisations sampled are getting their inspiration to innovate products from competition as well through the utilisation of IESM. More importantly, the mediation of competitor orientation between EESM and PI (H4b) was more statistically significant highlighting the importance of using EESM platforms in enhancing the competitor orientation of organisations for product innovation.

While this study contributes the evidence that IFC fully mediates the relationship between IESM and PI, hence supporting H5a, unexpectedly H5b was non-significant, which shows that inter-functional coordination is not instrumental in the positive link between EESM use and product innovation. This result implies and highlights that the ability of organisations to amass information from their external constituents is an insufficient strategy and requires the assimilation of that information. In a sense, support is found in the absorptive capacity theory. At the core of inter-functional coordination lies the sharing of market knowledge and information which are vital for new product development [53]. Cohen and Levinthal [34] acknowledged the importance of absorbing new knowledge from external sources for innovation and flexibility giving organisations a sustainable competitive advantage. Poor external information dissemination on IESM platforms also hinders the absorption capacity of an organisation. Managers pursuing a product innovation (and possibly a differentiation strategy) may, therefore, wish to create an environment for the assimilation of market information obtained including

through the deployment of EESM, by investing in the use of IESM. Employees should be encouraged to use this platform, as it is found to be helpful to the building of product innovation profiles.

The full mediation shown by H5a and the non-mediation shown by H5b highlight the importance of utilising ESM in an integrated manner. Where IFC failed to mediate the relationship between EESM and PI, it was compensated by the full mediation between IESM and PI. It is important for organisations to use both IESM and EESM simultaneously in an integrated manner to derive benefits from both EESM and IESM utilisation. The different platforms both contribute to innovation albeit in a different manner as they are utilised by different stakeholders—internal and external. EESM platforms such as Facebook and Twitter enable organisations to derive ideas from external stakeholders such as customers whilst IESM platforms enhance organisation's ability to attain innovative ideas from their internal stakeholders such as employees. Alternatively, ideas generated from EESM platforms are further refined in IESM platforms. Utilising ESM in an integrated manner strengthens the innovation capabilities of organisations as they are getting ideas and input from different stakeholders. These results highlight the importance of deploying and utilising ESM in an integrated manner as they complement each other in the attainment of organisational goals such as innovation. Organisations are operating in highly complex and dynamic business environments, which call for the use of ICTs such as ESM in a holistic manner to maximise the benefits they proffer.

Organisations need to consider utilising both internal and external social media platforms in a concurrent and holistic manner to facilitate the smooth flow of information from both external and internal sources, therefore enhancing their innovation capability. Results from our study suggest the need to utilise both IESM and EESM; where IFC failed to mediate the relationship between EESM and PI, it was in a sense compensated and complemented for by its mediation of IESM and PI. Our findings show that indeed ESM has a positive influence on PI, therefore showing the need for organisations to train employees on how to utilise these platforms to derive maximum benefit.

This study makes several key contributions to the study of ESM and product innovation within the organisation. First, it provides new insights on how ESM use influences product innovation by organisations. Extant literature on ESM use has not provided knowledge on the mechanisms that drive the positive effect of ESM utilisation on product innovation. The study, therefore, is novel in its connection of independent concepts of ESM use, market orientation, and product innovation by organisations. The results not only contribute to the development of the burgeoning ESM literature but also to the market orientation and innovation literature streams. Second, this study conceptualised ESM in an integrated/holistic manner by investigating concepts of both EESM and IESM utilisation. Existing studies on social media usage in enterprises have been done largely from a singular perspective. However, both internal and external usage of ESM are vital to organisational performance and organisations are increasingly making use of both types of ESM, hence it became useful (if not necessary) to combine the two ESM typologies for the purpose of the current study. Finally, this study makes use of data from the African context in an effort to complement the existing ESM studies which have been mainly conducted in Western and Eastern country contexts. It, therefore, augments the growing ESM literature by proffering insights on ESM use from an African perspective, which can be considered to be less inclined to make use of ESM platforms, supposedly due to the limited deployment and relatively high cost of Internet connectivity, low absorptive capacity, and weak human capital.

6. Limitations and Future Research

This study is not without limitations. The majority of the sample companies are located in the telecommunications sector. It may be argued that these companies may have a preference for and greater ability to deploy Internet and communications technology. While there is no doubt that the results of this study adequately represent the population (and these telecommunications companies represent just approximately one-fifth of the sample), the interpretation of the results should consider this. This, however, drives an interesting question on the perceptions of organisations. It will be an interesting extension of this study to understand whether managers believe that there is

value in deploying ESM platforms for the benefit of developing their product innovation profiles. Such knowledge is important given the evidence that action by organisations often follow the belief systems of their managers. A second limitation of this study is its focus on the product innovation profile of organisations, to the exclusion of a focus on the general organisation-wide innovation profile. Future studies may wish to have this focus given that the goal of product innovation is not necessarily the final goal of organisations. Managers usually aim for greater organisational performance. A third useful extension of the current study could be the disaggregation of its focus to amass knowledge that is specific and helpful to managers' selection of specific ESM platforms in order to facilitate maximum performance in product and organisation-level innovation.

7. Conclusions

The current study investigated, with the use of structural equation modeling, the mediating role of market orientation (i.e., customer orientation, competitor orientation, and inter-functional coordination) in the influence of ESM use on the product innovation profiles of organisations. Given the finding of a positive effect of ESM utilisation on the product innovation profiles of organisations, there is a need for organisations to adopt and embrace these technologies. The successful use of these platforms depends on the correct utilisation by employees; therefore, there is a need for managers to encourage their employees to constantly and consistently utilise the platform through training and leading by example. This study represents a granular addition to the embryonic field of ESM. Future research can extend by replication to understand whether the mediation role holds in a positive effect of ESM use on organisation-level innovation. It may also be useful for scholars to consider studying the perceptions among managers to understand their beliefs about whether ESM use is helpful to building their innovation profiles.

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Appendix A. Standardised Factor Loadings and Individual Item Reliabilities

Table A1. Standardized Factor Loadings and Individual Item Reliabilities.

Item	Item Description	Factor Loading (>0.70)	R ² (>0.50)
External Enterprise Social Media Use			
Communication:			
EESM1	We use social ESM to communicate with customers	0.85	0.72
EESM2	We often use ESM to contact our customers	0.91	0.83
EESM3	We frequently use ESM to ask customers questions	0.70	0.49
EESM4	We frequently use ESM to answer customer questions	0.93	0.86
EESM5	Employees often socialize with customers on the social media platform	0.90	0.81
EESM6	We regularly use social media to maintain and strengthen communication with customers in my work.	0.72	0.52
Collaboration			
EESM7	We use ESM to collaborate with customers	0.87	0.76
EESM8	Many customers respond to discussions on the social media platform	0.83	0.69
EESM9	We actively exchange ideas with customers on social media.	0.83	0.69

Table A1. Cont.

Item	Item Description	Factor Loading (>0.70)	R ² (>0.50)
Knowledge Sharing			
EESM10	We use ESM to share knowledge with customers	0.86	0.74
EESM11	We frequently use ESM to share pictures and videos with customers	0.68	0.46
EESM12	We often use ESM to obtain work related information and knowledge	0.84	0.71
EESM13	New content and knowledge are shared or posted frequently on the platform	0.83	0.69
EESM14	Customers can obtain abundant content and knowledge from the social media platform.	0.88	0.77
Learning			
EESM15	There are many people viewing discussions on the social media platform.	0.85	0.72
EESM16	We use social media for learning purposes.		
EESM17	Employees learn from social media discussions.	0.88	0.77
EESM18	Discussions and posts on the social media platform assist employees in understanding customers' needs and wants	0.72	0.52
External Enterprise Social Media Use			
Communication:			
IESM1	We use ISM to communicate with co-workers	0.90	0.81
IESM2	We often use ISM to contact fellow employees for work purposes.	0.82	0.67
IESM3	We frequently use ISM to ask fellow employees questions.	0.92	0.85
IESM4	We frequently use social media to answer questions from fellow employees	0.91	0.82
IESM5	Employees often socialize on social media	0.80	0.64
IESM6	We regularly use social media to maintain and strengthen communication with colleagues in my work place	0.87	0.76
Collaboration			
IESM7	We use ISM to collaborate with co-workers	0.92	0.85
IESM8	Many employees respond to discussions on the social media platform.	0.73	0.53
IESM9	We actively exchange ideas with co-workers on the social media platform.	0.88	0.77
Knowledge Sharing			
IESM10	We use ISM to share knowledge with co-workers	0.72	0.52
IESM11	We frequently use ISM to share pictures and videos with co-workers	0.85	0.72
IESM12	We often use ISM to obtain work related information and knowledge	0.88	0.77
IESM13	New content and knowledge are shared or posted frequently on the social media platform	0.91	0.82
IESM14	Employees can obtain abundant content and knowledge from the social media platform.	0.72	0.52
Learning			
IESM15	Many employees view and follow discussions on the ISM platform.	0.81	0.66
IESM16	In our organisation, we use social media for learning purposes.	0.94	0.88
IESM17	Employees learn from social media discussions.	0.75	0.56
IESM18	Discussions and posts on the social media platform assist employees in understanding other points of view.	0.88	0.77
Market Orientation			
Customer Orientation			
CUSO1	Our organisation has strong focus on customer commitment	0.92	0.85
CUSO2	Our organisation has strong focus on creating customer value	0.93	0.86
CUSO3	Our organisation has a strong focus on understanding customer needs	0.86	0.74

Table A1. Cont.

Item	Item Description	Factor Loading (>0.70)	R ² (>0.50)
CUSO4	Our organisation has a strong focus on customer satisfaction objectives	0.71	0.50
CUSO5	Our organisation has a strong focus on measuring customer satisfaction	0.89	0.79
CUSO6	Our organisation has a strong focus on after sales service	0.86	0.74
<i>Competitor Orientation</i>			
COMP1	In our organisation sales people have a strong focus on sharing competitor information	0.90	0.81
COMP2	Our organisation has a strong focus on rapidly responding to competitor actions	0.86	0.74
COMP3	Top managers in our firm are strongly focused on discussing competitors strategies	0.91	0.83
COMP4	Our organisation strongly focuses on target opportunities for competitive advantage	0.92	0.85
<i>Inter functional Coordination</i>			
IFC1	Our organisation has a strong focus on inter functional customer calls	0.83	0.69
IFC2	Our organisation has a strong focus on information shared among functions	0.81	0.66
IFC3	Our organisation has a strong focus on functional integration in strategy.	0.84	0.71
IFC4	Our organisation has a strong focus towards all functions contributing to customer value	0.87	0.76
IFC5	Our organisations strongly focuses on sharing business resources with other business units	0.80	0.64
<i>Innovation</i>			
PI1	A service/product that was totally new to the company	0.92	0.85
PI2	A service/product that allowed the company to enter new market (s)	0.89	0.79
PI3	A service/product that created a new product line for the company	0.85	0.72
PI4	A service/product that was totally new to the market (customer)	0.87	0.76
PI5	A service/product that offered new features vs. competitive products	0.83	0.67
PI6	A service/product that required change in the customer's buying behaviour	0.81	0.66

Appendix B. The Demographics of Study Respondents

Table A2. Respondents' Demographics.

Measure	Value	Frequency	%
Gender	Male	98	45
	Female	120	55%
Years with the org	1 year and below	49	22.5
	2–5 years	82	37.6
	6–10 years	58	26.6
	10–20 years	23	10.6
	Above 20 years	6	2.8
Level of Education	Diploma	38	17.4
	Degree	127	58.3
	Masters	48	22
	Doctorate	5	2.3

Table A2. Cont.

Measure	Value	Frequency	%	
Position Occupied	Team member	79	36.2	
	Supervisor	31	14.2	
	Junior Manager	46	21.1	
	Middle Manager	30	13.8	
	Senior Manager	24	11	
	Director	8	3.7	
Number of employees	01–49	33	15.1	
	50–99	19	8.7	
	100–199	3	5	
	200–499	29	13.3	
	500–1000	7	3.2	
	1000	6	54.6	
Number of Branches	1–5	92	42.2	
	6–10	42	19.3	
	11–15	4	1.8	
	16–20	7	3.2	
	20+	5	33.5	
Type of org	SME	33	15.1	
	Corporate	112	51.4	
	Multinational	28	12.8	
	Parastatal	23	10.6	
	Franchise	7	3.2	
	Other	15	6.9	
Type of Industry	Telecommunications	45	20.6	
	Hospitality	32	14.7	
	Banking and Finance	19	8.7	
	Manufacturing	16	7.3	
	Retail	45	20.6	
	Advertising	29	13.3	
	Media and Broadcasting	22	10.1	
	Academia	4	1.8	
	Health	2	0.9	
	ICT	3	1.4	
	Transport and Distribution	1	0.5	
	EESM utilised	Facebook	136	62.4
		Twitter	69	31.7
Instagram		5	2.3	
You-tube		2	0.9	
WhatsApp		4	1.8	
LinkedIn		2	0.9	

Table A2. Cont.

Measure	Value	Frequency	%
Frequency of EESM use	Rarely	3	1.4
	Sometimes	13	6
	Often	91	41.7
	A great deal	111	50.9
IESM Utilised	Yammer	52	23.9
	Chatter	47	21.6
	Jive	20	9.2
	IBM	42	19.3
	Skype for Business	44	20.2
	Workplace by Facebook	4	1.8
	Lync	3	1.4
	Slack	6	2.8
	Years IESM utilised	Less than 1 year	8
	1–5 Years	106	48.7
	6–10 Years	104	47.7

Appendix C. Constructs and Measurements

Table A3. Survey Instrument.

	Constructs and Measurements	Sources
	External Enterprise Social Media	
	Communication:	[25]
1	We use social ESM to communicate with customers	
2	We often use ESM to contact our customers	
3	We frequently use ESM to ask customers questions	
4	We frequently use ESM to answer customer questions	
5	Employees often socialize with customers on the social media platform	
6	We regularly use social media to maintain and strengthen communication with customers in my work.	[79]
	Collaboration	
7	We use ESM to collaborate with customers	[28]
8	Many customers respond to discussions on the social media platform	[80]
9	We actively exchange ideas with customers on social media.	[81]
	Knowledge Sharing	
10	We use ESM to share knowledge with customers	[79]
11	We frequently use ESM to share pictures and videos with customers	[70,82]
12	We often use ESM to obtain work related information and knowledge	[79]
13	New content and knowledge are shared or posted frequently on the platform	[80]
14	Customers can obtain abundant content and knowledge from the social media platform.	[80]
	Learning	
15	There are many people viewing discussions on the social media platform.	[80]

Table A3. Cont.

	Constructs and Measurements	Sources
16	We use social media for learning purposes.	[83]
17	Employees learn from social media discussions.	[81]
18	Discussions and posts on the social media platform assist employees in understanding customers' needs and wants	[83]
External Enterprise Social Media		
Communication:		
1	We use ISM to communicate with co-workers	[25]
2	We often use ISM to contact fellow employees for work purposes.	
3	We frequently use ISM to ask fellow employees questions.	
4	We frequently use social media to answer questions from fellow employees	
5	Employees often socialize on social media	
6	We regularly use social media to maintain and strengthen communication with colleagues in my work place	[79]
Collaboration		
7	We use ISM to collaborate with co-workers	[28]
8	Many employees respond to discussions on the social media platform.	[80]
9	We actively exchange ideas with co-workers on the social media platform.	[81]
Knowledge Sharing		
10	We use ISM to share knowledge with co-workers	[79]
11	We frequently use ISM to share pictures and videos with co-workers	[84]
12	We often use ISM to obtain work related information and knowledge	[79]
13	New content and knowledge are shared or posted frequently on the social media platform	[80]
14	Employees can obtain abundant content and knowledge from the social media platform.	[80]
Learning		
15	Many employees view and follow discussions on the ISM platform.	[80]
16	In our organisation, we use social media for learning purposes.	[83]
17	Employees learn from social media discussions.	[81]
18	Discussions and posts on the social media platform assist employees in understanding other points of view.	[81]
Market Orientation		
Customer Orientation		
1	Our organisation has strong focus on customer commitment	
2	Our organisation has strong focus on creating customer value	
3	Our organisation has a strong focus on understanding customer needs	
4	Our organisation has a strong focus on customer satisfaction objectives	
5	Our organisation has a strong focus on measuring customer satisfaction	
6	Our organisation has a strong focus on after sales service	
Competitor Orientation		
7	In our organisation sales people have a strong focus on sharing competitor information	
8	Our organisation has a strong focus on rapidly responding to competitor actions	
9	Top managers in our firm are strongly focused on discussing competitor strategies	
10	Our organisation strongly focuses on target opportunities for competitive advantage	

Table A3. Cont.

Constructs and Measurements		Sources
Inter functional Coordination		
11	Our organisation has a strong focus on inter functional customer calls	
12	Our organisation has a strong focus on information shared among functions	
13	Our organisation has a strong focus on functional integration in strategy.	
14	Our organisation has a strong focus towards all functions contributing to customer value	
15	Our organisation strongly focuses on sharing business resources with other business units	
Innovation		[71]
1	A service/product that was totally new to the company	
2	A service/product that allowed the company to enter new market (s)	
3	A service/product that created a new product line for the company	
4	A service/product that was totally new to the market (customer)	
5	A service/product that offered new features vs. competitive products	
6	A service/product that required change in the customer's buying behaviour	

References

- Leonardi, P.M.; Huysman, M.; Steinfield, C. Enterprise social media: Definition, history, and prospects for the study of social technologies in organizations. *J. Comput. Commun.* **2013**, *19*, 1–19. [\[CrossRef\]](#)
- Oostervink, N.; Agterberg, M.; Huysman, M. Knowledge Sharing on Enterprise Social Media: Practices to Cope With Institutional Complexity. *J. Comput. Commun.* **2016**, *21*, 156–176. [\[CrossRef\]](#)
- Sun, Y.; Zhou, X.; Jeyaraj, A.; Shang, R.A.; Hu, F. The impact of enterprise social media platforms on knowledge sharing: An affordance lens perspective. *J. Enterp. Inf. Manag.* **2019**, *32*, 233–250. [\[CrossRef\]](#)
- Baek, J.S.; Kim, S.; Pahk, Y.; Manzini, E. A sociotechnical framework for the design of collaborative services. *Des. Stud.* **2018**, *55*, 54–78. [\[CrossRef\]](#)
- Wehner, B.; Ritter, C.; Leist, S. Enterprise social networks: A literature review and research agenda. *Comput. Networks* **2017**, *114*, 125–142. [\[CrossRef\]](#)
- Qi, C.; Chau, P.Y.K. Will enterprise social networking systems promote knowledge management and organizational learning? An empirical study. *J. Organ. Comput. Electron. Commer.* **2018**, *28*, 31–57. [\[CrossRef\]](#)
- Leonardi, P.M. Social Media, Knowledge Sharing, and Innovation: Toward a Theory of Communication Visibility. *Inf. Syst. Res.* **2014**, *25*, 796–816. [\[CrossRef\]](#)
- Treem, J.W.; Leonardi, P.M. Social Media Use in Organizations: Exploring the Affordances of Visibility, Editability, Persistence, and Association. *Ann. Int. Commun. Assoc. ISSN* **2013**, *36*, 143–189. [\[CrossRef\]](#)
- Mäntymäki, M.; Riemer, K. Enterprise social networking: A knowledge management perspective. *Int. J. Inf. Manag.* **2016**, *36*, 1042–1052. [\[CrossRef\]](#)
- Bhimani, H.; Mention, A.L.; Barlatier, P.J. Social media and innovation: A systematic literature review and future research directions. *Technol. Forecast. Soc. Chang.* **2019**, *144*, 251–269. [\[CrossRef\]](#)
- Chua, A.Y.K.; Banerjee, S. Customer knowledge management via social media: The case of Starbucks. *J. Knowl. Manag.* **2013**, *17*, 237–249. [\[CrossRef\]](#)
- Yadav, M.; Kamboj, S.; Rahman, Z. Customer co-creation through social media: The case of 'Crash the Pepsi IPL 2015'. *J. Direct Data Digit. Mark. Pract.* **2016**, *17*, 259–271. [\[CrossRef\]](#)
- Patroni, J.; Von Briel, F.; Recker, J. How Enterprise Social Media Can Facilitate Innovation. *IT Prof.* **2016**, *18*, 34–41. [\[CrossRef\]](#)
- Recker, J.; Malsbender, A. Learning how to Effectively Use Enterprise Social Networks as Innovation Platforms. *IT Prof.* **2016**, *18*, 2–9. [\[CrossRef\]](#)
- Corchuelo, B.; Mesías, F.J. Innovation policies and barriers to innovation: An analysis in extremadura (Spain). *Handb. Res. Int. Entrep. Innov. Glob. Econ.* **2015**, 29–48. [\[CrossRef\]](#)

16. Tajeddini, K.; Altinay, L.; Ratten, V. Service innovativeness and the structuring of organizations: The moderating roles of learning orientation and inter-functional coordination. *Int. J. Hosp. Manag.* **2017**, *65*, 100–114. [[CrossRef](#)]
17. Hirunyawipada, T.; Beyerlein, M.; Blankson, C. Cross-functional integration as a knowledge transformation mechanism: Implications for new product development. *Ind. Mark. Manag.* **2010**, *39*, 650–660. [[CrossRef](#)]
18. Griffith, R.; Redding, S.; Van Reenen, J. R&D and Absorptive Capacity: Theory and Empirical Evidence. *Scand. J. Econ.* **2003**, *105*, 99–118.
19. Mitchell, R.K.; Agle, B.R.; Wood, D.J. Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *Acad. Manag. Rev.* **1997**, *22*, 853–886. [[CrossRef](#)]
20. Narver, J.C.; Slater, S.F. The Effect of a Market Orientation on Business Profitability. *J. Mark.* **1990**, *54*, 20. [[CrossRef](#)]
21. Anderson, C.; Robey, D. Affordance potency: Explaining the actualization of technology affordances. *Inf. Organ.* **2017**, *27*, 100–115. [[CrossRef](#)]
22. H Weber, M.S.; Shi, W.E.I. Enterprise Social Media. *Int. Encycl. Organ. Commun.* **2017**, 1–9. [[CrossRef](#)]
23. Li, Y.; Xie, E.; Cheng, L. The effect of market orientation on new product development: A literature review. *Chin. Manag. Stud.* **2017**, *11*, 582–598. [[CrossRef](#)]
24. Newman, A.; Prajogo, D.; Atherton, A. The influence of market orientation on innovation strategies. *J. Serv. Theory Pract.* **2016**, *26*, 72–90. [[CrossRef](#)]
25. Cai, Z.; Huang, Q.; Liu, H.; Wang, X. Improving the agility of employees through enterprise social media: The mediating role of psychological conditions. *Int. J. Inf. Manag.* **2018**, *38*, 52–63. [[CrossRef](#)]
26. Engelstätter, B.; Sarbu, M. Why adopt social enterprise software? Impacts and benefits. *Inf. Econ. Policy* **2013**, *25*, 204–213. [[CrossRef](#)]
27. Forstner, A.; Nedbal, D.; Forstner, A.; Nedbal, D. A problem-centered analysis of enterprise social software projects. *Procedia Comput. Sci.* **2017**, *121*, 389–397. [[CrossRef](#)]
28. Kuegler, M.; Smolnik, S.; Kane, G. What's in IT for employees? Understanding the relationship between use and performance in enterprise social software. *J. Strateg. Inf. Syst.* **2015**, *24*, 90–112. [[CrossRef](#)]
29. Le-Nguyen, K.; Guo, Y.; Qiong, J. Developing enterprise social software in China: Insights from Mingdao. *J. Inf. Technol. Teach. Cases* **2017**, *7*, 62–78. [[CrossRef](#)]
30. Mahler, D.G.; Montes, J.; Newhouse, D. Poverty and Equity Notes. *World Bank Group Poverty Equity* **2019**, *13*, 1–4.
31. Antikainen, M.; Valkokari, K. Social media in networked innovation between b-to-b companies. In Proceedings of the CINET Conference, Stockholm, Sweden, 13–15 September 2015; pp. 13–15.
32. Lee, I. Social media analytics for enterprises: Typology, methods, and processes. *Bus. Horiz.* **2017**, *61*, 199–210. [[CrossRef](#)]
33. Fusi, F.; Feeney, M.K. Social Media in the Workplace: Information Exchange, Productivity, or Waste? *Am. Rev. Public Adm.* **2016**, *48*, 395–412.
34. Cohen, W.M.; Levinthal, D.A. Absorptive Capacity: A New Perspective on Learning and Innovation. *Adm. Sci. Q.* **1990**, *35*, 128. [[CrossRef](#)]
35. Freeman, R.E. Response: Divergent Stakeholder Theory. *Acad. Manag. Rev.* **1999**, *24*, 233. [[CrossRef](#)]
36. Storey, C.; Larbig, C. Absorbing Customer Knowledge: How Customer Involvement Enables Service Design Success. *J. Serv. Res.* **2018**, *21*, 101–118. [[CrossRef](#)]
37. Recker, J.; Malsbender, A.; Kohlborn, T. Using Enterprise Social Networks as Innovation Platforms. *IT Prof.* **2016**, *18*, 42–49. [[CrossRef](#)]
38. Sigala, M.; Chalkiti, K. International Journal of Hospitality Management Knowledge management, social media and employee creativity. *Int. J. Hosp. Manag.* **2015**, *45*, 44–58. [[CrossRef](#)]
39. Feng, C.; Sivakumar, K. The Role of Collaboration in Service Innovation across Manufacturing and Service Sectors. *Serv. Sci.* **2016**, *8*, 263–281. [[CrossRef](#)]
40. Jia, Q.; Guo, Y.; Barnes, S.J. E2.0 post-adoption: Extending the IS continuance model based on the technology-organization-environment framework. *Proc. Int. Conf. Electron. Bus.* **2016**, *67*, 695–707.
41. Van Osch, W.; Bulgurcu, B.; Majchrzak, A. The Effects of Group Visibility on Social Capital Formation in Enterprise Social Media. In Proceedings of the Twenty-Sixth European Conference of Information System, Tallinn, Estonia, 23–28 June 2018.

42. Leonardi, P.M. Ambient Awareness and Knowledge Acquisition: Using Social Media to Learn “Who Knows What” and “Who Knows Whom”. *MIS Q.* **2015**, *39*, 747–762. [[CrossRef](#)]
43. Dong, J.Q.; Wu, W. Business value of social media technologies: Evidence from online user innovation communities. *J. Strateg. Inf. Syst.* **2015**, *24*, 113–127. [[CrossRef](#)]
44. Papa, A.; Santoro, G.; Tirabeni, L.; Monge, F. Social media as tool for facilitating knowledge creation and innovation in small and medium enterprises. *Balt. J. Manag.* **2018**, *13*, 1746–5265. [[CrossRef](#)]
45. Carlson, J.; Rahman, M.; Voola, R.; De Vries, N. Customer engagement behaviours in social media: Capturing innovation opportunities. *J. Serv. Mark.* **2018**, *32*, 83–94. [[CrossRef](#)]
46. Freeman, R.E. *Strategic Management: A Stakeholder Approach*; Pitman Publishing Inc.: New York, NY, USA, 1984.
47. Corral, G.; Zubielqui, D.; Fryges, H.; Jones, J. Technological Forecasting & Social Change Social media, open innovation & HRM: Implications for performance. *Technol. Forecast. Soc. Chang.* **2017**, *144*, 334–347.
48. Hennig-Thurau, T. Customer orientation of service employees: Its impact on customer satisfaction, commitment, and retention. *Int. J. Serv. Ind. Manag.* **2004**, *15*, 460–478. [[CrossRef](#)]
49. Ozkaya, H.E.; Droge, C.; Hult, G.T.M.; Calantone, R.; Ozkaya, E. Market orientation, knowledge competence, and innovation. *Int. J. Res. Mark.* **2015**, *32*, 309–318. [[CrossRef](#)]
50. Wang, Q.; Zhao, X.; Voss, C. Customer Orientation and Innovation: A Comparative Study of Manufacturing and Service Firms. *Int. J. Prod. Econ.* **2016**, *171*, 221–230. [[CrossRef](#)]
51. Narver, J.C.; Slater, S.F.; MacLachlan, D.L. Responsive and Proactive Market Orientation and New-Product Success. *J. Prod. Innov. Manag.* **2004**, *21*, 334–347. [[CrossRef](#)]
52. Huhtala, J.-P.; Sihvonen, A.; Frösén, J.; Jaakkola, M.; Tikkanen, H. Market orientation, innovation capability and business performance. *Balt. J. Manag.* **2014**, *9*, 134–152. [[CrossRef](#)]
53. Grinstein, A. The effect of market orientation and its components on innovation consequences: A meta-analysis. *J. Acad. Mark. Sci.* **2008**, *36*, 166–173. [[CrossRef](#)]
54. Mohiuddin Babu, M. Impact of firm’s customer orientation on performance: The moderating role of interfunctional coordination and employee commitment. *J. Strateg. Mark.* **2018**, *26*, 702–722. [[CrossRef](#)]
55. Armstrong, J.S.; Collopy, F. Competitor Orientation: Effects of Objectives and Information on Managerial Decisions and Profitability. *J. Mark. Res.* **1996**, *33*, 188. [[CrossRef](#)]
56. He, W.; Zha, S.; Li, L. Social media competitive analysis and text mining: A case study in the pizza industry. *Int. J. Inf. Manag.* **2013**, *33*, 464–472. [[CrossRef](#)]
57. Dey, L.; Haque, S.M.; Khurdiya, A.; Shroff, G. Acquiring competitive intelligence from social media. *ACM Int. Conf. Proc. Ser.* **2011**. [[CrossRef](#)]
58. Lau, K.N.; Lee, K.H.; Ho, Y. Text mining for the hotel industry. *Cornell Hotel Restaur. Adm. Q.* **2005**, *46*, 344–362. [[CrossRef](#)]
59. Sørensen, H.E. Why competitors matter for market orientation. *Eur. J. Mark.* **2009**, *43*, 735–761. [[CrossRef](#)]
60. O’Dwyer, M.; Gilmore, A. Competitor orientation in successful SMEs: An exploration of the impact on innovation. *J. Strateg. Mark.* **2019**, *27*, 21–37. [[CrossRef](#)]
61. Guleş, H.K.; Karaboğa, K.; Asst, R. The Effect of Market Orientation and Innovation Ability on Enterprise Performance: A Practice of Structural Equation modeling Analysis: A Research on Smes. *Eur. Sci. J.* **2015**, *11*, 31–42.
62. Im, S.; Workman, J.P., Jr. Market Orientation, Creativity, and New Product Performance in High-Technology Firms. *J. Mark.* **2004**, *68*, 114–132. [[CrossRef](#)]
63. Lin, F.; Evans, R.; Kharel, R.; Williams, R.; Intelligence, C.; Innovation, P.; Role, T.; Coordination, I.-F.; Transactions, I.; Management, E.; et al. Competitor Intelligence and Product Innovation: The Role of Open-Mindedness and Inter-Functional Coordination. *IEEE Trans. Eng. Manag.* **2019**. [[CrossRef](#)]
64. Lukas, B.A.; Ferrell, O.C. The effect of market orientation on product innovation. *J. Acad. Mark. Sci.* **2000**, *28*, 239–247. [[CrossRef](#)]
65. Furlan, A.C.; Arnaldo, P.R. Understanding How Formal and Informal Communication Affect Purchasing, Manufacturing and Logistics Integration. *Adv. Manag.* **2011**, *4*, 22–32.
66. Ahmad, S.; Schroeder, R.G.; Mallick, D.N. The relationship among modularity, functional coordination, and mass customization: Implications for competitiveness. *Eur. J. Innov. Manag.* **2010**, *13*, 46–61. [[CrossRef](#)]
67. Armstrong, J.S.; Overton, T.S. Estimating nonresponse bias in mail surveys. *J. Mark. Res.* **1977**, *14*, 396–402. [[CrossRef](#)]

68. Matemba, E.D.; Li, G. Consumers' willingness to adopt and use WeChat wallet: An empirical study in South Africa. *Technol. Soc.* **2018**, *53*, 55–68. [[CrossRef](#)]
69. Podsakoff, P.M.; MacKenzie, S.B.; Lee, J.Y.; Podsakoff, N.P. Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *J. Appl. Psychol.* **2003**, *88*, 879–903. [[CrossRef](#)] [[PubMed](#)]
70. Ali-Hassan, H.; Nevo, D.; Wade, M. Linking dimensions of social media use to job performance: The role of social capital. *J. Strateg. Inf. Syst.* **2015**, *24*, 65–89. [[CrossRef](#)]
71. Thakur, R.; Hale, D. Service innovation: A comparative study of U.S. and Indian service firms. *J. Bus. Res.* **2013**, *66*, 1108–1123. [[CrossRef](#)]
72. Hair, J.F.; Black, W.C.; Babin, B.J.; Anderson, R.E. *New International Edition: Multivariate Data Analysis. Exploratory Data Analysis in Business and Economics*, 7th ed.; Pearson Education Limited: Essex, UK, 2014.
73. Byrne, B.M. *Structural Equation Modeling with AMOS Basic Concepts, Applications, and Programming*; Routledge: New York, NY, USA, 2016.
74. Anderson, J. Gerbing Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. Anderson & Gerbing, 1988. *Psychol. Bull.* **1988**, *103*, 411–423.
75. Hayes, A.F.; Preacher, K.J. Statistical mediation analysis with a multicategorical independent variable. *Br. J. Math. Stat. Psychol.* **2013**, *67*, 451–470. [[CrossRef](#)]
76. Preacher, K.J.; Hayes, A.F. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behav. Res. Methods* **2008**, *40*, 879–891. [[CrossRef](#)] [[PubMed](#)]
77. Zhao, X.; Lynch, J.G.; Chen, Q. Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis. *J. Consum. Res.* **2010**, *37*, 197–206. [[CrossRef](#)]
78. Ram, J.; Liu, S. Social media driven innovations: An exploratory study in China. *J. Innov. Econ.* **2018**, *27*, 123. [[CrossRef](#)]
79. Leftheriotis, I.; Giannakos, M.N. Using social media for work: Losing your time or improving your work? *Comput. Human Behav.* **2014**, *31*, 134–142. [[CrossRef](#)]
80. Chang, H.H.; Chuang, S.S. Social capital and individual motivations on knowledge sharing: Participant involvement as a moderator. *Inf. Manag.* **2011**, *48*, 9–18. [[CrossRef](#)]
81. So, H.J.; Brush, T.A. Student perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: Relationships and critical factors. *Comput. Educ.* **2008**, *51*, 318–336. [[CrossRef](#)]
82. Cai, Z.; Liu, H.; Huang, Q.; Liang, L. Developing organizational agility in product innovation: The roles of IT capability, KM capability, and innovative climate. *R D Manag.* **2017**, *49*, 421–438. [[CrossRef](#)]
83. Elnasr, A.; Sobaih, E.; Moustafa, M.A.; Ghandforoush, P. Computers in Human Behavior To use or not to use? Social media in higher education in developing countries. *Comput. Human Behav.* **2016**, *58*, 296–305.
84. Chen, Q.; Xu, X.; Cao, B.; Zhang, W. Social media policies as responses for social media affordances: The case of China. *Gov. Inf. Q.* **2016**, *33*, 313–324. [[CrossRef](#)]

