

SOCIAL COMMERCE IN A DIGITAL ECONOMY: A REVIEW OF LITERATURE

GABRIEL, Justin M. O.

Department of Management, Faculty of Management Sciences,
Rivers State University, Port Harcourt
gabriel.justin@ust.edu.ng or m.justbriel@gmail.com

and

GABRIEL, Linda O. J.

Department of Marketing, Ignatius Ajuru University of Education,
Port Harcourt, Rivers State
linbriel@gmail.com

ABSTRACT

The digital economy is one depicted by a structural shift from the industrial economy towards an economy characterized by information and communication technologies (ICT). This paper reviews literature on social commerce in the context of a digital economy. Social commerce is a form of e-commerce that is based on the utilisation of social media and Web 2.0 technologies to assist “buyer interaction that leads to the creation of active content; such as reviews and recommendations that guides other buyers when making decisions that inform their purchasing of products and/or services. Social commerce was observed to differ from e-commerce in several ways, but especially on the ground that e-commerce was designed using one directional Web 1.0 technologies, which dealt with customers as individuals; whereas social commerce was designed and enabled by Web 2.0 technologies which enabled bidirectional interactions between the business and customers. Different models of social commerce including those of Huang and Benyouncef, as well as Yadiv's were identified. This paper concludes that social commerce has ushered a new dawn that has met the people of this generation with new ways of doing business where buying and selling occur more in the cloud.

Keywords: Social Commerce, Electronic Commerce, Social Media, Digital

Economy

INTRODUCTION

There is no gainsaying that there has been a sporadic development in the application of technology for business across the world which has transferred the arena of commerce and entrepreneurship from the physical to the online domain; a trend that has attracted scholarly attention world over, especially in the face of the Corona Virus Pandemic (Covid-19). Covid-19 is an acronym for 'Corona Virus Disease' which was discovered in December, 2019, hence the name 'Covid-19'. The human to human spreading of the virus occurs due to close contact with an infected person, exposed to coughing, sneezing, respiratory droplets (Shereen & Siddique, 2020). As a result of the fear of unhindered spread of the virus, lockdown measures were introduced in several countries of the world and this has affected physical business transactions, interstate and inter countries travels negatively, paving way for the reliance on business activities that are enabled online.

Castellacci and Tveito, (2018); Nagy (2019) have respectively averred that the use of Information and Communications Technology (ICT) in business has increased significantly over the past three decades. The umbrella body used in describing this spread in ICT as a driver of economic missions is best conceptualized as digital economy. A digital economy is a convergence of communications, computing, and information. The essential in the new economy is a structural shift from the industrial economy toward an economy characterized by information. Digital economy refers to a system of institutional categories (concepts) that comprise high-level achievements and progressive technologies, primarily digital and serves to increase the effectiveness of social production (Johnson, 2019; Pradhan et al., 2019; Peshkova and Samarina, 2018).

Similarly, digital economy has been succinctly described further as an economy based on professional and market knowledge, creativity and an innovation society (Balcerzak and Pietrzak, 2017; Quinton et al., 2018). Digitalization of any economy requires an interplay of multiple forces, ranging from technology to politics and culture. One major player in the economic digitalization process is the commerce-influencing platforms like the electronic -commerce (e-commerce) which represents the process of trading and transacting online. A key drawback of e-commerce is the lack of social presence and human interaction

(Al-Adwan, 2018). This is recognised as a major obstacle in the development of e-commerce due to the scarcity of social cues, increased risk and uncertainty.

However, e-commerce has witnessed a radical development due to the evolution of web technologies that are producing an increase in economic value and improving customer service. This phenomenon is widely known as social commerce (s-commerce). Al-Adwan and Kokash (2019: 17) define s-commerce as a form of e-commerce that is based on the utilisation of social media and Web 2.0 technologies to assist “buyer interaction that leads to the creation of active content such as reviews and recommendations that guides other buyers when making decisions that inform their purchasing of products and/or services”. Social media and Web 2.0 technologies have contributed considerably to allowing social inter-action and social presence to take place on e-commerce websites.

S-commerce involves the use of Web 2.0 technologies and social/online media that assists user contributions and social interactions to aid online shopping (Shin, 2013). Over the past few years, the penetration of s-commerce has increased throughout the world. This is mainly because of the wide acceptance of social media as a reliable source of finding and sharing information and for socialisation (Al-Adwan & Kokash, 2019). S-commerce has effectively changed how customers and businesses interact (Akman, 2017), and affected the reliability of online companies' transactions and their reputations. Furthermore, s-commerce helps businesses to enhance their relationships with customers and increase the efficiency of the product/brand development process. Customers also gain several benefits from s-commerce. In particular, their decisions, preferences, and perceptions about targeted products or services are guided by content generated by their peers on social platforms along with the existing information on e-commerce websites (Huang & Benyoucef, 2013).

Zhang (2012) had previously reported that most discussions about social commerce have been in trade articles, blog posts, industry reports or publications by practitioners. More so, these discussions have provided bits and bytes of forecasts, speculations, experiences, and status reports. Thus, our understanding of social commerce is scattered and limited, and at times can be biased by certain views or perspectives. Yet, social commerce, as an emerging phenomenon, provides ample opportunities for scholars to investigate and revalidate various issues related to the interplay among people, management, technology and

information, all of which fall within the IS disciplinary boundary. Such investigations not only contribute to our theoretical understanding but also provide guidance and prescriptions to successful social commerce practice across the world.

Drawing from this backdrop, this paper is aimed at achieving the following: (1) Reviewing extant literature on social commerce in the context of economic digitalization. Providing a brief examination of the evolution of social commerce to illustrate both its rich breadth and its longitudinal characteristics; (3) examining the importance of social commerce and (4) discussing some models of social commerce. By providing such a systematic examination, we hope to inspire more research efforts in this emerging area to determine various ways social commerce can affect business and entrepreneurship.

LITERATURE REVIEW

Conceptual Mapping: Social Commerce (sCommerce)

Social commerce is defined (Hughes, 2010) as an Internet-based commercial application, leveraging social media and Web 2.0 technologies which support social interactions and user generated content in order to assist consumers in their decision making and acquisitions of products and services within online marketplaces and communities. Social commerce has been characterised with three major attributes; social technologies, community interactions and commercial activities (Lu et al., 2016). Wang and Zhang (2011) introduce a framework to understand social commerce from four perspectives: people, business strategies, technology, and information. The people perspective represents the individuals, consumers, communities and societies, which are essential to the social aspect of social commerce. The business perspective embraces strategies, business models and opportunities for retailers and other entities that are perceived to benefit or to make profits from social commerce transactions.

Similarly, the technology perspective refers to the information and communication technology infrastructure and applications responsible for social commerce's technological feasibility. Lastly, the information perspective symbolizes the particularity of this extremely content driven environment where a considerable and rich amount of content related to business, products or services, or which is simply social in nature, is constantly produced. Whilst it may be technology that enables social commerce, the rationale is social

(Marsden, 2011); helping people connect where they buy and buy where they connect. In practice, this means that social commerce can be summarized in terms of two central activities; putting social media tools in e-commerce website and/or putting e-commerce in social media platforms.

Putting social media tools in e-commerce website: Helping people connect where they buy by adding and linking social media tools and content (such as corporate blog, social-bookmarking, product reviews, chat functionality and forum/community) to e-commerce sites. For example, Amazon invites customers to rate and review products on its e-commerce site, and to discuss them in customer forums.

Putting e-commerce in social media platforms: Helping people buy where they connect by embedding social media stores and storefronts to popular social media platforms. For example, leading electronics retailer Best Buy's storefront in Facebook. Both of these two social commerce solutions can enhance the purchase cycle experience in three key areas; product discovery, product selection and product referral.

The advances of social commerce created far-reaching outcomes and sparked research in many disciplines including marketing, economics, computer science, sociology and psychology (Baghdadi, 2016; Aral et al., 2013). This indicated the comprehensive research area that spans around social commerce research and resulted in the accumulation of many definitions (Lin et al., 2016). However, almost all definitions capture the same characteristics, which are the use of Web 2.0 and social media features to assist the e-commerce process. For instance, and in a broad sense, social commerce is defined as a new way of conducting commerce, which involves collaboration between all actors in the value chain (Baghdadi, 2016). Dennison et al. (2009: 2) used IBM's definition, which stated that “social commerce is the concept of word of mouth applied to e-commerce, and it is the combination of a retailer's products, online content and shoppers' interaction with that content”.

Evolution of Social Commerce (sCommerce)

The term sCommerce was first introduced by Yahoo in 2005. In academia, the phenomenon of sCommerce first appeared in 2007 (Lu et al., 2016, Huang and Benyoucef, 2013, Jascanu et al., 2007). Ever since the birth of sCommerce in 2005, its evolution—which continues to date—is considered to be extremely

important. The concept of sCommerce appeared from three key domains, namely: Web 2.0, SNS and eCommerce and from there the idea of sCommerce was developed (Rahimnia and Hassanzadeh, 2013, Lewis et al., 2012). The concept of Web 2.0 was presented by O'Reilly's vice president Dale Dougherty in international brainstorming conference (O'Reilly, 2005).

According to Dougherty, the uses of information technologies in the business environment changed day by day. Consequently, there were fears that the Internet would be worn out—Dougherty said that it was the most critical time for the success of the Internet (O'Reilly, 2005). The fears stemmed from the fact that numerous exhilarating new website-based applications and information technology applications were developing constantly (Marsden, 2011, Shin et al., 2011, Lewis et al., 2012). This led Dougherty to believe that the Internet-based applications and its technologies were experiencing a further change (Marsden, 2011, Shin et al., 2011, Lewis et al., 2012). Today there are more brands selling products on sCommerce. For example, in 2006 eBay sold gifts; in 2008, Dell claimed \$1 million revenue that was generated via Twitter sales. Besides this, there are many advantages and scenarios for sCommerce (Pucihar and Podlogar, 2003). However, cases of the ineffective implementation of sCommerce, from both the clients' and vendors' side are recorded by companies (Pucihar, 2003). Research in the field of social commerce is largely infantile and inadequately document.

Social Commerce and Electronic Commerce

Even though social commerce is derived from e-commerce, the two have differences in many aspects. Social commerce has proved to be much more complicated such as in its motives, business models, challenges and design features (Huang & Benyoucef, 2013). E-commerce, for example, was designed using one directional Web 1.0 technologies, which dealt with customers as individuals. Social commerce, on the other hand, was designed and enabled by Web 2.0 technologies, which enabled bidirectional interactions between the business and customers (Baghdadi, 2016). Social commerce has also shifted e-commerce from a product-oriented platform to a customer-oriented interactive environment (Huang & Benyoucef, 2013).

More so, while social commerce is portrayed by some as a new category of e-commerce combining shopping and social networking activities online (Harkin, 2007; Wang, 2009), others view social commerce as a subcategory of e-

commerce (Kooser, 2008; Marsden, 2009a). Some claim that social commerce is not a revolution but an evolution built on the concepts and applications of e-commerce (Kooser, 2008; Marsden, 2009a). Some claim that the design of traditional ecommerce is catalog-based, while social commerce's design combines virtual market with social places for cooperation (Khoury, Shen and Shirmohammadi, 2008). Similarly, Youcef (2013) has used certain aspects of the features of both concepts in differentiating them clearly. Accordingly, table 1 shows these differences between social commerce and e-commerce in many aspects, including business models, value creation, customer communication and connection, system interaction, design, and platforms as summarized.

Table 1: Differences between Social Commerce and e-Commerce

Aspect	e-Commerce	Social Commerce
Business Models	Traditional, R & D, Products, Services, Business / Process Oriented,	Purely Technology enabled (Web 2.0, SOA, Cloud Computing)
Value creation	Limited to Enterprise and Business partners	Participatory and Collaborative
Value Chain	Limited	More Actors, participant motivation
Customer Connection,	Limited Customer to Customer / Business Communication	Communication, Involves Online Communities, increased customer collaboration
System Interaction	One way browsing, pushes information	More vent for Customer expression, information sharing, content creation by all online actors
Design	Focuses on Product / Service Views, navigation, search	User centered design, focuses on web 2.0 centric parameters (Tags, Rank, Review, Comment
Platform	Web 1.0 (B2C), EDI (B2B)	Web 2.0, SOA, Cloud Computing
Legal Issues	Emphasized within agreed upon policies	Still in formative stages on policy matters

Source: Youcef (2013): From e-commerce to social commerce: A framework to guide enabling cloud computing.

Importance of Social Commerce

sCommerce has recently begun to dominate the eCommerce industry (Liang and Turban, 2011). Social media—also known as a new media—now accounts for the majority of traffic on eCommerce platforms (Hennig-Thurau et al., 2010, Hajli, 2012a). Social media networks have been essential in popularising sCommerce platforms, of which eCommerce firms have quickly recognised as necessities for their business needs. The worldwide sales of sCommerce has a large growth especially for the two dominant sCommerce websites eBay and Amazon. Statistics show that in 2017, eBay's revenue was 9.5 billion USD which increased by 900 million USD compared to 2016 (Statista, 2018b). On the other hand, Amazon is still one of the greatest players in sCommerce market (Statista, 2018b). In 2016, Amazon's sales were 135.9 billion USD, which increased to 177.8 billion USD in 2017 (Statista, 2018c).

On Facebook, people can communicate and interact with other individuals and their generated contents such as blogs and comments. Those systems can incorporate personal details, such as the organisations that individuals work for and the school individuals went to (even their secondary school). In any case, individuals can likewise join a few of the huge number of smaller systems or "gatherings" that have been made by Facebook clients, some are genuine associations and some exist only in the psyche of their authors (Chen et al., 2016). About twenty years ago, customers' shopping used to be a result of mass messages provided via advertisements. However, at present, businesses are more dependent upon structuring relationships with their clients. In the area of social marketing, obtaining and convincing new clients has become less significant as businesses focus more on continuing engagement, associations and lifetime client value (Kim, 2006).

The universal influence of this trend drove chairmen of the foremost global brands to speak about it, managing congresses in numerous countries. The Bazaar-voice sCommerce is one of the most vital of these meetings and it was shaped to share thoughts and trends that would form the future of client centrality (Bazaarvoice, 2018). This worldwide assembly has shone a light on social information that reveals the reason behind every purchase. For instance, the social information shows that views from peers is the most believed information for purchasing decisions. This is the reason why those who flock together tend to have similarity in their preferences when it comes to purchase behaviours.

According to Social-nomics, 76% of clients now believe peer recommendations, whilst only 15% believe in advertising (Qualman, 2010). In addition, the European Union is very interested in the influence of sCommerce on financial system. Forrester reports that in 2017, Europeans spent more than 191 billion Euro on online retail goods and that the online retail industry will grow to outpace the offline retail industry (Gill et al., 2012). This market trend has shifted towards websites; online trade will become a serious part of the economy of many European countries. Today, sCommerce advertising is one of the primary growth factors in eCommerce business (Technavio, 2017). Studies show that the compound annual growth rate of sCommerce market will be about 34% by 2021 (Reportsnreports, 2017). This projection in our estimation may double because the outbreak of Covid-19 has made social media more acceptable as a way to relate safely among people. The implication is that more people will be easily influenced by their social media friends and associates and this will further enhance economic digitalization.

THEORIES AND MODELS OF SOCIAL COMMERCE

Liang and Turban Model

Liang and Turban (2011) proposed a framework for sCommerce to reduce the complexity and innovativeness of sCommerce, as according to the authors, it is essential to have a theoretical framework to establish applicable and appropriate knowledge in a consistent way that may be employed to guide investigators and practitioners. The framework of sCommerce is categorised into six main elements for classifying sCommerce research (Liang and Turban, 2011). See figure 1 for the said model.

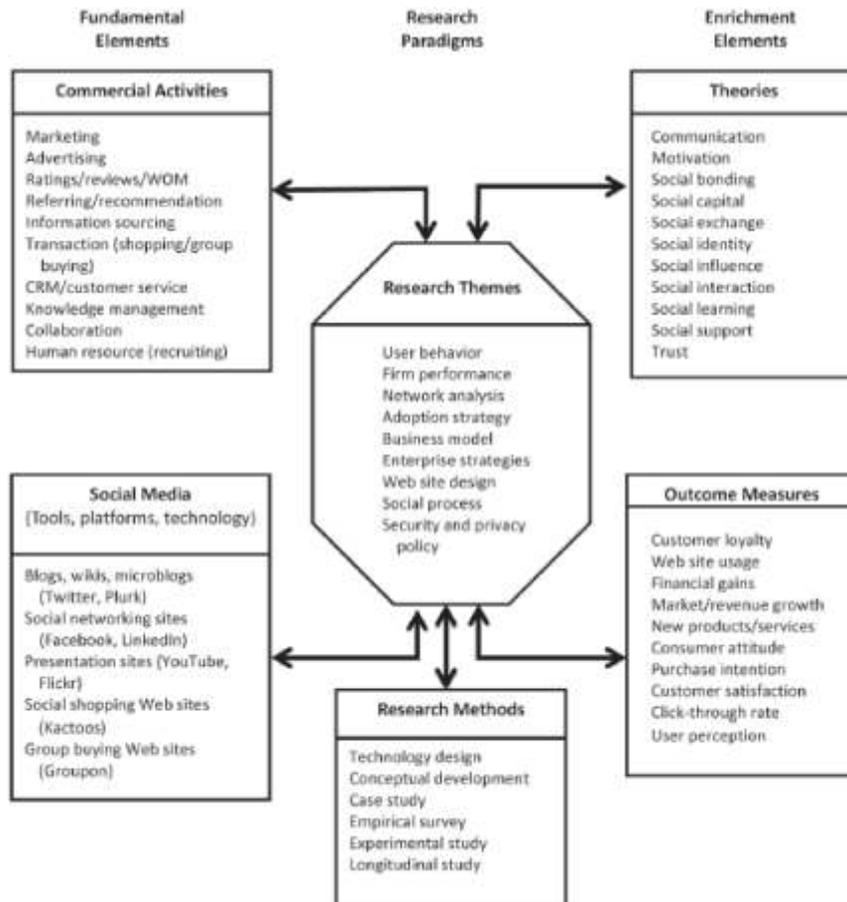


Figure 1: Framework for sCommerce Research (Liang and Turban, 2011)

Liang and Others Framework

Liang et al. (2011), proposed a research framework of what drives sCommerce. The authors identified five main constructs of sCommerce that are associated to the relationship viewpoint of sCommerce: research website quality, social support, sCommerce intention, relationship quality and continuance intention (which refers to loyalty) as is shown in Figure 3 (Liang et al., 2011). Based on the research facts—relationship social support, website quality and marketing paradigm elements of sCommerce—are enablers that improve association quality. The results of Liang et al.'s study may affect the decisions of researchers wishing to explore the area of sCommerce. (Liang et al., 2011). For the

determination of contrast, authors also examined the indirect and direct effects of social website quality and website support (Liang et al., 2011).

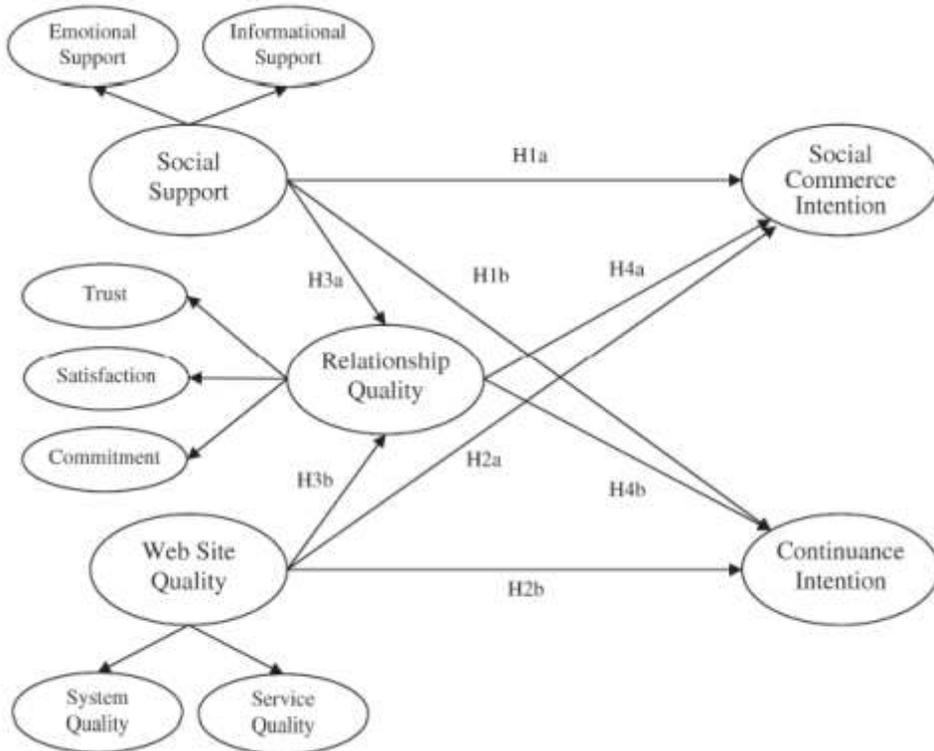


Figure 2: Research Framework of What Drives sCommerce (Liang et al., 2011)

Huang and Benyoucef Model

This sCommerce model is derived from the well accepted sCommerce model proposed by Fisher (Huang and Benyoucef, 2013). The authors identified three essential elements of social design, namely community, conversation and identity (Huang and Benyoucef, 2013). Features of sCommerce and eCommerce are captured in the model (Huang and Benyoucef, 2013). This proposed model of sCommerce—in the context of design—contains four different layers: commerce, individual, conversation, and community (Huang and Benyoucef, 2013).



Figure 3: Model of eCommerce to sCommerce (Huang and Benyoucef, 2013)

The findings showed that, for any electronic and sCommerce application of a website, it is necessary to attain a least a set of electronic and sCommerce design services and features (Huang and Benyoucef, 2013).

Yadav and Others Framework

Yadav et al. (2013), proposed a contingency framework for assessing marketing potential in the context of sCommerce. The framework has the following components (Yadav et al., 2013): first, companies' presence and creativities in computer mediated social environments. second, the results associated to customers' decision power that stem from the companies' attendance and creativities in computer mediated social environments (Yadav et al., 2013); and third, aspects that moderate the associations between the key predecessor outcomes and constructs. The framework design is based on two vital opinions: (1) computer mediated social environments offer possible value to customers in the procedure of knowledge that is eCommerce (Yadav et al., 2013); and (2) the companies' determination that is interrelated to computer mediated social environments can play a significant role in manipulating results associated to customer decision power, in regards to the strength of this approachable platform and product characteristics (Yadav et al., 2013). See figure 4.

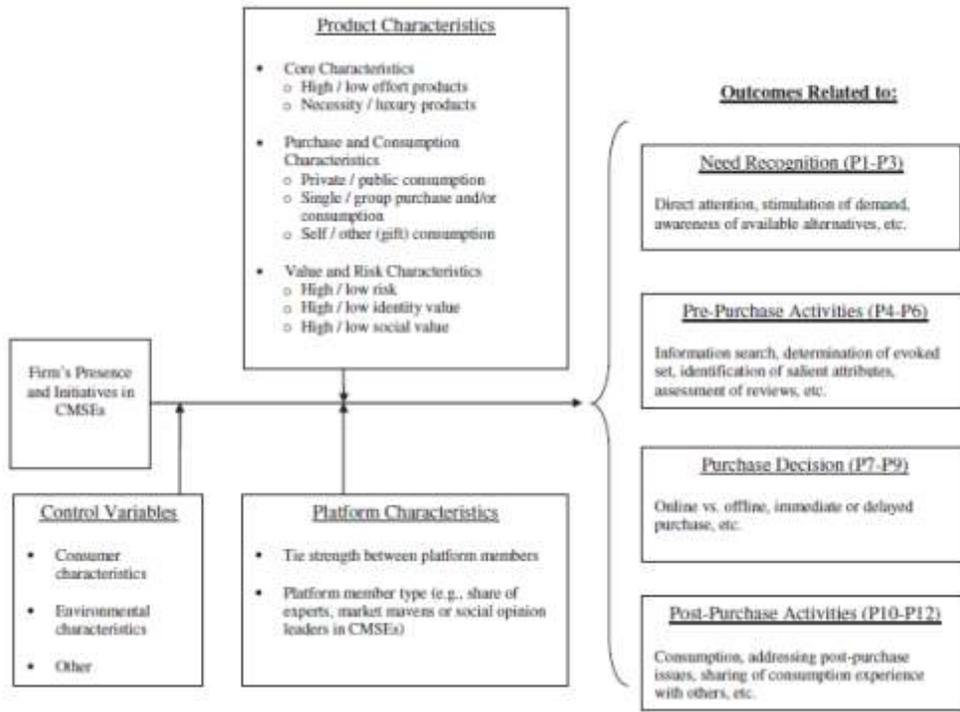


Figure 4: SCommerce: Contingency Framework for Assessing Marketing Potential (Yadav et al., 2013)

Other models that are relevant to social commerce research and practice include: Zhang and Curty Framework, Hajli's Model, Kim and Park Framework, all of the year 2013; for want of space, we cannot present them here.

CONCLUSION

Social commerce (SCommerce) is a buzzword that is trending among marketing and information systems scholars and practitioners. It represents a combo of e-commerce traditions that is enmeshed in the arena of social media -enabled socialization. Human relationship in today's world is almost taken away from face to face to online. Meaning that any business that desires to succeed today must have its presence in the online platforms where the bulk of activities have been shifted. This is why social commerce has become the way for businesses to go. With social commerce, goods and services are promoted and placed online;

potential buyers see them there and discuss with peers and associates to make decisions to buy or not to buy. Social commerce channels for operation is not limited to Facebook, but includes LinkedIn, Vine, WhatsApp, Facebook Messenger, Snap Chat, Instagram, Stumble Upon, Pinterest, Hoot Suites, YouTube among others. This is a big arena requiring more research because, the world cannot go back to where it came from, rather it will continue to tilt towards greater economic digitalization where more and more shall be achieved through the help of information and communication technologies (ITC). This is the dawn that has met us and that is the direction we shall leave for the next generations, where buying and selling shall have no other location but the cloud.

REFERENCES

- Akman, I. (2017). Factors influencing consumer intention in social commerce adoption. *Information Technology and People*, 30(2), 356-370.
- Al-Adwan, A. (2018). Novel research framework for social commerce purchase intention. *Journal of Theoretical and Applied Information Technology*, 96(14), 4390-4404.
- Al-Adwan, A., & Kokash, H. (2019). The driving forces of Facebook social commerce. *Journal of Theoretical and Applied Electronic Commerce Research*, 14(2), 15-32.
- Al-Adwan, A., Alrousan, M., Al-Soud, A., & Al-Yaseen, H. (2019). Revealing the black box of shifting from electronic commerce to mobile commerce: The case of Jordan. *Journal of Theoretical and Applied Electronic Commerce Research*, 14(1), 51-67.
- Bazaarvoice (2010). Social commerce statistics. Bazaarvoice. Retrieved October 2010, from <http://www.bazaarvoice.com/resources/stats>
- Castellacci F., Tveito V., (2018). Internet use and well-being: A survey and a theoretical framework. *Research Policy* 47(1), 23-34.
- Chen, L., & Wang, R. (2016). Trust development and transfer from electronic commerce to social commerce: An empirical investigation. *American Journal of Industrial and Business Management*, 6(5), 568-576.
- Curry, R. G. & Zhang P. (2011). Social commerce: Looking back and forward. *Proceedings of the American Society for Information Science and Technology (ASIST) Annual Conference*, October 9-13, 2011, New Orleans, LA, USA.
- Hajli, N., Sims, J., Zadeh, A., & Richard, O. (2017). A social commerce investigation of the role of trust in a social networking site on purchase intentions. *Journal of Business Research*, 71(1), 133-141.
- Harkin, F. (2007). The wisdom of crowds, Financial Times, October 19, 17.

- Hennig-Thurau, T., Gwinner, P., Walsh, G., & Gremler, D. (2004). Electronic word-of-mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the internet? *Journal of Interactive Marketing, 18*(1), 38–52
- Huang, Z., & Benyoucef, M. (2013). From e-commerce to social commerce: A close look at design features. *Electronic Commerce Research and Applications, 12*(4), 246-259.
- Hughes, J. K. (2010). Supplying web 2.0: An empirical investigation of the drivers of consumer transmutation of culture-oriented digital information goods. *Electronic Commerce Research and Applications 9*(5), 418–34
- Johnson, M. R., (2019). Inclusion and exclusion in the digital economy: disability and mental health as a live streamer on Twitch.tv. *Information, Communication & Society, 22*(4):23-34
- Khoury, M., Shen, X. & Shirmohammadi, S. (2008). Accessibility and scalability in collaborative e-commerce environments, *International Journal of Product Lifecycle Management 3*(2/3), 178–190.
- Li, D., Browne, J., & Wetherbe, C. (2006). Why do internet users stick with a specific web site? A relationship perspective. *International Journal of Electronic Commerce, 10*(4), 105-141.
- Liang, T.P., Ho, Y. T., Li, Y., & Turban, E. (2011). What drives social commerce: The role of social support and relationship quality, *International Journal of Electronic Commerce 16*(2), 69–90.
- Marsden P. (2009). How social commerce work—social psychology by social shopping. <http://socialcommercetoday.com/how-social-commerce-works-the-social-psychology-of-social-shopping/> (visited December 5, 2011)
- Nagy S., (2019). Digital economy and society: A cross country comparison of Hungary and Ukraine, *Visnyk Natsionalnogo Tekhichnogo Universytetu Kharkivskyj Politekhnichnyj Instytut Ekonomichni Nauky, 46*(12), 26-47.
- O'Reilly, T. (2005). What is Web 2.0? O'Reillynet.com. Retrieved October 2010, <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/wh-at-isweb->
- Peshkova, G. Y., & Samarina, A. Y. (2018). Digital economy and recruitment potential: strategical interconnection and prospects. *The Education and Science Journal, 20*(10), 22-36

- Pradhan R. P., Arvin M. B., Nair M., & Bennett S.E., Bahmani S. (2019). Short-term and long-term dynamics of venture capital and economic growth in a digital economy: A study of European countries. *Technology in Society*, 57(7):212-334.
- Quinton S., Canhoto A., Molinillo S., Pera R., & Budhathoki T.,(2018). Conceptualising a digital orientation: antecedents of supporting SME performance in the digital economy. *Journal of Strategic Marketing*, 26(5), 26-35.
- Shereen, M. A. & Siddique, R. (2020). Covid-19 infection: Origin, transmission and characteristics of human corona viruses. *Journal of Advanced Research*, 24, 91-98.
- Statista (2017a). Retail e-Commerce market volume in Southeast Asia in 2019 and 2025, Statista, New York, N Y. <https://www.statista.com/statistics/647645/southeast-asia-ecommerce-market-size-country/>
- Statista (2017b). Retail e-Commerce sales in BRIC Countries from 2015 to 2021, Statista, New York, N Y. <https://www.statista.com/statistics/255268/bric-b2c-e-commerce-sales/>
- Wang, Y. & Hajli, N. (2015). Co-creating brand value through social commerce handbook of research on integrating social media into strategic marketing, IGI Global, 17-34.
- Yadav, M. S., De Valck, K., Hennig-Thurau, T., Hoffman, D.L. & Spann, M. (2013). Social commerce: A contingency framework for assessing marketing potential, *Journal of Interactive Marketing*, 27(4), 311-323.
- Youcef, B. (2013). From e-commerce to social commerce: A framework to guide enabling cloud computing. *Journal of theoretical and applied electronic commerce research* 8(3), 1-18.