Social Commerce:
A Bibliometric Analysis and Future Research Directions

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ABSTRACT

The present study performs the bibliometric analysis of the social commerce (s-commerce) literature, highlights the major research themes, and suggests future research directions. The HistCite software has been used for bibliometric analysis on a sample of 660 s-commerce papers obtained from the ISI Web of Science database. This study analyses these papers to present the details about the influential journals, authors, and universities regarding s-commerce research. The following research themes have been identified based on the content analysis as well as citation mapping of the top-cited 53 s-commerce papers: 1) S-Commerce – Purchase Intention, 2) S-Commerce – Sharing Intention, 3) Social Media – Marketing and Consumer Engagement, 4) S-Commerce – User Preferences and Concerns. Subsequently, a multi-dimensional conceptual model has been developed to highlight the coupling and flow between s-commerce growth drivers, practice indicators, and performance metrics. Finally, future research directions have been recommended.

KEYWORDS

Bibliometric Analysis, Customer-Level Orientation, S-Commerce, Social Buying, Social Commerce, Social Sharing, Social Media Marketing, Technology Interface and Security

1. INTRODUCTION

During the early years of the 21st century, the advancements in Information and Communication Technologies (ICTs), Web 2.0 technologies, and Social Networking Sites (SNSs) led to the social commerce (s-commerce) phenomenon (Hajli and Sims, 2015). S-commerce can be defined as *"exchange-related activities that occur in, or are influenced by, an individual's social network in*

computer-mediated social environments, where the activities correspond to the need recognition, pre-purchase, purchase, and post-purchase stages of a focal exchange" (Yadav, De Valck, Hennig-Thurau, Hoffman, & Spann, 2013). It is a subset of electronic commerce (e-commerce), which makes use of Web 2.0 technologies and SNSs to support the interaction among people in an online context (Hajli, 2015; Hajli and Sims, 2015; Hajli, Sims, Zadeh, and Richard, 2016; Lu, Fan and Zhou, 2015). It is conceptualized on social media platforms such as Facebook, Twitter, Whatsapp, and Instagram where content is generated by the community of online users (Hajli, Sims, Zadeh, and Richard, 2016). Thus, s-commerce signifies a shift in consumer's thinking and decision-making from individual consumption-based orientation to collaborative, interactive, and social shopping decisions (Chen and Shen, 2015; Halawani, Soh, and Halawani, 2020). The growth of s-commerce has resulted in new business models making use of Web 2.0 technologies and online communities (Hajli, 2015). During the 21st century, s-commerce has gained increasing significance and acceptance across the diverse industries in manufacturing and service sectors (Halawani, Soh, and Halawani, 2020; Vatanasakdakul, Aoun, and Putra, 2020). Many companies build their presence on popular SNSs such as Instagram and Facebook to promote their products and services through these social media channels for the online communities (Hajli and Sims, 2015). Further, these companies encourage their consumers to share the online reviews on their pages, which leads to further growth of business volumes (Liu, and Du, 2019; Hajli et al., 2016; Hajli & Sims, 2015). From the consumer perspective, s-commerce platforms have resulted in ease of access to information about the specific product or service or brand in the form of online reviews and comments as well as making online deals or purchases (Liu, and Du, 2019; Zhang, Tian, and He, 2019).

During 2011-2015, there has been a phenomenal growth in the s-commerce market size. It has increased by six times from USD 5 billion in 2011 to USD 30 billion in 2015 (Statistica, 2021). It is further projected to grow beyond USD 604.5 billion by 2027, which amounts to a CAGR of 31.4% during 2020-27 (R&M, Aug 2020). During the sharp rise of COVID-19 pandemic and social distancing guidelines, s-commerce has shown a rapid expansion on yearly basis with online transactions showing an increase of 74% in March 2020 as compared to the same time in the previous year (Ioannou, 2020). Since 2010, the rapid growth in the s-commerce market size has pushed the interest of the research community as well, especially in the context of understanding the user perceptions, preferences, and behavior towards s-commerce systems in terms of online purchase behaviour and/or electronic word of mouth (eWOM) intention (Huang and Benyoucef, 2015, 2017; Zhao, Fang, Zhang, and Jiang, 2020; Rouibah, Al-Qirim, and Hwang, 2021; Sohaib, 2021). During the same period, the number of s-commerce research publications has increased phenomenally thereby showcasing the growing interest among researchers towards s-commerce. Thereby, it becomes useful to apply the knowledge synthesis approach comprising the detailed review and analysis of the published s-commerce research papers. The thought process behind this rationale involves the argument made by Low and MacMillan (1988) who argued that as a researcher it is important to stop occasionally, look at the existing nature and context of the work in a specific research area, and identify new challenges and directions for the future. As of 2021, there are few published literature review studies in the context of s-commerce. Most of these studies have focused on the systematic review of s-commerce research papers. However, in our view, there are other important review techniques such as meta-analysis and bibliometric citation analysis, which have been widely used in different research areas. These techniques can provide complementary insights regarding the evolution of any research area. Based on the review of available s-commerce research literature in the Web of Science (WoS) database, there is no available review paper in the context of s-commerce that has used bibliometric citation analysis. This has motivated us to conduct a detailed review of the s-commerce research papers using the bibliometric analysis technique.

Based on the above-mentioned background, it becomes significant to look at the growth as well as current and future trends in s-commerce. This study applies the bibliometric citation analysis as

well as content analysis on the top-cited s-commerce papers (White and Griffith, 1981) primarily to answer the following research questions:

RQ1: Which are the prominent journals, research or academic institutions, countries, and researchers involved in s-commerce research?
RQ2: What are the key research themes in s-commerce research?
RQ3: What kind of integrated conceptual framework can be derived from the primary growth drivers, related practices, and major performance metrics related to s-commerce? How does the integrated conceptual framework drive the future of s-commerce as a research area?
RQ4: What are the future research directions for s-commerce?

This study identifies the key research themes by applying content analysis and citation mapping on the s-commerce research papers. Second, a multi-dimensional integrated framework is proposed that comprises s-commerce growth drivers, related practices, and performance metrics. Third, the detailed literature review uncovers prominent s-commerce adoption and engagement themes related to consumer behavior and online purchase intention as well as marketing models and frameworks. Finally, this study provides concrete directions for future research.

The present study has been organized as follows: Section 2 analyses the s-commerce literature review papers and underlines the significance and complementarity of the present study amidst the existing literature review papers. Section 3 focuses on the research methodology used in this paper. Section 4 provides the descriptive analysis of s-commerce papers, while section 5 undertakes the citation mapping of those papers and elaborates the emergent research themes. Section 6 highlights a multi-dimensional integrated model comprising s-commerce adoption and engagement drivers, practices, and performance measures. Finally, Section 7, 8, and 9 presents future research directions, conclusions, and research limitations of this study.

2. EXISTING LITERATURE REVIEWS

There are eight literature review articles in the context of s-commerce, which got published between 2016-2019. Refer to Table 1 for an overview of the s-commerce review studies. All these review articles have been published among the top-ranked journals in the Information Systems area and have focused on the systematic review of the s-commerce or social media related articles, the majority of which got published from 2004 to 2017.

While looking at the key ideas (Refer to Table 1) explored by each of these literature review articles, the majority of the review articles have undertaken the systematic review in the context of the s-commerce definition, models, frameworks, typologies, technologies involved, technical features like website design and usability, as well as have postulated the recommended research directions in the future (Baethge, Klier and Klier, 2016; Busalim, 2016; Esmaeili and Hashemi, 2019; Han et al., 2018; Lin, Li and Wang, 2017).

Another set of key ideas explored in the literature review articles involved studying the consumer behavior towards social networking sites (Zhang and Benyoucef, 2016); as well as studying the significance of social media and e-WOM in influencing the adoption behavior of the users (Alalwan et al., 2017; Alves et al., 2016).

There is no known s-commerce study, which has used the bibliometric technique as a review methodology. Considering the sharp increase in the number of publications of s-commerce papers, a review of existing s-commerce papers by making use of the bibliometric technique can add value and complement the existing research literature.

The subsequent details in this section will elaborate the study of key ideas by the review articles in a more detailed manner.

Table 1. Literature Review Studies (2016-2019)

Authors	Journal	Year	Review Type	Time frame	Number of Articles	Search Keywords	Databases Used	Key Ideas
Esmaeili and Hashemi (2019)	JSM	2019	Systematic Review	2004-2013	136	social commerce	Google Scholar, ECRA and IJEC journals	Reviews s-commerce articles in the context of definitions, differences, types and technologies, theories, methodologies, and key research themes especially linked to consumer behaviour, s-commerce adoption, and system/website design
Han et al. (2018)	ECRA	2018	Systematic Review	2006-2017	407	social commerce	Emerald, Elsevier, Wiley, Springer, EBSCOhost, Scopus, ScienceDirect, Inderscience, Google Scholar, IEEE Xplore, ProQuest, and Sage	Reviews s-commerce articles in the context of definitions, models, frameworks, types, technologies involved, challenges and benefits as well as future research themes
Alalwan et al. (2017)	T&I	2017	Concept-driven systematic review	Till 2017	144	marketing along with social media, marketing and Web 0.2, customers along with social media, social media marketing, and social media and branding	ScienceDirect, Emerald insight, EBSCO, and Google scholar	Reviews the studies linked to social media and marketing. Explores themes like impact of eWOM in influencing user's online behaviour, significance of social media in advertising and branding as well as customers' relationship management
Lin, Li and Wang (2017)	IJIM	2017	Systematic Review	Till 2017	418	social media, social networking, online community, online forum, web 2.0	Business Source Elite database from EBSCO Host	Identify major themes and topics of s-commerce research like corporate reputation, innovation, online reviews, trust, eWOM, and user-generated content
Alves et al. (2016)	P&M	2016	Systematic Review	Till 2016	44	social media marketing	Web of Sciences	Reviews articles related to social media marketing especially for understanding its influence on user's perception and decision making towards online usage and sharing
Baethge, Klier and Klier (2016)	EM	2016	Systematic Review	Jan 2007-Dec 2014	116	Different combinations of social commerce, social web, electronic commerce, social media, social shopping	ACM Digital Library, EBSCOhost, ProQuest, EconLit, WILEY, ScienceDirect	To review the interplay of electronic commerce and social media. Reviews s-commerce articles in the context of current state of research and promising research areas in the future.
Busalim (2016)	IJIM	2016	Systematic Review	2010-2015	110	social commerce, social e-commerce, social electronic commerce, SC	ScienceDirect, Scopus, Springer, IEEE Explorer, ACM Digital Library, ISI Web of Knowledge, AIS e-library	Reviews s-commerce articles in terms of evolution, definitions, theories, methods, and key research themes.
Zhang and Benyoucef (2016)	DSS	2016	Systematic Review	2010-2015	77	social networking sites, social commerce, Facebook commerce, social shopping, and social media marketing	Web of Science, Business Source Premier, Science Direct, ABI/INFORM Global (ProQuest), Emerald, and Wiley Online Library	Reviews the behaviour of consumers on SNSs

Baethge et al. (2016) focused on understanding the interplay between e-commerce and social media as well as identifying the future research themes and directions. During the same period, Busalim (2016) elaborated the conceptual understanding of s-commerce in terms of definitions, comparison with e-commerce, characteristics, activities, and key research themes. Busalim (2016) further provided the mind map of the s-commerce themes such as business models, user behavior, website design,

social process network analysis, and firm performance. Similarly, Han et al. (2018) delineated various facets of s-commerce such as definitions, underlying technologies, challenges, benefits, theories, underlying models, and methodologies to develop the s-commerce taxonomy. Further, Esmaeili and Hashemi (2019) assessed the definition, context, evolution, theories, and methodologies by using the 5W (What, When, Where, Who, and Why) model, and highlighted the key research themes related to customer behavior, s-commerce website design, and s-commerce adoption. Finally, Lin et al. (2017) identified the major s-commerce research themes related to innovation, corporate reputation, user-generated content, online review, trust, and eWOM.

There are other published review studies, which analyzed the role of s-commerce in determining the advertising strategy or influencing consumer behavior. Zhang and Benyoucef (2016) undertook a systematic literature review to determine how consumers behave on SNSs. They proposed an integrated framework for understanding consumer behavior based on the Stimulus-Organism-Response (SOR) model and a five-stage consumer decision-making process. Similarly, Alalwan et al. (2017) identified seven major themes linked to social media, marketing, and consumer behavior. Five of these themes were related to understanding the influence of social media applications on advertising, eWOM, customer relationship management (CRM), the firm's branding, and organizational performance. Another important theme involved understanding the consumer attitude, buying behavior, and perception towards social media applications. Finally, Alalwan et al. (2017) found customer acceptance of social media applications as another key theme. In contrast, Alves et al. (2016) undertook the focused analysis of s-commerce papers specifically related to social media marketing.

3. RESEARCH METHODOLOGY

The research approach involved undertaking the bibliometric citation analysis on a set of 660 s-commerce research papers to address RQ1. These 660 s-commerce papers were selected from the ISI Web of Science database and carried 28,052 global cited references. To address RQ2, content analysis and citation mapping were undertaken on the top-cited s-commerce papers. This was followed by the application of the knowledge synthesis approach for forming a multi-dimensional conceptual framework for RQ3. Finally, RQ4 was addressed by identifying and reviewing ten s-commerce research papers with the highest locally cited references (LCR).

The present study applied quantitative and qualitative research techniques to review the literature. Quantitatively, it used the bibliometric analysis method which is useful for creating the intellectual structure in an area of research (Garfield, 1979). Qualitatively, content analysis of highly cited research studies was performed to categorize the literature into different themes.

Bibliometric analysis performs the statistical examination of citations of the published research papers to evaluate their impact. This method is based on the notion that citations are the reliable illustration of the influence of various published research papers or researchers in a specific research area (Small, 1973; Garfield, 1979; Culnan et al., 1990). Though several factors (e.g., negative citations or availability of research papers) may impact the citation count, they alone can examine the efficacy of a published research paper (Garfield, 1979; Culnan, 1986). Moreover, negative citations are scarce in number (Case and Higgins, 2000).

Bibliometric analysis helps in demonstrating the interconnections among research studies by examining how frequently a study has been cited by other studies (Kim and McMillan, 2008; Shah et al., 2019). Assessment of large datasets in bibliometric analysis results in a citation map that deftly depicts a research area. It facilitates the scholars to achieve an in-depth view of the structure of the research area field (Zupic and Cater, 2015). The present study used the HistCite software for performing bibliometric citation analysis as it is considered a robust tool for performing the systematic literature review (Shah et al., 2019). HistCite is free software that generates the chronological tables of the most influential institutions, journals, authors, and counties (Tho et al., 2017; Thelwall, 2008). It also highlights the highly cited papers and sketches the visualization graph of citations (Thelwall, 2008;

Garfield, 2009). Hence, HistCite had extensively been used by many management studies (Goyal et al., 2020; Fetscherin and Heinrich, 2015).

The research papers depicting the node of the citation map generated by HistCite were examined through content analysis. Content analysis is an extensively used qualitative research approach. The analysis of the content of published research papers gives the idea regarding the popular research streams for an area of research (Hsieh and Shannon, 2005). As per Neuendorf (2002), content analysis helps to identify, assess, and formulate emergent themes or trends about a specific research context. However, the content analysis adds value and leads to consistent outcomes or findings only when multiple researchers are involved in doing the same (Duriau et al., 2007). Taking that into consideration, all the authors of the present study undertook the systematic review of the selected 53 s-commerce papers individually and then held the discussions and multiple iterations to converge on the key research themes.

This study used the ISI WoS database, a key database for collecting data from top journals for academic research. The same database had previously been used by various bibliometric reviews (Goyal et al., 2020; Fetscherin and Heinrich, 2015). The following steps illustrate the process of data collection:

1. The Boolean OR operator was used to extract the research papers on s-commerce by applying the following combination in the ISI WoS database:

"social commerce" OR "Facebook commerce" OR "social shopping" OR "social media marketing" OR "social e-commerce" OR "social electronic commerce" OR "collaborative commerce" OR "collaborative shopping" OR "social commerce" OR "c-commerce"

The search was restricted to the topic (including title, keywords, and abstract), English language, and document type (articles).

2. The titles, keywords, and abstracts of the research papers were thoroughly examined for their applicability. As a result, 660 research papers were selected for further pursuit.
3. Title, name, and affiliation of the author(s), journal information (name, abstract, publication year, and cited references) were extracted from 660 research papers to conduct the bibliometric analysis.

Figure 1 presents the research methodology including the process for selecting the final count of 53 research articles having TLC >= 10. These articles were used for undertaking the citation, content and thematic analysis.

The HistCite software formed the interconnections among the research papers based on the frequency with which a research paper had been cited and co-cited by upcoming research papers. Citation analysis helps in identifying the leading research papers in an area of research and discovering the linkages among them (Gundolf and Filser, 2013; Culnan et al., 1990). The value of a research paper is signified by the total citations it has received. A very well-cited research paper contributes remarkably to an area of research (Yue and Wilson, 2004). Furthermore, the co-citation analysis investigates how many times the two research papers published earlier are cited together by the future research papers (Small, 1973). Co-citation analysis assumes that if two research papers are cited together continually, they may be closely related to each other and hence may fit in the same area of research (van Raan, 2012).

For further assessing the influence of different journals, they are divided into four quadrants as depicted in Figure 3. These four quadrants are as follows: Quadrant 1 involves a major focus on s-commerce and major impact. Quadrant 2 relates to a major focus on s-commerce and minor impact.
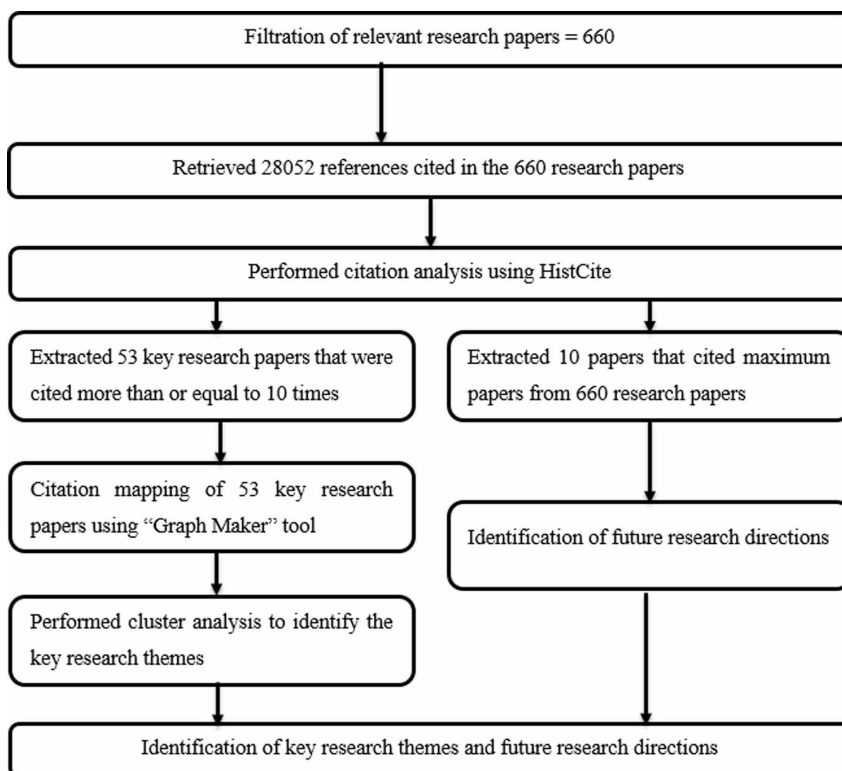
Figure 1. Research Methodology

Figure 2. Total Articles Published and Citations. Note: TLC = Total Local Citations; TGC = Total Global Citations
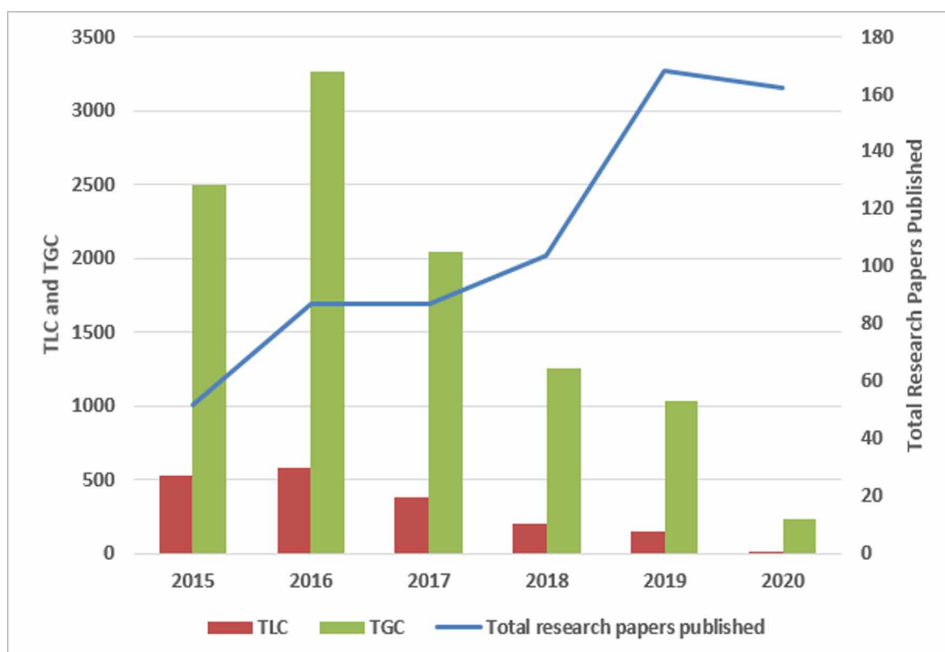
Figure 3. Focus and Impact of Journals in the Area of S-commerce Research. (Journal Name and Abbreviation) Asia Pacific Journal of Marketing and Logistics (APJML), Business Horizons (BH), Computers in Human Behavior (CHB), Decision Support Systems (DSS), Electronic Commerce Research (ECR), Electronic Commerce Research and Applications (ECRA), Electronic Markets (EM), Industrial Management & Data Systems (IMDS), Information & Management (IM), Information Systems (IS), Information Technology & People (ITP), International Journal of Information Management (IJIM), Internet Research (IR), Journal of Business Research (JBR), Journal of Research in Interactive Marketing (JRIM), Journal of Retailing and Consumer Services (JRCS), Online Information Review (OIR), Psychology & Marketing (PM), Technological Forecasting and Social Change (TFSC), Telematics and Informatics (TI). Note: TLC = Total Local Citations
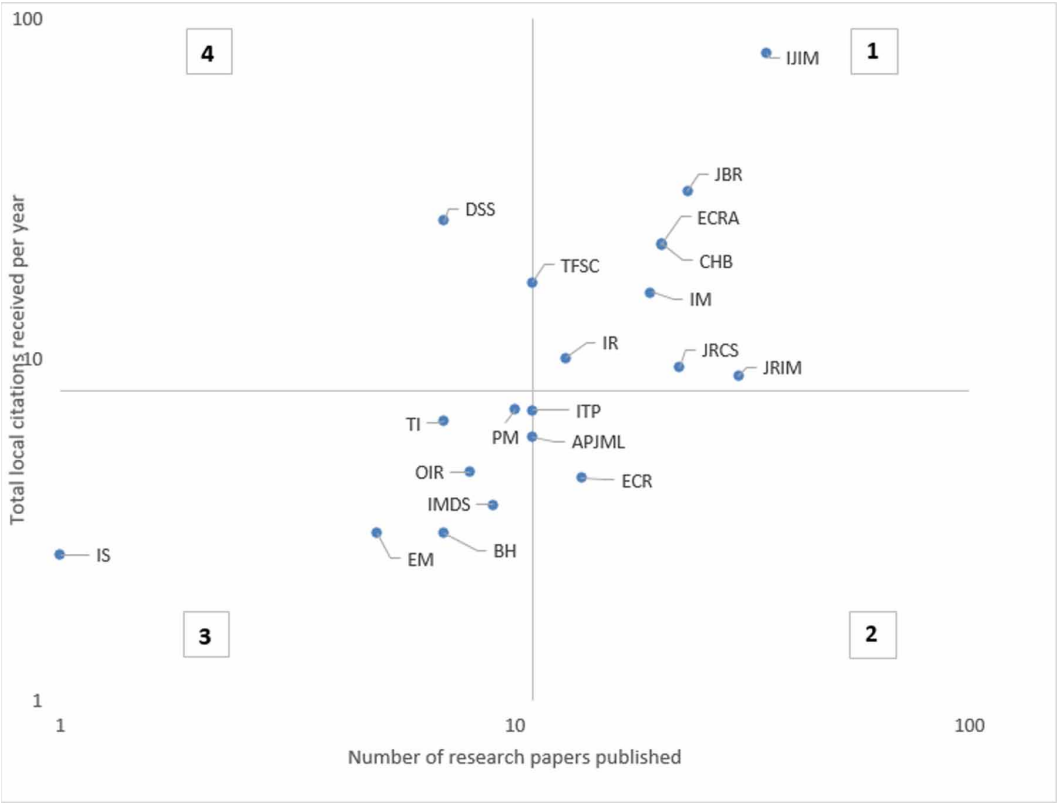

Quadrant 3 involves a minor focus on s-commerce and minor impact. Finally, Quadrant 4 relates to a minor focus on s-commerce and major impact. For preparing the graph, the top 20 journals based on TLC/t were taken into consideration. TLC/t was charted on the horizontal axis and the total number of research papers published was charted on the vertical axis. The total count of research papers published acted as the indicator of the journals' focus on s-commerce, while TLC/t indicated the impact of the journal. In Figure 3, the line sketched parallel to the vertical axis is the median of the total number of research papers published, i.e., 11, while the line drawn parallel to the horizontal axis is the median of TLC/t, i.e., 8.065. Among the 20 journals, 8 journals - IJIM, JBR, CHB, ECRA, IM, IR, JRCS, and JRIM are placed in quadrant 1, with a higher value of the total number of research papers published and TLC/t than their median values.

Figure 4 indicates that based on the total count of research papers, the University of Science and Technology of China is at the top with fifteen research papers, while Newcastle University is at the top based on TLC. Table 2 lists the leading researchers based on the total count of research papers published and TLC.

Interestingly, the USA tops the listing of countries with 196 s-commerce research publications followed by China (179 papers), the UK (75 papers), Taiwan (44 papers), and Australia (38 papers)

Figure 4. Leading Institutes in S-commerce Research

Note: TLC = Total Local Citations
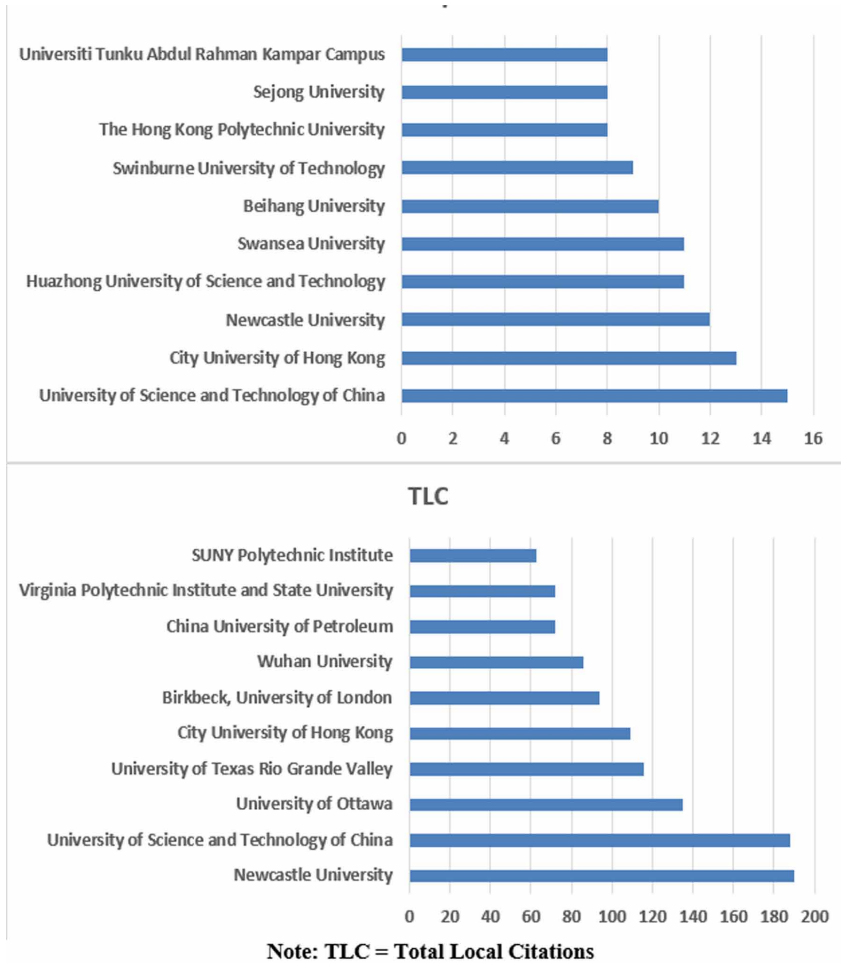
(see Figure 5). The highest numbers of s-commerce research publications for the USA and China seem to have a strong correlation with the emergence of the biggest s-commerce platforms from these two countries.

Next, the top ten research papers that cited most of the research papers from the sample of 660, i.e., the research papers with highest LCR were identified and presented in Figure 6. For underlining the evolving and trending issues in s-commerce research, several future research directions are uncovered based on the detailed analysis of these top ten research papers and have been provided in the future research directions section of the present study.

4. DESCRIPTIVE ANALYSIS

Figure 2 elaborates year-wise descriptive analysis of research papers along with their local and global citations. The line graph shown on the secondary axis exhibits the total count of published research papers. However, the primary axis signifies the total global citations (TGC) and total local citations (TLC). TLC signifies the total count of citations acquired by the research papers published in a particular year from the sample of 660 research papers. TGC indicates the total count of citations

Table 2. Leading S-commerce Researchers

Ranked by TLC		TLC	Ranked by Total Research Papers Published		TLC
Author	Total Research Papers Published		Author	Total Research Papers Published	
Hajli N	12	242	Hajli N	12	242
Benyoucef M	4	135	Liu S	7	3
Sims J	2	94	Leong LY	6	19
Zhang KZK	4	94	Lu YB	6	46
Shen XL	3	79	Sun Y	6	11
Chen J	2	72	Turel O	6	33
Fan WG	2	72	Wang YC	6	47
Lu BZ	2	72	Herrando C	5	21
Richard MO	2	63	Jimenez-Martinez J	5	9
Zhou M	1	62	Jin SV	5	4

Figure 5. Leading countries in S-commerce Research. Note: LCR = Local Cited References
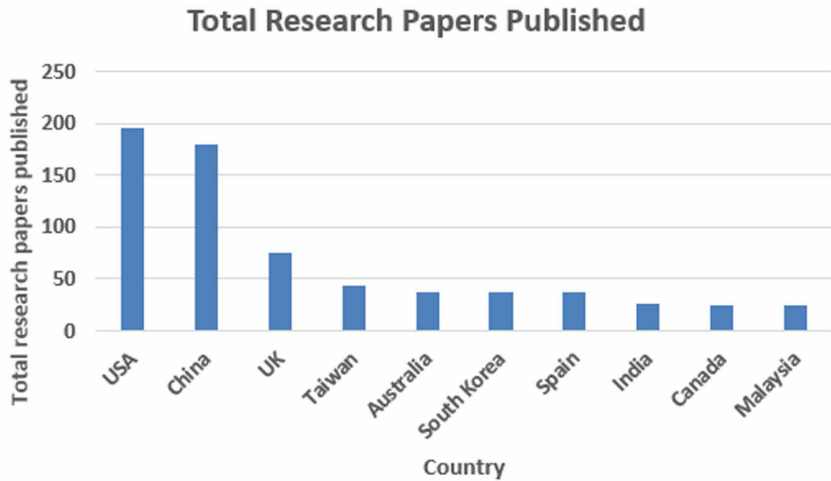

acquired by the research papers published in a particular year from the entire ISI WoS database. Overall, there seems to be a rising research interest towards s-commerce, but there has been a sharp increase in 2019. Maximum TLC and TGC were acquired in 2016. Research papers published in 2020 have not attained many citations because papers take time to build some influence after their publication.

4.1 Citation Mapping and Content Analysis

Citation mapping has been carried out to look at and understand the evolution of s-commerce as a research area. "Graph Maker" tool of the HistCite software was used to demonstrate the citations and the cross-referencing among the 53 s-commerce papers. This tool enables the identification of important research themes in a chosen research context. The chosen 53 s-commerce studies for citation mapping involves those research papers, which had a TLC of at least 10. This decision was taken to

Figure 6. Articles with highest LCR
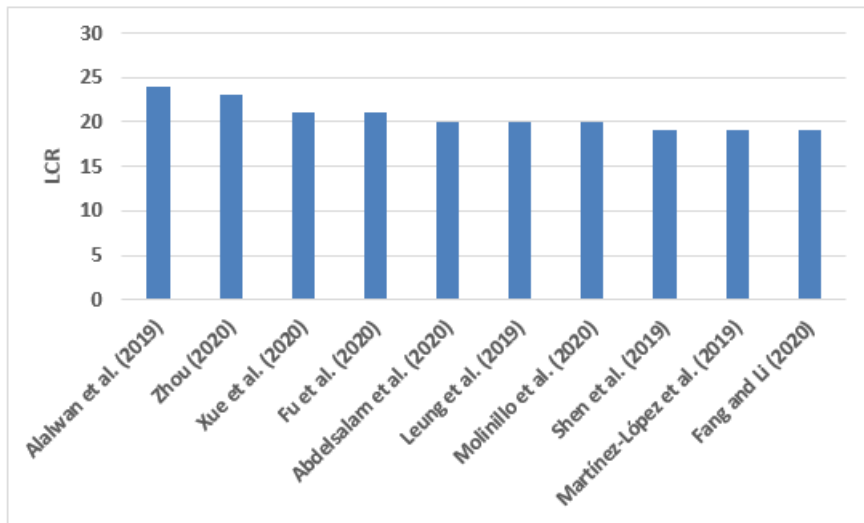
ensure the effectiveness and simplicity of this study by looking at the papers with a two-digit TLC value. Figure 7 demonstrates the citation mapping of 53 s-commerce research papers. In this figure, the vertical axis denotes the year of publication and nodes signify the 53 s-commerce research papers. The numeric value in each node indicates the record number from the initial set of 660 s-commerce papers, which had been selected or fetched from the ISI WoS database.
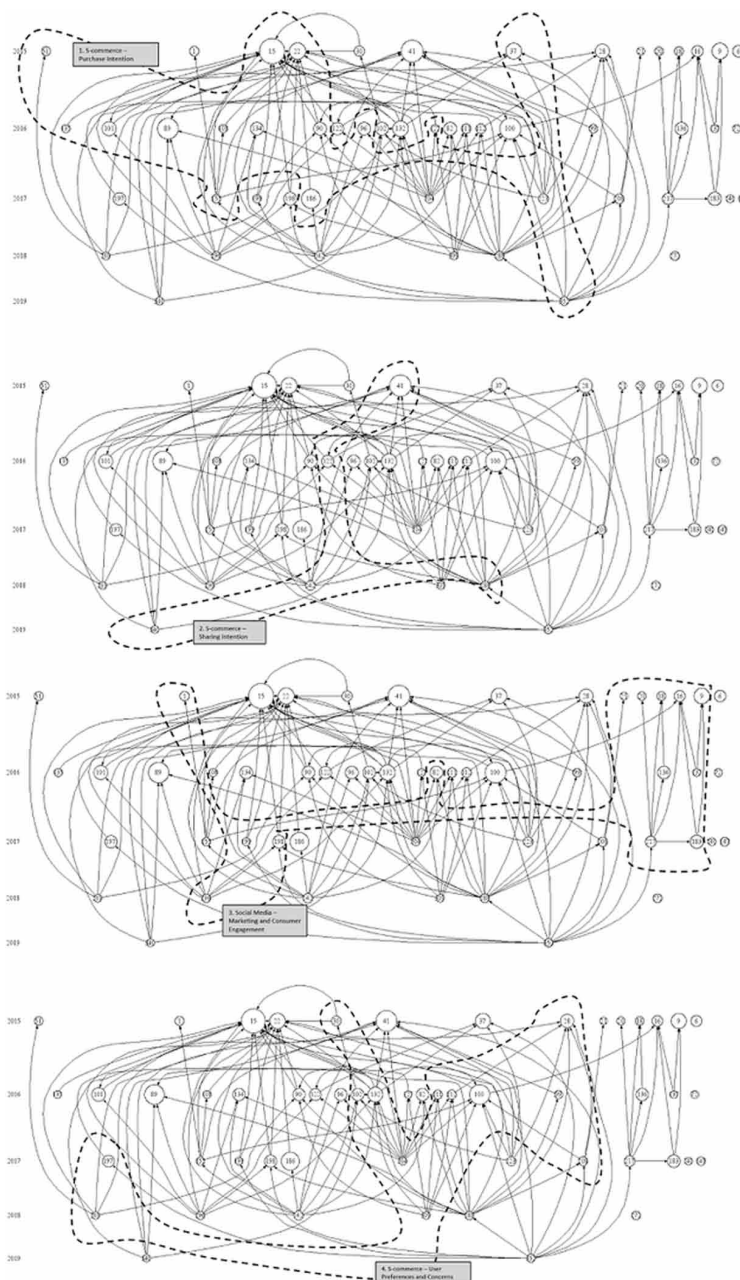
Citation mapping was followed by the content analysis of the 53 s-commerce papers. As recommended by Salipante et al. (1982), we have incorporated the creation of a concept matrix during the content analysis phase. This involved the recording of the details in an iterative manner related to authors, title, year of publication, keywords, research objectives, research methodology, and research themes, as well as documenting the key findings from the 53 s-commerce papers. Finally, the following research themes were identified from the content analysis of the s-commerce papers: 1) S-commerce – Purchase Intention, 2) S-commerce – Sharing Intention, 3) Social Media – Marketing and Consumer Engagement, 4) S-commerce – User Preferences and Concerns. The following section elaborates the key research themes evident from the content analysis of the papers listed in Figure 7.

4.2 S-Commerce – Purchase Intention

The content analysis of s-commerce papers indicates that there is an increasing focus among the researchers towards understanding different constructs and attributes, which trigger the online purchase intention of the consumers. This research theme is dominant as 16 out of the 53 papers were related to it. These papers have identified, proposed, reviewed, and articulated the relationship between different combinations of constructs and purchase intention among the users. The subsequent review, mapping, and categorization of these constructs present the following groups or categories of inter-dependent or similar attributes: s-commerce constructs, social support, trust, technology and social presence, user traits and peculiarities, and user perceptions. Table 3 highlights the list of different constructs influencing purchase intention based on the s-commerce papers.

Social Commerce Constructs is identified as one of the key categories, which influences consumer's intention to purchase online (Hajli, 2015; Hajli and Sims, 2015). This category comprises constructs that are derived through s-commerce such as recommendations and referrals; online forums and communities; ratings, and reviews (Hajli and Sims, 2015). These constructs produce

Figure 7. Citation Mapping of 53 Key S-Commerce Related Articles Note: These Node IDs (1., 132., 352. and so on) were auto-generated by the HistCite Bibliometric Analysis software during citation mapping of the s-commerce articles included in the sample. (Node, Article) [1.] Shi and Chow (2015), 6. Luarn et al. (2015), 9. Ashley and Tuten (2015), 15. Hajli (2015), 16. Chang et al. (2015), 18. Zhu and Chen (2015), 20. Leung et al. (2015), 21. Yang et al. (2015), 22. Hajli and Sims (2015), 28. Huang and Benyoucef (2015), 30. Hajli et al. (2015), 37. Bai et al. (2015), 41. Chen and Shen (2015), 51. Kang and Johnson (2015), 72. Barger et al. (2016), 82. Zhang et al. (2016), 89. Lu et al. (2016), 90. Chen et al. (2016), 96. Liu et al. (2016), 99. Hew et al. (2016), 100. Zhang and Benyoucef (2016), 101. Xiang et al. (2016), 102. Shanmugam et al. (2016), 108. Sun et al. (2016), 111. Baethge et al. (2016), 112. Baghdadi (2016), 122. Liu et al. (2016), 127. Lu et al. (2016), 132. Busalim and Hussin (2016), 134. Hu et al. (2016), 135. Featherman and Hajli (2016), 136. Godey et al. (2016), 137. Alves et al. (2016), 140. Ismail (2017), 147. Akman and Mishra (2017), 155. Farivar et al. (2017), 183. Felix et al. (2017), 186. Hajli et al. (2017), 197. Wang and Yu (2017), 198. Lin et al. (2017), 199. Ahmad and Laroche (2017), 204. Lin et al. (2017), 208. Huang and Benyoucef (2017), 217. Alalwan et al. (2017), 223. Chen et al. (2017), 242. Lin et al. (2018), 269. Leong et al. (2018), 272. Gibreel et al. (2018), 288. Ko (2018), 296. Kim and Kim (2018), 309. Han et al. (2018), 340. Sharma et al. (2019), 352. Wang and Herrando (2019).

Table 3. S-commerce – Purchase Intention

Category	Constructs	References
S-commerce constructs	Recommendation and Referral	Chen et al. (2016); Chen et al. (2017); Hajli and Sims (2015); Sun et al. (2016)
	Forums and Communities	
	Ratings & Likes/Dislikes	
Social support	Emotional	Bai et al. (2015); Hajli and Sims (2015); Sun et al. (2016)
	Informational	
Trust	Website	Farivar et al. (2017); Gibreel et al. (2018); Hajli (2015); Lu et al. (2016a, 2016b); Hajli et al. (2017); Hu et al. (2016); Wang and Herrando (2019)
	Sellers	
	Members	
	Marketplace	
Technology-enabled social presence	Visual Appeal	Xiang et al. (2016)
	Information Quality	Chen et al. (2016); Xiang et al. (2016)
	Social Presence on Web	Hajli et al. (2017); Lu et al. (2016a, 2016b)
	Word of Mouth	Gibreel et al. (2018); Wang and Herrando (2019)
User traits and peculiarities	Personality Traits	Kang and Johnson (2015)
	Psychographic Characteristics	Kang and Johnson (2015)
	Habit	Farivar et al. (2017)
	Impulsiveness	Chen at al. (2016)
	Gratification	Kang and Johnson (2015)
User perceptions	Perceived Enjoyment	Akman and Mishra (2017); Xiang et al. (2016)
	Perceived Usefulness	Featherman and Hajli (2016); Gibreel et al. (2018); Xiang et al. (2016)
	Perceived Social Value	Hu et al. (2016); Sun et al. (2016)
	Perceived Utilitarian Value	Hu et al. (2016); Sun et al. (2016)
	Perceived Ease of Use	Featherman and Hajli (2016); Gibreel et al. (2018)
	Perceived Expertise	Hu et al. (2016); Liu et al. (2016)
	Perceived Similarity	Hu et al. (2016); Liu et al. (2016)
	Perceived Risk and Security	Featherman and Hajli (2016); Farivar et al. (2017); Lu et al. (2016b)

textual information that facilitates the consumers in their buying behavior (Hajli and Sims, 2015). Hajli (2015) argued that Web 2.0 social media platforms are empowering the consumers to generate content, share their experiences, and offer advice for specific products and services on the Internet thereby making a significant impact on trust-building and purchase intention among the potential consumers. Hajli and Sims (2015) drew upon the social support theory, s-commerce constructs, and information system concepts to propose the conceptual model depicting the online purchase behavior of the users. Hans and Sims (2015) highlighted that the use of s-commerce constructs generates online social support (informational and emotional) on social media platforms, which in turn affects the online shopping behavior of the consumers. Chen, Lu, and Wang (2017) highlighted the significant influence of s-commerce constructs on enhancing the cognitive (utilitarian) and affective (hedonic)

dimensions of the consumer's learning process, which in turn drive the online purchase intention of the consumers.

Social Support is identified as the second major category of constructs having a significant impact on online consumer's buying intention (Bai, You, and Dou, 2015; Hajli and Sims, 2015; Sun, We, Fan, Lu, and Gupta, 2016). Gottlieb and Bergen (2010) defined social support as *"social resources that persons perceive to be available or that are provided to them by non-professionals in the context of both formal support groups and informal helping relationships"*. There is a growing popularity of SNSs in providing emotional and informational support to the consumers looking for online commerce. Bai et al. (2015) argued that informational and emotional support provided by online social groups, communities, individual users, and friends on SNSs play a significant role in bridging the information asymmetry gaps while making an online purchase decision. Similarly, Hajli and Sims (2015) as well as Sun et al. (2016) highlighted a strong relationship between social support factors and the online buying intention of the consumers.

Trust is the third key category of constructs, which has been identified by the s-commerce researchers in the context of the online buying behavior of the consumers. Trust in the context of online s-commerce on social media platforms is governed by five different attributes namely trust on the website, sellers, infomediaries, members, and marketplace (Farivar, Turel, and Yuan, 2017; Gibreel, Alotaibi, and Altmann, 2018; Hajli, 2015; Hajli, Sims, Zadeh, and Richard, 2017; Lu, Fan, and Zhou, 2016a; Lu, Zeng, and Fan, 2016b; Wang and Herrando, 2019). Researchers argued that Trust acts as a significant predictor of the online purchase intention of the consumers. Trust seems to be a central issue in an online context where risk and uncertainty are high in most economic and social transactions (Farivar et al., 2017; Hajli, 2015; Hajli et al., 2017). In the context of e-commerce and s-commerce, trust is mainly determined in terms of benevolence (Hu et al., 2016) and credibility (Hajli, 2015). Benevolence-based trust depicts the extent to which one is interested in the other's welfare (Hu et al., 2016). Credibility-based trust relies on the reputation of the buy-sell parties whereas benevolence-based trust refers to the repeated buyer-seller relationships (Ba and Pavlou, 2002; Hajli, 2015; Hu et al., 2016). Farivar et al. (2017) pointed out that user trust towards members of the s-commerce site is the starting point for stimulating any online purchase behavior among the consumers. They further argued that trust towards members enhances the trust towards the s-commerce website as well as diminishes the perceived commerce risk among online users thereby stimulating their online purchase intention. Hajli (2015) and Hajli et al. (2017) argued that s-commerce constructs hold a significant relationship with trust-building, which in turn has a strong influence on the online purchase intention of the consumers. On similar lines, Gibreel et al. (2017) and Lu et al. (2016a, 2016b) highlighted the contribution of social presence factors in strengthening the trustworthy online exchange relationship between buyers and sellers. However, Wang and Herrando (2019) looked at institutional-based trust as an intermediary between institutional privacy assurance and social interactions, which subsequently leads to online purchase decisions among consumers. The authors argued that the focus on institutional privacy assurance creates a positive impact on institutional-based trust, which in turn results in online social interactions and finally increases the likelihood of online purchase behavior among the consumers.

Technology-enabled Social Presence is the fourth category of constructs, which influences the online purchase intention of the consumers. This category comprises four main constructs namely social presence on the web (Hajli et al., 2017; Lu et al., 2016a; Lu et al., 2016b), visual appeal of the s-commerce website (Xiang, Zheng, Lee, and Zhao, 2016), information quality available on the marketplace platform (Chen, Su, and Widjaja, 2016; Xiang et al., 2016), and eWOM spread (Gibreel et al., 2018; Wang and Herrando, 2019). In accordance with the social presence theory, one of the key propositions in the s-commerce research papers articulate that factor or attribute related to the social presence on the web grounded in social technologies has a significant positive influence on the online buying intentions of the consumers (Hajli et al., 2017; Lu et al., 2016a; Lu et al., 2016b). Access to relevant and high-quality online information is another construct, which has a significant

influence on consumer's intention to make an impulsive online purchase (Chen et al., 2016; Xiang et al., 2016). Chen et al. (2016) argued that the quality of information on the social media website acts as an environmental cue for potential consumers and influences their purchase decisions. Xiang et al. (2016) observed that high-quality task-relevant and mood-relevant features of the website that enhance the visual appeal of the SNSa influence the online impulsive buying behavior of the consumers. Finally, eWOM has been identified as an important construct in building trust, which subsequently enhances the propensity to purchase online among the consumers (Gibreel et al., 2017; Wang and Herrando, 2019).

User Traits and Peculiarities is identified as another important category comprising of constructs, which hold significance as key predictors in influencing the online purchase intention of the consumers. Though important, there has been limited research in this category to date. The major constructs included in this category are personality traits (Kang and Johnson, 2016), psychographic characteristics (Kang and Johnson, 2016), habit (Farivar, Turel, and Yuan, 2017), impulsiveness (Chen et al., 2016), and gratification (Kang and Johnson, 2016). Kang and Johnson (2016) argued that online shopping intention among the s-commerce users is positively influenced by the user's situational traits such as socializing and information-seeking gratification. The user's gratification is driven by the user's behavior and mindset in terms of compound psychographic characteristics (like value consciousness, social browsing, and market mavenism) and elemental personality traits (like openness to experience, material resource needs, and arousal needs). Similarly, Chen et al. (2016) argued that the consumer's trait of impulsiveness has a significant impact on his/her online purchase behavior. Farivar et al. (2017) put forward a similar observation by highlighting the influence of consumer's habituation towards the use of s-commerce in his/her online purchase intentions. As per Farivar et al. (2017), fear of data privacy and security risks towards s-commerce websites have a significant impact on consumer's online purchase intention. These factors get modulated to a large extent based on the habit formation of the consumers because habit may reduce rational decision making and mainly refers to "situation-behavior sequences that are or have become automatic" (Triandis, 1979, p. 204).

User Perceptions is identified as the final category comprising the diverse set of perception-based constructs, which can be further sub-divided into Technology-based perception, Value-based perception, and Others.

Technology-based perception is the first sub-category comprising the constructs influencing the user perceptions. This sub-category comprises those perceived constructs, where use and type of technology play a deterministic role in the design and implementation of an s-commerce platform. The related constructs include perceived risk and security, perceived usefulness, and perceived ease of use. From the security point of view, the prevalence of or increasing perception towards online usage risk in terms of s-commerce website performance, financial losses or fraud, loss of privacy or data theft, psychological risk in terms of self-esteem and stress levels, and negative social impact for any online transaction going wrong inhibits the online purchase intention among the consumers (Farivar et al., 2017; Featherman and Hajli, 2016). In a similar context, Lu et al. (2016b) argued that the perceived impact of information security measures implemented by the s-commerce websites makes a significant impact on the online purchase intention among the users. Other key attributes, which are influenced by the technology usage and plays a deterministic role in shaping the positive or negative perception towards s-commerce website include perceived usefulness (Featherman and Hajli, 2016; Gibreel et al., 2018; Xiang et al., 2016), and perceived ease of use (Featherman and Hajli, 2016; Gibreel et al., 2018).

Value-based perception is the second sub-category in the area of user perceptions comprising the value-based attributes related to social, utilitarian, and hedonic values (Zhang and Benyoucef, 2016). Value-based attributes include perceived enjoyment (Xiang et al., 2016), perceived social and utilitarian values (Hu, Huang, Zhong, Davison, and Zhao, 2016; Sun et al., 2016). These value-based attributes drive the positive or negative user perception towards an s-commerce website and thereby influence the online purchase intention among the users. include.

Additionally, there are other determining attributes or factors related to peer community and online support affecting online purchase decisions, e.g., perceived expertise, and similarity of the peer members sharing information, feedback, ratings, and reviews on s-commerce platforms (Hu et al., 2016; Lu et al., 2016b).

4.3 S-Commerce – Sharing Intention

Content analysis has revealed that besides analyzing the predictors for consumer's purchase intention, another key phenomenon involves understanding the key factors influencing the user's willingness towards the use of s-commerce platforms. This theme holds importance in the context of online s-commerce because the willingness to use s-commerce platforms stimulates the online purchase decisions by influencing the s-commerce constructs, information, and emotional support, as well as trust-building (Chen and Shen 2015; Lin, Li, Yan, and Turel, 2018; Liu, Cheung, and Lee, 2016; Ko, 2018).

Chen and Shen (2015) examined s-commerce from two inter-related perspectives – social sharing and purchase intention. Based on the derivations from social support theory, commitment-trust framework, and trust-transfer theory, the researchers demonstrated the significant impact or influence of information and emotional social support on user's community commitment as well as his/her trust towards community and members. These relationships subsequently influence the user's online shopping as well as social sharing intention. Lin et al. (2018) put forth a similar argument by arguing the significant role of emotional and informational support in strengthening the guanxi relationship, which subsequently stimulates the user's willingness to use the s-commerce platform. Guanxi is considered as a special type of inter-personal relationship or social connection that involves a mutual exchange of favors and obligations between exchange partners (Lee, Pae, and Wong, 2001; Luo, 1997). In the context of s-commerce, guanxi, as an informal buyer-seller relationship characterized by mutual reciprocity, is considered to play a significant role in predicting s-commerce intentions (Ou, Pavlou, and Davison, 2014). The differentiation of this study lies in the context setting as it evaluated the impact of the guanxi aspect of relationship quality alongside trust in user's online shopping and sharing intentions. On the other hand, Ko (2018) and Liu et al. (2016) identified the influence of individual and social characteristics of the users on the extent of their online social sharing intention. According to Liu et al. (2016), a user's online information sharing intention is influenced by the constructs such as individual's motivation to share his/her thoughts, expertise level regarding the discussion topic, reciprocity, and social capital ecosystem comprising social posts and feedback setup. On similar lines, Ko (2018) argued that social-oriented factors such as anticipated positive emotion, social attitude, social identity, and perceived behavioral control towards social activities drive the online information-sharing behavior of individuals.

4.4 Social Media – Marketing and Consumer Engagement

The use of social media for marketing and consumer engagement has been identified as another key research area in the published research papers. This theme is found to be dominant among 10 papers out of 53 papers. This theme is gaining significance among researchers due to the growing need for customer pull and retention in the emerging virtual or digital markets.

This research area focuses on constructs related to customer relationship quality (Ahmad, and Laroche, 2017; Ashley and Tuten, 2015; Chang, Yu, and Lu, 2015; Kim, and Kim, 2018; Luarn, Lin, and Chiu, 2015; Zhang, Benyoucef, and Zhao, 2016; Zhu, and Chen, 2015) and social media marketing elements including website features and attributes (Godey, Manthiou, Pederzoli, Rokka, Aeillo, Donvito, and Singh, 2016; Leung, Bai, and Stahura, 2015; Yang, Li, Kim, and Kim, 2015).

Regarding customer relationship quality, the research papers have focused on analyzing the significance of social media platforms' attributes such as content design and relevance, information interactivity, participation incentives for the consumers, and social referrals and recommendations in strengthening the quality of relationship with the consumers. Researchers argued that focus on

improving the quality of customer relationships by social media platforms leads to an increase in the level of trust, commitment, and satisfaction among the consumers. Ahmad and Laroche (2017) undertook the latent semantic analysis to examine the thematic differences between positive and negative consumer reviews and the influence of these reviews on the online shopping behavior of the consumers. Ashley and Tuten (2015) reinforced the significance of content quality and relevance, consumer participation incentive, as well as information interactivity and exclusivity in driving consumer engagement for online shopping. Similarly, Kim and Kim (2018) analyzed the social influence of consumer-generated social referrals such as Facebook "likes", and Twitter tweets on stimulating sales through social media platforms.

On the other hand, few other s-commerce research papers looked at user engagement in terms of social sharing intention and brand loyalty dimension. Chang et al. (2015) argued that content design (argument quality, post popularity, post attractiveness) influences consumer engagement in terms of information like and sharing intention on the social media platforms. Similarly, Luarn et al. (2015) analyzed the effect of media type (vividness and interactivity), and content type (information, entertainment, remuneration, and social) of the online posts on social media platforms in user engagement especially liking, commenting, and sharing behavior. Zhu and Chen (2015) as well as Zhang et al. (2016) looked at consumer engagement from a relationship quality perspective. Zhu and Chen (2015) argued that self-congruence, social norms, information quality, and interactivity impact relationship quality with online consumers, which further drives their brand loyalty towards online products or services.

Social media marketing is defined as "*a broad category of advertising spending, including advertising using the social network, virtual worlds, user-generated product reviews, blogger endorsement, RSS feeds of content and social news sites, podcasts, games, and consumer-generated advertising*" (Tuten, 2008, p. 19). Yang et al. (2015) examined the significance of website attributes such as entertainment and community engagement in enhancing consumer participation in social sharing, eWOM, and online shopping on s-commerce platforms. Similarly, Godey et al. (2016) argued that social media platforms, which focus on attributes such as entertainment, interactivity, trendiness, customization, and eWOM drive brand preference, price premium, and loyalty among online consumers. Similarly, Leung et al. (2015) analyzed the social media marketing effectiveness in influencing the attitude and purchase intention of the customers.

4.5 S-Commerce – User Preferences and Concerns

Understanding user preferences and concerns towards s-commerce platforms is another dimension, which has been identified as an important research area during the content analysis of s-commerce research papers. This research area analyzes the driving factors for user preferences towards s-commerce platforms including eWOM and observational learning (Bhagdadi, 2016; Huang and Benyoucef, 2015; Wang and Yu, 2015), s-commerce constructs (Shanmugam, Sun, Amidi, Khani, and Khani, 2016; Lin, Yan, and Chen 2017), social support and perceived value (Hajli, Shanmugam, Powell, and Love, 2015), design elements (usability, functionality, and sociability) (Huang and Benyoucef, 2017), information privacy and security (Hew, Lee, Ooi, and Lin, 2016), and self-congruence in terms of user's usage frequency intensity (Leong, Jaafer, and Ainin, 2017).

Huang and Benyoucef (2015) investigated the user preferences for the social features on s-commerce websites. They identified three design layers (conversation, community, and commerce) as key focus areas for s-commerce platforms. They argued that users prefer social features such as the "comment" button, user comments, and the availability of product reviews for social sharing. Further, Huang and Benyoucef (2017) looked at another set of predictors for user preferences comprising s-commerce design elements. They argued that usability, functionality, and social design elements have a significant influence on stimulating user preferences and choices. Similarly, Wang and Yu (2015) identified the impact of social interactions comprising eWOM and observational learning on

user preferences. On similar lines, Baghdadi (2016) elaborated the significance of a collaborative and interactive website interface in influencing the user behavior towards s-commerce platforms.

Hajli et al. (2015), Shanmugam et al. (2016), and Lin et al. (2017) examined the role of different factors such as s-commerce constructs, social support factors, and interactivity in stimulating the user preferences and adoption behavior towards social media platforms, especially in terms of information sharing, community participation, and buying. In contrast, Leong et al. (2017) examined the significance of self-congruence in terms of user's browsing and usage intensity in stimulating the impulsive purchase behavior on s-commerce platforms. Finally, Hew et al. (2016) highlighted the need for addressing the user's concern for social media information privacy as a key driver in stimulating the continuance intention to use s-commerce platforms. They argued that fear of losing control over private information negatively affects the user's adoption of s-commerce platforms.

5. BUILDING AN S-COMMERCE CONCEPTUAL FRAMEWORK

As per the detailed analysis above, it is evident that the number of s-commerce research publications has increased consistently over the last few years. During 2015-2020, the count of s-commerce research publications has increased from 52 in 2015 to 162 in 2020 (Figure 2). This indicates a growing interest in s-commerce as a potential research area among researchers globally.

However, content analysis of s-commerce research papers indicates that it is still a growing area of research. As per the analysis, the majority of the s-commerce research papers have focused on understanding the predictors for user's willingness to adopt s-commerce platforms; significant factors in social media marketing and user engagement; and key drivers for influencing user behavior on social media and networking platforms. Considering the growing interest of the research community in s-commerce, it becomes essential to synthesize the key elements of s-commerce such as drivers for adoption, sharing, and engagement of users; practice indicators; and performance metrics into a multi-dimensional conceptual framework. Such as framework can throw the light on future research trends and directions. A knowledge synthesis approach has been followed while developing the integrated conceptual framework for s-commerce (Seuring et al., 2005; Seuring and Gold, 2012). After identifying the 53 most cited papers, content analysis was undertaken individually and iteratively by all the authors of the present study. This first-level analysis resulted in the identification and listing of the key variables (according to their relevance and frequency of occurrence) in the context of s-commerce. This step was followed by the cross-review and discussion among the authors to finalize the list of variables. Subsequently, the final list of agreed variables was grouped according to their relevance and applicability in the following categories: growth drivers, practice indicators, and performance measures. This grouping has been done to minimize the overlap and reduce the complexity in the framework.

5.1 Mapping and Categorization: S-Commerce Growth Drivers, Practice Indicators, and Performance Measures

The content analysis indicates that researchers have used different types of constructs related to the evaluation of purchase intentions, decision-making patterns, and the extent of customer engagement on SNSs. Thereby, it becomes important to identify, review, and classify the s-commerce related key variables into different categories in accordance with their applicability and relationship with each other. As mentioned above, an iterative approach has been followed for grouping and categorizing the factors into s-commerce growth drivers, practice indicators, and performance variables. The Appendix provides a detailed overview of the s-commerce variables.

5.1.1 S-Commerce Drivers

The review of 53 s-commerce papers resulted in the identification of 15 key drivers or motivational factors (see Appendix for details). Depending upon the context, similarity, meaning, complementary

relationship, and applicability, these drivers were categorized into three major categories as follows – 1) Firm Level, 2) User Level, and 3) Market and Competition.

Firm-level drivers include the following three dimensions: drive sales, develop the social network and reach, and strengthen brand image and loyalty. Drive sales refer to the focus on increasing the value as well as the volume of online transactions by attracting users through s-commerce platforms. Develop the social network and reach involves steps towards enhancing the social connections and interaction of people on the s-commerce platforms (Hajli, 2015). Strengthen brand image and loyalty refers to the extent to which consumers will repurchase products of a specific brand as well as recommend the products or brand to their friends on SNSs (Zhang et al. 2016). Brand loyalty reflects the long-term relationship between the brand and users (Zhang et al. 2016).

User-level drivers include assurance of data security and privacy, trust-building, as well as self-orientation in terms of attitude, belief, and preferences. Data security and personal privacy concerns include issues like the public or unauthorized sharing of personal details of the online users without consent, unauthorized access, and the use of personal details for commercial purposes (Wang, and Herrando, 2019). Information privacy refers to "*the desire of individuals to control or have some influence over data about themselves*" (Bélanger, and Crossler, 2011, p. 1017). As per the literature, s-commerce practitioners face problems in having sustainable customer engagement without data security and privacy controls (Wang, and Herrando, 2019). As discussed above, trust influences the online behavior of users towards s-commerce platforms (Hajli, 2015) and is considered to be a central issue in an online context due to risks related to data security and privacy (Chen, and Shen, 2015). Trust is defined as a belief in the reliability, truth, and ability of the exchange party (Hajli, Sims, Zadeh, and Richard, 2016). It is influenced by the social relationships of people and the s-commerce platforms on which they interact with each other (Hajli et al., 2016). S-commerce constructs such as recommendations, referrals, ratings, and reviews on s-commerce sites have a positive influence on trust-building among businesses and consumers (Hajli, 2015). Furthermore, customer attitude refers to an individual's positive or negative feelings about executing a specific behavior or performing a specific task (Al-Debei, Al-Lozi, and Papazafeiropoulou, 2013; Hajli, Shanmugam, Powell, and Love, 2015). The extant literature states that social support and higher levels of perceived social presence results in a more favorable attitude of the consumers towards s-commerce platforms (Hajli et al., 2015).

The market and competition dimension include the focus on social media marketing as a key driver. Social media marketing is defined as a form of advertising on SNSs, which enables the companies and brands to increase their followers as well as to enhance their brand loyalty by strengthening their customer-brand relationships (Ashley and Tuten, 2015; Ismail, 2017). The choice of social media channels complemented by the use of creative strategies for content design and dissemination among the online users influences their online engagement (Ashley and Tuten, 2015). An appropriate focus of the businesses on social media marketing content and strategies influence brand consciousness and loyalty among the online users (Ismail, 2017)

The identification of key drivers triggers a sense of responsibility and requirement among the s-commerce firms, which adopt key practices in congruence with the drivers and enhance the performance in congruence with the practices. These practice indicators establish how s-commerce growth drivers should be addressed at the levels of the firm, customer, market, and competition. The outcomes of practice indicators are quantified by the related performance variables.

5.1.2 S-Commerce Practices

The identification of s-commerce growth drivers from the majorly cited 53 s-commerce papers was followed by reviewing and identifying the related practice indicators. The s-commerce practice indicators include s-commerce constructs, social support, relational aspect, individual or user level, social media content, and delivery channels, and technology, interface, and security. The Appendix provides details regarding the categorization and numbering of s-commerce papers, which have been reviewed during the content analysis.

S-commerce constructs comprise practice indicators such as setting up online forums and communities, facilitating online ratings and reviews, as well as referrals and recommendations. These constructs or practice indicators have emerged from Web 2.0 and empower customers to generate content and share their experiences online (Hajli, 2015; Hajli, and Sims, 2015; Shanmugam, Sun, Amidi, Khani, and Khani, 2016). It includes practices such as online recommendations and referrals (15., 22., 28., 102., 82., 197., 223., 208., 272., 20., 352., 204., 140., 340.), ratings and reviews (15., 22., 28., 102., 82., 90., 197., 223., 208., 272., 20., 352., 204., 140., 340.), forums and communities (15., 22., 28., 102., 223., 208., 20., 140., 340.), incentives and rewards (28.), and online interaction with sellers (89.).

Social support is defined as "information leading the subject to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligation" (Cobb, 1976, pp. 300). It is considered as a multidimensional construct including informational (41., 22., 37., 102., 30., 242., 208., 108.), emotional (41., 22., 37., 101., 102., 30., 242., 208., 108.), and third-party intermediaries (37.) as practice indicators (Bai, Yau, and Dou, 2015; Chen, and Shen, 2015).

Regarding the relational aspect, focus on building and maintaining relationships is critical to the success of s-commerce (Chen, and Shen, 2015). This view is in congruence with the commitment-trust theory and trust transfer theory (Chen, and Shen, 2015). Thereby, relational aspect is considered as a group comprising of practices such as enhancing trust towards communities (15., 41., 186.,1., 108.), trust-building towards members (41., 1., 155., 108.), trust in sellers (89, 1, 108), trust in the website (155.), stimulating para-social interaction (101., 96., 134.), and focus on subjective norms (30., 147.).

The willingness and motivation of individuals to use s-commerce for sharing and shopping is another important characteristic for the success of s-commerce. Liu, Cheung, and Lee (2016) argued that the success of s-commerce depends on the numbers of buyers and sellers as growth in the numbers leads to network effects during buyer-seller interactions. The key practices at the individual level driving s-commerce involve their willingness towards online presence (41., 186., 122., 288., 127., 269.), willingness to engage with online information or content (186., 122., 147., 288., 127., 269.), and perceived behavioral control towards SNSs (82., 122., 30., 147., 288., 155., 135., 340.).

Focus on social media content and delivery channels is identified as another key set of practices, which drive s-commerce. SNSs attributes such as visual appeal as well as task-relevant, mood-relevant, and socially relevant features influence the cognitive and affective reactions of the users (Xiang, Zheng, Lee, and Zhao, 2016; Yang, Li, Kim, and Kim, 2016). These reactions determine the likelihood of the impulse buying behavior of the users. Also, self-congruence, as well as access to interactive and high-quality information, positively affects the relationship quality of the users on s-commerce platforms (Zhang et al., 2016). It includes key practices such as messaging type (emotional, transformational, functional, informational) (9., 101., 183., 90., 136., 6., 16., 208., 21., 140.), messaging frequency (9.), choice of social media mix (9., 183.), focus on the visual appeal of the SNSs (101., 183., 136., 6., 16., 21.), information quality (82., 90., 136., 6., 16., 1., 208., 21.), and interactivity of brand pages (82., 136., 6., 204., 21.).

Finally, the focus on strengthening the technology, interface, and data security influence the user's intention towards the adoption of s-commerce for social sharing and shopping (Gibreel, AlOtaibi, and Altmann, 2018; Wang, and Herrando, 2019; Yang et al., 2015). The related practices include a focus on strengthening the technological utility (272.), governing form factors (272.), information security and privacy (99., 352., 135., 21., 127., 340.), online privacy policy and regulations (352.), and user-friendliness (21.).

5.1.3 S-Commerce Performance Measures

Performance measures represent the final component of a multi-dimensional conceptual model linking s-commerce growth drivers, practices, and performance attributes. The impact of s-commerce practice indicators is primarily evident in the form of economic and social performance measures. No linkage

is evident between practice indicators and environmental or operational or knowledge performance measures in the s-commerce research literature.

Economic performance measures include metrics related to the business growth in terms of the number of online buy and sell transactions for the brand (15., 41., 89., 186., 22., 37., 28., 101., 96., 134., 197., 223., 242., 208., 147., 272., 288., 155., 352., 108., 21., 127., 340.), number of repeat buyers (82., 136., 197., 30., 242., 99., 204., 140.), and impulsive purchase frequency and volumes (101., 90., 269.). Measuring social performance is another significant category in the context of s-commerce. Social performance measures include social engagement metrics such as the number of likes, dislikes, posts shared, and the number of online members (41., 186., 9., 28., 183., 102., 136., 122., 6., 16., 30., 242., 1., 208., 147., 272., 288., 20., 135., 21., 127., 340.).

5.1.4 Multi-Dimensional Conceptual Framework

Figure 8 demonstrates the resulting three-stage conceptual model comprising inter-linked s-commerce growth drivers, practice indicators, and performance measures. This framework is an important step towards s-commerce theory building.

This framework adds value to the s-commerce platform providers as well as small, medium, and large businesses having an intention to adopt s-commerce platforms for doing online business.

5.2 Future Research Directions

Ten s-commerce research papers with the highest LCR were reviewed to recommend the following future research directions (Figure 6).

5.3 Drivers for Trust Building in S-Commerce Sites

Understanding the drivers of user's trust towards the adoption of s-commerce platforms is identified as one of the primary research areas in the field of s-commerce. Among the selected ten papers, four of them have focused on the drivers for trust-building such as s-commerce constructs and social trust (Alalwan, Algharabat, Baabdullah, Rana, Raman, Dwivedi, and Aljafari, 2019), reciprocity (Leung, Shi, and Chow, 2019), social support and community factors (Molinillo, Anaya-Sanchez, and Liebana-Cabanillas, 2020), and sociability (Fang and Li, 2020).

Figure 8. Multi-Dimensional Conceptual Framework for S-commerce
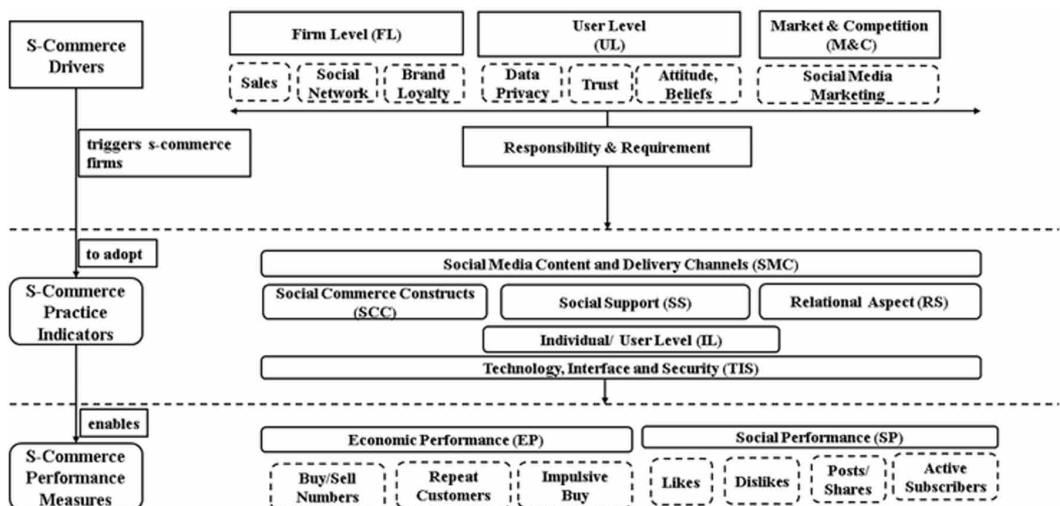
Alalwan et al. (2019) examined the causal interactions between s-commerce constructs (reviews and rating, forums and communities, and referrals and recommendations), social trust, and customer value cocreation on s-commerce platforms. Alalwan et al. (2019) argued that social trust generated by s-commerce constructs has a positive impact on all the three dimensions of customer value cocreation comprising hedonic, functional, and social values.

During the same time, Leung et al. (2019) reflected upon the role of reciprocity (two-way social interactions) on customer's trust in consumer-to-consumer s-commerce both in terms of social sharing and shopping. Leung et al. (2019) demonstrated that reciprocity driven by the exchange principle drives the trust and trust-related behavior among C2C s-commerce users. Leung et al. (2019) further argued that reciprocity is a dynamic process where exchange and interaction between parties or individuals lead to trust-building among them.

Molinillo et al. (2020) looked at the influence of community factors (community identification and community trust) besides social support (information and emotional) in consumer orientation and engagement towards s-commerce. Molinillo et al. (2020) argued that community identification and community trust have a positive impact on customer engagement both in terms of transactional (repurchase intention) and non-transactional (co-creation, stickiness, and eWOM) aspects.

At the same time, Fang and Li (2020) highlighted the significance of sociability in building trust among the users of s-commerce sites for online product recommendations. Fang and Li (2020) argued that focus on sociability dimensions comprising purpose (reputation building, informational support), policies (rewards, shared norms, authenticity), and people (intimacy, common interests) drive consumer's trust in online product recommendations on s-commerce sites.

Following are the recommended research themes for the future. *How does the consumer value co-created through s-commerce dimensions and social trust affect behavioral intention, customer brand engagement, and loyalty? How does the extent of consumer trust in brands and organizations drive value cocreation on s-commerce platforms? How do trust-building constructs like ability, integrity, and benevolence besides reliability and integrity drive user's social shopping and sharing intention on s-commerce sites?*

5.4 Impact of Social Interaction on Customer's S-Commerce Use Intention

Driving social interaction among the users on SNSs has been identified as one of the key focus areas in the s-commerce research papers. Social interaction is defined as the active interface between the user, his/her peers, and the community platform (Wang, and Yu, 2017).

Zhou (2019) examined the influence of social interaction, both human-computer, and human-human, on the social purchase and social sharing intention of the users on s-commerce platforms. Based on the analysis, Zhou (2019) argued that frequent social interaction strengthens social relationships and mitigates the information asymmetry thereby enhancing user's social sharing and shopping experience on s-commerce sites.

Xue, Liang, Xie, and Wang (2020) looked at the significance of live social interaction with the users to drive their online s-commerce engagement. Xue et al. (2020) argued that live social interaction comprises attributes such as entertainment, responsiveness, personalization, perceived control, and mutuality. These attributes have a significant impact on user's s-commerce use intentions. Live social interactions positively affect perceived usefulness and negatively impact perceived risk and psychological distance thereby stimulating user's s-commerce engagement (Xue et al., 2020).

Following are the recommended research scenarios, which can be undertaken in the future. *How cognitive beliefs and emotional beliefs differ in affecting the s-commerce user behavior? How does the live social interaction affect other behavioral aspects such as continuance intention or repurchase intention among the s-commerce users? How do the constructs such as consumer innovativeness and shopping motivation along with the live social interactions influence user's s-commerce behavioral intention?*

5.5 Impact of Technology on User's S-Commerce Behaviour

Technology features and attractiveness is another key focus area, which is evident in the top ten s-commerce research papers with the highest LCR. Shen, Li, Sun, Chen, and Wang (2019) analyzed the role of technology attractiveness (task, social, and physical) in enhancing the s-commerce engagement of users. Technology attractiveness of a website involves benefits offered to the website users such as visual appeal, ease of use, interactivity, playful usage experience, and perceived relationship rewards (Campbell, Wells, and Valacich, 2013). Task attractiveness implies the ability of the community to provide valuable and accurate information to the s-commerce users. Social attractiveness implies the ability of the community to effectively support social interactions among the community users. Physical attractiveness involves the ability of the s-commerce community to provide visual appeal and aesthetic design in s-commerce websites to the users (Shen et al., 2019). Shen et al. (2019) highlighted that all three dimensions of technology attractiveness (task, social, and physical) have a significant impact on user involvement with an s-commerce community.

Similarly, Martinez-Lopez, Li, Su, and Feng (2019) investigated the significance of technology features such as buy buttons on enabling the users to complete a purchase directly on the s-commerce platform thereby enhancing the monetization capabilities of SNSs. Buy button refers to buttons, icons, or images that allow users to make a purchase decision on social platforms (Martinez-Lopez et al., 2019). Based on the experimental analysis, Martinez-Lopez et al. (2019) argued that buy buttons have a significant impact on the social platform users' shopping-related attitudinal and behavioral responses.

Following are the recommended research directions for the future in this category. *How cultural differences affect the s-commerce engagement of users besides technology attractiveness? Does technology attractiveness impact the s-commerce engagement of the users differently for different s-commerce types? What is the impact of other important variables such as perceived value and relationship quality besides technology attractiveness in promoting the s-commerce engagement of the users?*

5.6 Impact of Social Influence on User's S-Commerce Use Intention

Finally, social influence and information quality is another key construct, which is found to have a significant impact on consumer's social shopping intention. Fu, Lu, Chen, and Farn (2020) investigated the online shopping intention of the consumers using the information processing model derived from the theory of informational social influence and the heuristic systematic model. Social influence is defined as the change in thoughts, feelings, attitudes, or behaviors of individuals because of interactions with other individuals (Hu, Chen, and Davison, 2019). Fu et al. (2020) argued that informational social influence and perceived information quality have a significant yet varying impact on consumer's social shopping intention depending upon the need for different levels of product involvement. According to Fu et al. (2020), perceived information quality generates more social shopping intentions in a high product involvement scenario, whereas informational social influence is more important for consumers' social shopping intention in a low product involvement scenario.

Following are the potential future research themes in this category. *What is the impact of one or more combination of technology features (interactivity, personalization, and sociability), community characteristics (trust, community commitment), and interpersonal factors (relationship quality) on consumer's s-commerce behavior? What kind of relationship exists between normative social influence and social shopping intention under different online shopping circumstances on different s-commerce platforms?*

6. CONCLUSION

This study undertook bibliometric analysis to identify the leading journals, research, and academic institutions, authors, countries, and top-cited research papers in the context of s-commerce. This is

followed by undertaking the citation mapping and content analysis of the selected s-commerce papers for identifying the key research themes. Following research themes have been identified from the review of s-commerce literature: a) S-commerce – Purchase Intention, b) S-commerce – Sharing Intention, c) Social Media – Marketing and Consumer Engagement, and d) S-commerce – User Preferences and Concerns. Out of them, "S-commerce – Purchase Intention" is found to be the most studied theme under which scholars have focused on s-commerce constructs, social support, trust, technology, and social presence, user traits and peculiarities, and user perceptions. The second most studied theme is "Social Media – Marketing and Consumer Engagement" under which customer relationship quality and social media marketing have been covered by the researchers. "S-commerce – Sharing Intention" has emerged as the least studied theme. The present study further built a conceptual framework based on s-commerce growth drivers, practice indicators, and performance measures. It reviewed, identified, and streamlined these variables and investigated the linkages among them. The framework can provide valuable insights to businesses if they wish to adopt s-commerce. Finally, this study recommends future research directions based on contemporary research on s-commerce. It suggests the research questions related to the drivers for trust-building in s-commerce sites, the impact of social interaction on a customer's s-commerce use intention, the impact of technology on a user's s-commerce behavior, and the impact of social influence on user's s-commerce use intention.

6.1 Limitations

The present study has the following limitations. Firstly, bibliometric analysis is performed on the existent literature. In this methodology, the papers, researchers, and journals are ranked based on the global and local citations received by them. In such a situation, the recently published papers do not appear at the top of the list as a paper requires some time to achieve a fair number of citations. Thus, the outstanding papers that got published in 2019 and later, could not be placed in the list of most cited papers that were used for extracting the key research themes. Secondly, the count of citations is important for ranking in the bibliometric analysis. Among the top-cited 53 research papers, the majority of the s-commerce research papers have been published in the USA and China. This implies that the majority of the top-cited research papers have concentrated on the USA or China-based s-commerce platforms and SNSs for their data collection and analysis. There lies a risk in undertaking the bibliometric study as new research publications by the authors in specific countries like the USA and China are likely to cite a greater number of research papers from the authors or journals of these countries only. Such a situation can result in the catalytic impact which might have possibly pushed down some of the high-quality s-commerce papers with better context and insights from the top 53 list.

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ENDNOTE

[1]   Reference numbers (e.g., 15., 22., 135., 340.) used in Section 5.1 refer to the node number of the corresponding s-commerce research articles as detailed in Figure 8.

APPENDIX

Table 4.

	Drivers	
	Firm Level	**Node IDs***
FL1	Drive Sales	15, 41, 89, 186, 22, 37, 101, 197, 223, 208, 147, 288, 155, 352, 108, 135, 204, 21, 127, 269, 340
FL2	Develop Social Network and Reach	41, 96, 122, 6, 288, 20, 127, 340
FL3	Strengthen brand image and loyalty	82, 136, 20, 99, 140
	User Level	**Node IDs***
CL1	Data Privacy and Information Security	135, 99, 352
CL2	Disposition to Trust	15, 41, 89, 186, 102, 242, 272, 20, 352, 108, 204
CL3	Attitude, Belief and Preferences	186, 37, 90, 134, 197, 30, 223, 242, 208, 147, 272, 108, 135, 21, 127, 269
	Marketing and Competition	**Node IDs***
MC1	Social Media Marketing	9, 28, 183

Table 5.

	Practice Indicators	
	S-commerce Constructs (Social Norms and Interactivity)	**Node IDs***
SCC1	Recommendations & Referrals/ e-Word of Mouth	15, 22, 28, 102, 82, 197, 223, 208, 272, 20, 352, 204, 140, 340
SCC2	Ratings & Reviews / Observation	15, 22, 28, 102, 82, 90, 197, 223, 208, 20, 352, 204, 140, 340
SCC3	Forums & Communities	15, 22, 28, 102, 223, 208, 20, 140, 340
SCC4	Incentives and Rewards	28
SCC5	Online Interaction with Sellers	89
	Social Support	**Node IDs***
SS1	Emotional Support	41, 22, 37, 102, 30, 242, 208, 108
SS2	Informational Support	41, 22, 37, 101, 102, 30, 242, 208, 108
SS3	Third Party Infomediaries	37
	Relational Aspect	**Node IDs***
RA1	Trust towards Communities	15, 41, 186,1, 108
RA2	Trust towards Members	41, 1, 155, 108
RA3	Trust in Sellers	89, 1, 108
RA4	Trust in Website	155
RA5	Para-social Interaction (similarity, expertise, likeability)	101, 96, 134
RA6	Subjective Norms (Social Pressure)	30, 147

Table 5. Continued

	Practice Indicators	
	S-commerce Constructs (Social Norms and Interactivity)	**Node IDs***
	Individual / Customer level	**Node IDs***
IL1	Willingness Towards Online Presence	41, 186, 122, 288, 127, 269
IL2	Willing to Engage with Information/ Content	186, 122, 147, 288, 127, 269
IL3	Self-Congruence / Perceived Behavioral Control	82, 122, 30, 147, 288, 155, 135, 340
	Social Media Content and Delivery Channels	**Node IDs***
SMC1	Messaging - Type (emotional, transformational, functional, informational)	9, 101, 183, 90, 136, 6, 16, 208, 21, 140
SMC2	Messaging - Frequency	9
SMC3	Social Media Mix/Channels Strategy	9, 183
SMC4	Visual Appeal	101, 183, 136, 6, 16, 21
SMC5	Information Quality	82, 90, 136, 6, 16, 1, 208, 21
SMC6	Interactivity of Brand Pages	82, 136, 6, 204, 21
	Technology, Interface & Security	**Node IDs***
TIS1	Technological Utility	272
TIS2	Governing Form Factors	272
TIS3	Information Security and Privacy	99, 352, 135, 21, 127, 340
TIS4	Online Privacy Policy and Regulations	352
TIS5	User Friendliness	21

Table 6.

	Performance Measures	
	Economic Performance	**Node IDs***
EP1	Buy/Sell Transactions	15, 41, 89, 186, 22, 37, 28, 101, 96, 134, 197, 223, 242, 208, 147, 272, 288, 155, 352, 108, 21, 127, 340
EP2	Repeat Buyers / Brand Loyalty	82, 136, 197, 30, 242, 99, 204, 140
EP3	Impulsive Purchase	101, 90, 269
	Social Performance	**Node IDs***
SP1	Social Engagement Metrics (likes, dislikes, posts shared, number of members etc.)	41, 186, 9, 28, 183, 102, 136, 122, 6, 16, 30, 242, 1, 208, 147, 272, 288, 20, 135, 21, 127, 340

* Note: *These Node IDs (1., 132., 352. and so on) were auto-generated by the HistCite Bibliometric Analysis software during citation mapping **(Figure 7)** of the s-commerce articles included in the sample.*

*(Node, Article) 1. Shi and Chow (2015), 6. Luarn et al. (2015), 9. Ashley and Tuten (2015), 15. Hajli (2015), 16. Chang et al. (2015), 18. Zhu and Chen (2015), 20. Leung et al. (2015), 21. Yang et al. (2015), 22. Hajli and Sims (2015), 28. Huang and Benyoucef (2015), 30. Hajli et al. (2015), 37. Bai et al. (2015), 41. Chen and Shen (2015), 51. Kang and Johnson (2015), 72. Barger et al. (2016), 82. Zhang et al. (2016), 89. Lu et al. (2016), 90. Chen et al. (2016), 96. Liu et al. (2016), 99. Hew et al. (2016), 100. Zhang and Benyoucef (2016), 101. Xiang et al. (2016), 102. Shanmugam et al. (2016), 108. Sun et al. (2016), 111. Baethge et al. (2016), 112. Baghdadi (2016), 122. Liu et al. (2016), 127. Lu et al. (2016), 132. Busalim and Hussin (2016), 134. Hu et al. (2016), 135. Featherman and Hajli (2016), 136. Godey et al. (2016), 137. Alves et al. (2016), 140. Ismail (2017), 147. Akman and Mishra (2017), 155. Farivar et al. (2017), 183. Felix et al. (2017), 186. Hajli et al. (2017), 197. Wang and Yu (2017), 198. Lin et al. (2017), 199. Ahmad and Laroche (2017), 204. Lin et al. (2017), 208. Huang and Benyoucef (2017), 217. Alalwan et al. (2017), 223. Chen et al. (2017), 242. Lin et al. (2018), 269. Leong et al. (2018), 272. Gibreel et al. (2018), 288. Ko (2018), 296. Kim and Kim (2018), 309. Han et al. (2018), 340. Sharma et al. (2019), 352. Wang and Herrando (2019).

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