

Privacy Concerns in E-commerce Marketing: A Systematic Literature Review Study

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ABSTRACT

The purpose of this research is to undertake a systematic literature view to analyze the current status of privacy concerns in e-commerce marketing context. The study identifies published papers over the past two decades and examines 81 articles extracted from Scopus database using research methodology, descriptive analysis and thematic analysis. In the course of the research, with the rapid development of information technology, shopping online has become an upward trend, it has also resulted in a continuous rise in privacy concerns in e-commerce marketing. Although consumer privacy literature in e-commerce research has gained huge attention, empirical research has tended to inconsistent results in e-commerce. VOSviewer software was adopted as a tool to conduct descriptive analysis and thematical analysis. Based on the synthesis of articles in the existing literature, this study focused on consumer privacy concerns in the context of e-commerce marketing and provides insightful research directions in this domain. The scope of the extracted literature is confined keywords-based research, future research should elaborate on a wider perspective with the combination of Scopus and Web of Science database.

KEYWORDS

Systematic literature review; E-commerce; Privacy concerns; Scopus

1. INTRODUCTION

In recent years, the issue of privacy concerns in e-commerce has attracted wide attention, while the consumers have become more worried about the abuse of their personal information (Anic, Škare, & Kursan Milaković, 2019; Gerber et al., 2018; Ginosar & Ariel, 2017; Maseeh et al., 2021). With the outbreak of pandemic in 2020, and consumers' purchasing behavior changes, online transaction has experienced a rapid period (de Palma & Vosough, 2021). If consumers have high level of privacy concerns while purchasing online, whether it is actively or passively acquired, their purchasing intention must be influenced by protecting personal data well or not.

Nowadays, consumers can search for goods and purchase online every day. While shopping online, disclosure of private information is frequently an indispensable part of transactions. The extent of personal information disclosed depends on different factors, such as the type of transaction or how online stores interact with their consumers (Gouthier et al., 2022). Meanwhile, consumers also share their personal information with online platform stores when they respond to online ads. In general, with the popularity of e-commerce, consumers sharing their private information is becoming an essential part of shopping online.

Consumers who care more about their privacy concerns affect online transactions behavior in e-commerce. Zeng et al. (2021) revealed that disclosing personal data can influence consumers' purchasing intention and it is a critical factor in e-commerce marketing, thus purchasing behavior and finally online retail sales. Many online platform retailers have experienced data stolen and result in a trust risk (Kolotylo-Kulkarni et al., 2021). Furthermore, a study demonstrated that about 70% of online consumers concerned about their data security and eye-tracking technology associated with their online browsing time, interests and intentions (Dwivedi et al., 2022). Although consumers express their privacy concerns, they have to disclose their personal information, especially rise in pandemic period. Barrera and Shah (2023) illustrated that data captured could inform platform retailers to identify consumers' emotion and purchasing intention. The personal data captured can be abused for tracking or targeted marketing thus resulting in privacy disclosure. Therefore, the data collected is a significant threat for online consumers.

Another research revealed privacy paradox between online consumers intention and their real behavior in their daily life (Barth & de Jong, 2017). While consumers claim to protect their privacy information, however, they take fewer measures to concern their personal information. Up till now, research has reported numerous studies examining this contradictory phenomenon. The contribution of this research is, therefore, to provide a comprehensive overview of e-commerce marketing in privacy concerns, and to map research themes for academic researchers in this area.

2. BACKGROUND OF PRIVACY CONCERNS IN E-COMMERCE MARKETING

Privacy is foundation of human right. Online consumers have concerns about protecting individuals' information to others (Martin & Palmatier, 2020), especially privacy concerns among online consumers which result in a new research in marketing field, that is online privacy concerns (Adhikari & Panda, 2018; Thomaz et al., 2020). Yun et al. (2019) defined privacy concerns as "*individuals' concerns with the information privacy practices of organizations regarding their ability to control personal information*" (P.570). In marketing area, consumers' privacy concerns have been studied in E-commerce field. For example, online shopping (Bart et al., 2005; Javadi et al., 2012; Qalati et al., 2021) and purchasing online (Pires et al., 2004; Tran, 2020; Zarrad & Debabi, 2012). The research in this area of privacy in e-commerce in 1999. Initially, privacy in the age of Dataveillance, which is in the form of gathering personal information. Gradually, consumers' privacy protection moved to privacy concerns from online marketing to e-commerce marketing (Anic, Škare, & Milaković, 2019; Kaapu & Tiainen, 2009; Maseeh et al., 2021; Zwick & Dholakia, 1999). Though the research began in 1990s, the productivity of research was in 2022. Meanwhile, from 2003 to the current day, the topic has been researched for decades by various scholars (Donthu et al., 2021; Dwivedi et al., 2022; Gouthier et al., 2022; Javadi et al., 2012; Maseeh et al., 2021; Mutimukwe et al., 2020; Senn, 2000). Nowadays, new areas of privacy concerns in e-commerce marketing such as perceived risk, trust, reputation, consumer behavior, e-commerce platform usage, purchasing intention are added. The future research will be the use of AI and chatbot etc.

Considering at the benefits of privacy concerns in both national and international market, it is essential for many governments and online businesses to protect individuals' privacy of online consumers and empower them in the e-commerce business world. Therefore, it has raised a new research area for researchers and governments to learn the elements and hurdles which influence e-commerce marketing adoption by privacy concerns. Senn (2000) found that online marketing eliminated geographical location. It promotes businesses to reach any region of the world and has transaction through Internet. Furthermore, privacy concerns negatively impact on consumers' intention while using e-commerce platforms (Cheah et al., 2022; Dinev & Hart, 2005). Furthermore, consumers' trust in e-commerce marketing positively affects privacy concerns and facilitates more usage of e-commerce platforms which stimulates efficiency and enhances online transactions

successfully (Gong et al., 2022). The attention of privacy concerns is taken into account to shape a positive influence on online business, especially, it can reduce hurdles between online consumers and e-commerce platforms and build long-term stable relationship with both parties.

3. RESEARCH METHODOLOGY

The authors adopted a systematic review method to evaluate the current research state of privacy concerns in e-commerce marketing literature. The advantages of this method are identifying and evaluating related literature to summarize all available published papers and offer new understanding (Christofi et al., 2021; Ishii & Kikumori, 2023). This method consists of three steps: planning, executing and reporting the result. Each step needs a set of particular activities: ensure review questions, define the appropriate search terms, describe the procedures of data collection and evaluate the techniques for analysis.

3.1. Identify review questions

A systematic review is motivated by research review questions from defining scientific database searches, including inclusion and exclusion criteria as well as a whole procedure for defining relevant literature is identified. As mentioned above, the authors aim to summarize research outcomes and perform future research directions on privacy concerns in e-commerce marketing. Hence, we establish two research review questions: (1) “What do we know about privacy concerns in e-commerce marketing?” and (2) “What do we not know about privacy concerns in e-commerce marketing?”

3.2. Defining the appropriate search terms

In the current research, the terminology consists of two constructs combination: privacy concerns and e-commerce marketing. To make sure that all components of privacy concerns and e-commerce marketing were covered in this study, it was essential to include all the related keywords. Table 1 shows keywords used from Scopus data selections and document extraction. After conducting important relevant published papers, the authors came up with the searching terms. The e-commerce marketing terms are online-marketing, Internet marketing, digital marketing, social media marketing, online business marketing, e-business marketing, mobile marketing, AI-enable marketing and online shopping marketing. Similarly, privacy concerns related terms are consumer privacy concerns, online privacy concerns, perceived Internet privacy concerns and consumers’ perceived privacy.

Table 1. Article inclusion and exclusion criteria

Selection criteria	Exclude	Include
Database: "Scopus"		
Data of Search: "11 July 2023"		
Period of publication: 2000-2023		
Search term: "E-commerce marketing" OR "Online-marketing" OR "Internet marketing" OR "digital marketing" OR "social media marketing" OR "online business marketing" OR "e-business marketing" OR "mobile marketing" OR "AI-enable marketing" OR "online shopping marketing" AND TITLE-ABS-KEY "privacy concerns*" OR "consumer privacy concerns*" OR "online privacy concerns" OR "perceived Internet privacy concerns" OR "consumers' perceived privacy"	—	118
Subject area: "Business, Management and accounting, Social science, Decision Sciences, Economics, Econometrics and Finance and Arts and Humanities"	35	83
Publication type: "Articles, Conference Paper, Book Chapter and Review"	2	81
Language screening: Only published in English	0	81

3.3. Data collection

To ensure an unbiased selection of literature in Scopus data, we established specific inclusion and exclusion criteria. We focused on double-blind peer-reviewed publications published in English language in high-impact factor journals. We adopted a systematic technique to get the final figure of 81 articles in Table 1. The keywords "E-commerce marketing", "Online-marketing", "Internet marketing", "digital marketing", "social media marketing", "online business marketing", "e-business marketing", "mobile marketing", "AI-enable marketing", "online shopping marketing" AND "privacy concerns*", "consumer privacy concerns*", "online privacy concerns", "perceived Internet privacy concerns" and "consumers' perceived privacy" were used to include articles from various disciplines shown in Table 1. Donthu et al. (2021) demonstrated that articles downloaded from online database (WoS or Scopus or other database) tend to inaccuracies resulted in biased bibliographical information in the subsequent findings. Therefore, using the downloaded information without further refinement is prone to make an incorrect and dangerous outcome. As a result, we went through many different procedures to extract and clean the data in order to search accurate bibliographic information and bibliometric data as well as visualization and interpretation of the findings.

Using VOS viewer software to analyze the extracted various terms which presented titles, abstracts and keywords in the published papers, meanwhile, the natural language processing tool was facilitated by the authors. For example, the researchers changed consumers privacy concerns to perceived privacy from plural nouns to singular noun; other similar constructs are combined into one concept, such as "online business" and "online marketing" were integrated into "online business marketing". As a result, the cleaning up methods aim to achieve consistent and unbiased outcomes.

3.4. Evaluating the techniques for analysis

To analyze e-commerce marketing academic literature focused on privacy concerns, this paper used a Systematic review method (Amiri et al., 2023; Maseeh et al., 2021; Webster & Watson, 2002) to facilitate theory development and discover new research areas which need to make a further investigation. A systematic review analysis refers to a set of research instruments to analyze the global research trends that examine and measure a particular field through outputs of publishing papers from Scopus or WoS database (Amiri et al., 2023; Goyal & Kumar, 2021). This type of approach allows for the extraction of new data from existing literature reviews, which can be used as an effective supplement to the research area (Alsharif et al., 2021; ALSHARIF et al., 2020). The authors use bibliometric analysis approach to analyze biographic data such as top authors, citation, co-citation, institutions and countries to understand the present research status.

4. DESCRIPTIVE ANALYSIS

Literature on privacy concerns in e-commerce marketing emerged in 2000 (Milne, 2000), when various academic researchers paid more attention to consumers privacy while making online transactions upon e-commerce platforms. Figure 1. indicates the number of annual publications in the area of privacy concerns in e-commerce marketing in Scopus 2000-2023. Though initial research in this area started by Milne (2000), the most productive year was in 2022. With the rapid development of technology in the 21st century, there is a concomitant rise in privacy concerns and security risks among e-commerce consumers (Maseeh et al., 2021). Miyazaki and Fernandez (2001) conducted a study on privacy concerns using online shopping as a research topic. 2011 was the year when the popularity of e-commerce marketing focused on privacy concerns started and since 2017, annual publication has significantly increased. In a nutshell, according to the present year trend, the research in this area will increase in the following years.

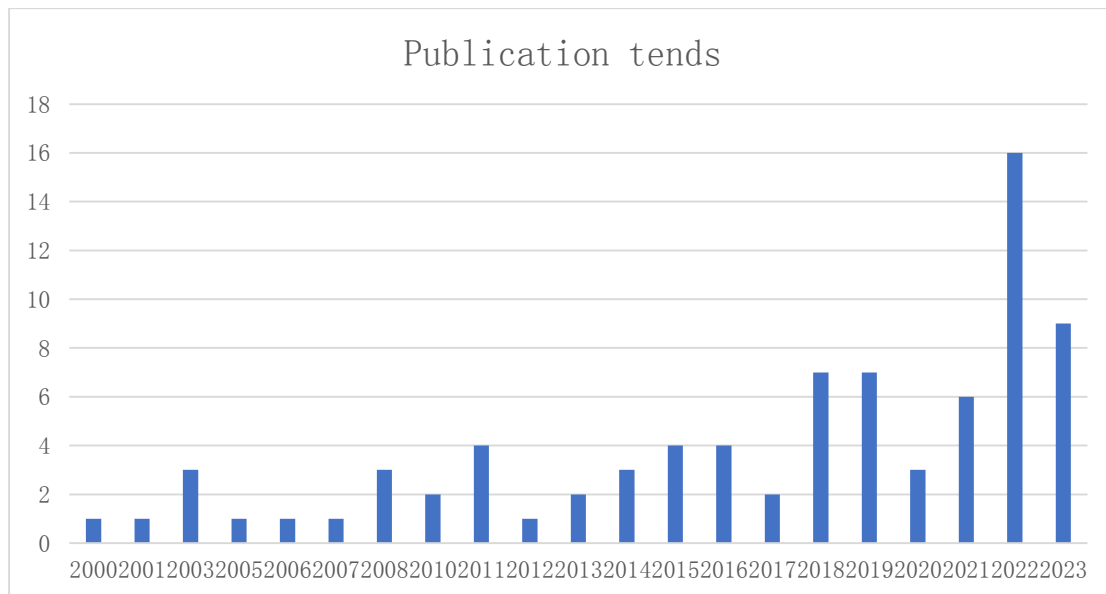


Figure 1. privacy concerns in e-commerce marketing research publication trends

The below Table 2 represents 10 prominent authors and their citations, organizations and regions for privacy concerns in E-commerce marketing. Joines J.L.; Scherer C.W. and Scheufele D.A. from United States are the most influential author with 229 citations. Similarly, Table 3 indicates the most influential sources of e-commerce marketing on privacy concerns. The most impactful sources for privacy concerns in e-commerce marketing are “Journal of Consumer Marketing” from Emerald Publishing, “Computers in Human behavior” from Elsevier Publishing and “Developments in Marketing Science: Proceeding of the Academy of Marketing Science” from Springer Publishing.

Table 2. Most influential authors, institution and region

TC	Authors	Institution	Region
229	Joines J.L.	Uni. Ithaca, NY, United States	United States
186	Nepomuceno M.V.	Concordia University ,France	France
165	Lian J.-W.	Nanhua University,Taiwan	Taiwan
153	Roman S.	University of Murcia, Spain	Spain
143	Milne G.R.	Uni.of Massachusetts, United States	United States
131	McCloskey D.	Widener University, United States	United States
121	Ashworth L.	Queen's University, Canada	Canada
85	Chen H.	,Texas A&M University, United States	United States
67	Chang S.-H.	S&T Policy Research and Information Center,Taiwan	Taiwan
61	Zhang T.	Uni. of S&T Beijing, Beijing	China

Notes: This table lists ten top contributing authors on as well as their institution and region. TC=Top citation

Table 3. Most influential Journals and publisher

Source	Publications	Publisher
Journal of Consumer Marketing	4	Emerald Publishing
Computers in Human Behavior	4	Elsevier Publishing
Developments in Marketing Science: Proceedings of the Academy of Marketing Science	4	Springer Publishing
Computers in Human Behavior	3	Elsevier Publishing
Cogent Business and Management	2	Cogent OA
Applied Marketing Analytics	2	Henry Stewart Publications
Journal of Business Ethics	2	Springer Publishing
Electronic Commerce Research and Applications	2	Elsevier Publishing
IFIP Advances in Information and Communication Technology	2	Springer Publishing

The below Table 4 represents the most cited and influential articles in the domain of e-commerce marketing research on privacy concerns, with 229 citations, the article “Exploring motivation for consumer Web use and their implications for e-commerce” by Joines et al. (2003) is the most impactful. They focused on the influence of demographic variables and serviced-related information and online purchasing and transactions. More importantly, transactional privacy concerns negatively affected on product searches and online shopping while economic motivations positively affected on them. Meanwhile, implications for e-commerce and advertising were found to be discussed. Moreover, with 186 citations, Nepomuceno et al. (2014) performed the second most impactful research on “How to reduce perceived risk when buying online: The interactions between intangibility, product knowledge, brand”. The research focused on product intangibility and the moderators affect perceived risk in the context of shopping online. The researchers found that while interacting with intangible security, consumer privacy concerns increased perceived Internet risk in the same degree. Overall, product knowledge, privacy and security concerns, perceived risk are required to build trust to seize the online shopping opportunity available and to promote more successful transactions in e-commerce marketing.

Table 4. Most influential articles on privacy concerns in e-commerce marketing

Authors	Title	TC
Joines J.L. et al.(2003)	“Exploring motivations for consumer Web use and their implications for e-commerce”	229
Nepomuceno M.V..(2014)	“How to reduce perceived risk when buying online: The interactions between intangibility, product knowledge, brand”	186
Lian J.and Lin T.(2008)	“Effects of consumer characteristics on their acceptance of online shopping: Comparisons among different product types”	165
Roman S.(2007)	“The ethics of online retailing: A scale development and validation from the consumers' perspective”	153
Milne G.R.(2000)	“Privacy and ethical issues in database/interactive marketing and public policy: A research framework and overview of the special issue”	143
McCloskey D.(2003)	“Evaluating electronic commerce acceptance with the technology acceptance model”	131
Ashworth and Free(2006)	“Marketing dataveillance and digital privacy: Using theories of justice to understand consumers' online privacy concerns”	121
Chen H. et al.(2017)	“Securing online privacy: An empirical test on Internet scam victimization, online privacy concerns, and privacy protection”	85
Chang S. et al.(2016)	“The mediation of cognitive attitude for online shopping”	67
Zhang T. et al.(2019)	“The mediation of cognitive attitude for online shopping”	61
Notes: TC=Top citations		

5. THEMATIC ANALYSIS

Recall that the authors have combined privacy concerns in e-commerce marketing context with “privacy concerns” and “e-commerce marketing” (Table 1). According to existing published papers on privacy concerns in e-commerce marketing context, the most common key words are: e-commerce, privacy concern(s), consumer behavior, trust, sales, online shopping, purchasing and surveys. Based on the frequency of keywords, the following step is to conduct five items: electronic commerce (25), privacy concerns (12), online shopping (12), digital marketing (9) and consumer behavior (8).

5.1. Themes I: electronic commerce (E-commerce or EC)

Liu and Arnett (2000) identify four factors information and service quality, playfulness, system design quality and system use these four factors are vital to Internet success in the context of electric commerce (EC). The research also indicates that security is not a sufficient condition but a necessary condition which cannot guarantee consumers. The purpose of the research provides significant managerial implications of Internet success in electronic commerce (EC) activities. Safa and Ismail (2013) confirm with the development of new technologies, traditional business has been transformed to modern or electric business with less transactional time, cost and mistakes for both online sellers and consumers. Due to fierce business competition environment on the Internet, electronic trust, consumers satisfaction and loyalty play crucial roles on transactions which take place over Internet. In addition, the researchers highlight technological factors most impact on customer satisfaction and organizational factors affect electronic trust most.

Turban et al. (2018) describe E-commerce is not just about purchasing and selling online, it is about social networks, communicating online, discovering information, learning online and so on. Since 2014, the most impactful developments in E-commerce are continuous growth with expansion of mobile devices. E-commerce has a significant influence on e-government, social networks globally, especially in China. Meanwhile, new emerging business models change industries and have an impact on people's professions and lifestyles. It also brings latest trends including social commerce and shared economy. Watson (2023) highlights E-commerce is a great revolution in modern business practices. It not only takes advantage of new information technologies, but also improves organizational performance. With the rapid development, the organizational performance acquires increasing market share, improving profitability, gaining customer satisfaction and delivering online goods faster. It involves all aspects of electric interactions with online consumers, retailers, business regulators and employees at large. Overall, E-commerce diversifies business models by taking latest diverse products or services to new markets with less time and geographical boundaries and enhances global economic development.

5.2. Themes II: privacy concerns

Wang et al. (1998) identify the Internet revolutionized retailing marketing and became the world's largest public marketplace. Customers can purchase a variety of goods from online retailers all around the world directly. Despite the Internet has changed traditional business model and presented modern business transactions and a paradigm of new business relationships, the most crucial hurdle against Internet public marketplace with new business model is lack of online consumers' trust. With the emergency of e-commerce market, online consumers have identified is lack of confidence and regarding loss of individual privacy associated with worries and distrust. Goldfarb and Tucker (2012) highlight consumer privacy concerns have shifted over time with information and technology revolution for commercial purpose. For example, in the context of e-commerce, consumers become more privacy-protective while involving personal data about health products. Additionally, privacy concerns have changed across different age groups in particular personal private context. Ismagilova et al. (2020) provide a significant perspective on privacy issues for academic researchers and practitioners and offer major direction for highlighting the security and risks. In a nutshell, privacy concerns have transformed with time and age groups especially in mobile devices ages.

5.3. Themes III: online shopping

Online shopping has shaped life simple and convenient of individuals and age groups. Wolfinbarger and Gilly (2001) discuss advantages and disadvantages of online shopping, such as convenience, more selection, freedom and lack of guarantee compared to offline shopping. The researchers also explore the difficulty of organizing online communities and the vital e-commerce goal should be more successful transactions online with the help of communications vehicle. Lissitsa and Kol (2016)

illustrate according to large scale social surveys, the use of Generational Cohort Theory to examine online purchasing behavior both Generation X and Generation Y in the past decade. Online shopping is one of the most popular activities because Internet usage has increased dramatically, providing online consumers easier ways for acquiring products information and online communities, especially more shopping behavior between Generation X and Generation Y than other age groups. Alrawad et al. (2023) identify perceived risks and uncertainty affect online shopping services and consumers' purchasing decisions. The researchers also support online shoppers understand consumers' concerns while considering online shopping intention in order to more online transactions. Overall, online shopping has significantly impacted on business models and consumer purchasing behavior.

5.4. Themes IV: digital marketing

Chaffey and Ellis-Chadwick (2019) describe digital devices and technology have transformed marketing and illustrate different types of digital marketing platform as well as opportunities and challenges of digital marketing. From Internet marketing to digital marketing shows traditional online shopping has transformed the use of digital media, platforms and technology to achieve marketing objectives. Moreover, digital marketing focuses on utilizing various types of online company presence including mobile apps and social media company websites. Kingsnorth (2022) illustrate the differences between digital marketing and online marketing and social media revolution has completely changed Internet usage and consumer behavior. Digital marketing first emerged as a specific term in 1990s, and transformed with time and technology. Additionally, in the past 20 years, digital marketing has moved forward at a dramatic pace and people's lifestyles have changed beyond they had changed in the last five decades before. Consequently, in the real and virtual worlds, digital marketing has transformed into global marketing over the past two decades.

5.5. Themes V: consumer behavior

Consumer behavior deals with individuals' behavior of shopping products or services. It is considered as the procedure of obtaining and organizing information of purchasing decision and evaluating goods or services (Hoyer et al., 2012). In the context of online shopping, cheaper price, more convenient and time saving are conducted crucial factors that result in certain consumer behavior and purchasing decision. Moreover, Chetoui et al. (2021) investigate vital factors impact on consumer behavior in online shopping context. Electronic word of mouth and trust significantly affect on consumer behavior toward online shopping. Meanwhile, consumer privacy is dynamic and consumer privacy concerns is the primary challenge faced by consumers while shopping online (Shome et al., 2023). Therefore, consumer behavior is not just purchasing to meet consumers' needs and wants, but also involving decision-making procedures in social life.

In sum, previous research has examined privacy concerns in e-commerce marketing from perspective of five synthesis themes. Although the research has prompted our understanding of e-commerce, future research direction is suggested to investigate the effects of consumer privacy and purchasing behavior.

6. IMPLICATIONS

6.1. Academic implications

This current study contributes to the literature in theoretical and practical ways. Considering the academic implications, firstly, the authors presented a systematic review and synthesize privacy concerns literature over e-commerce marketing to examine the dynamic development in recent years. Moreover, the study presents a systematic synthesis of the literature for better understandings of consumer privacy phenomenon. Next, based on a systematic synthesis of consumer privacy literature,

this review synthesizes the theoretical perspectives used and acquires a concise view. Consumer privacy literature has expanded in recent years as well. Lastly, the authors have examined understudied and explored areas in privacy literature and proposed future research directions in the domain. Furthermore, we highlighted expanding consumer privacy research to unexplored territories and phenomenon. Overall, this systematic review contributes to consumer privacy literature in e-commerce contexts.

6.2. Practical implications

This present study identifies some practical implications which will be helpful for marketers and entrepreneurs. They can gain overall information about existing studies in this domain. The outcome shows that privacy concerns negatively affect on consumer behavior and the frequency usage of e-commerce platforms. Moreover, a well-defined government policy reduces customer's privacy concern in high privacy protection region. Consumer behavior may vary depending on their online privacy well protected or not. Therefore, in order to protect online consumers' privacy, consumer data should not be shared with third party without consumer's permission.

7. CONCLUSION AND LIMITATION

The authors conducted a systematic literature review of 81 articles in Scopus database to determine present state of research on privacy concerns in e-commerce marketing context. In the course of the research, the most impactful sources, top citations and articles are explained in this review, an increasing trend of research are also observed with upward publication since 2017. Based on providing a comprehensive synthesis in the area of privacy concerns in e-commerce marketing, this study primarily contributes to academic researchers and practitioners. Furthermore, systematic literature review is a methodological contribution to guide similar studies in this domain in the future.

Apart from mentioned contributions of this review, there are some limitations which should be acknowledged. First, the study is limited to define data extracted from the only Scopus database. Hence, future research should be done using combination data from both Scopus and WoS database for more precise analysis. In addition, published works in book chapters and conference paper were excluded in this review, we used keywords-based search to confine the literature. Therefore, any other articles which involve relevant keywords such as privacy protection, data security and privacy security may be ignored. Future studies should be elaborated on a wider perspective. Also, the combination of systematic review and bibliometric is a new methodological research in the future.

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