



Gender Differentials on Information Sharing and Privacy Concerns on Social Networking Sites: Perspectives From Users

Ibrahim Mutambik, King Saud University, Saudi Arabia

Abdullah Almuqrin, King Saud University, Saudi Arabia

 <https://orcid.org/0000-0002-6692-9694>

Yulong Liu, Massey University, New Zealand

 <https://orcid.org/0000-0002-5762-7854>

Maryah Alhossayin, King Saud University, Saudi Arabia

Fatmah Hussain Qintash, King Saud University, Saudi Arabia

ABSTRACT

This paper undertakes to explore the perceptions of academics regarding information sharing on social network sites (SNS) and related privacy issues. Specifically, the paper was designed targeting academics using SNS to disseminate information and/or for other academic purposes. The paper is based on a mixed method research, the exploratory stage consequential for the confirmatory stage of the research. The findings of the research highly the complex relationships between personal information collection and usage (PICU) factors, personal information control (PIC) factors, and awareness of the effectiveness of privacy policy (AEPP) factors. This culminates in the formulation of a research model based on the theory of reasoned action. Given that the research took place within a context where gender is significant in shaping the worldview of the individual, groups, and society, the paper also seeks to contribute to the existing gender-based narrative on information sharing and privacy issues on SNS, mainly demystifying gender-based stereotypes.

KEYWORDS

Awareness of the Effectiveness of Privacy Policy, Gender, Information Privacy, Information Sharing, Personal Information Collection and Usage, Personal Information Control, Social Network Sites

INTRODUCTION

Often referred to as the ‘new norm’, academics across disciplines have resorted to the use of SNS in order to disseminate information and for information sharing in recent years. This ‘new norm’ of information sharing has challenged traditional modes and methods of information sharing in the academic realm for a number of reasons, not least its methods are unorthodox (Gorska et al., 2020). There are also genuine ethical questions including privacy issues being raised about the use of SNS for the dissemination information sharing by academics (Nemati et al., 2014). Yet, this ‘new norm’

DOI: 10.4018/JGIM.2021050110

This article, published as an Open Access article on April 16, 2021 in the gold Open Access journal, Journal of Global Information Management (JGIM) (converted to gold Open Access on January 1, 2021), is distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>) which permits unrestricted use, distribution, and production in any medium, provided the author of the original work and original publication source are properly credited.

also presents a lot of opportunities, including but not limited to the avoidance of bureaucracy by publishers, and the ability to reach wider berth instantly. Given that research interests in this area seems relatively subdued or in its nascent stages at best (Barnes, 2006; Gorska et al., 2020; Mousavi et al., 2020; Rafique, 2017), this paper explores the gender dimension of the broader subject matter by interrogating the views of male and female academics on the issue of privacy.

Generally, SNS platforms over time have put in place measures to protect users' privacy and allow them to control the information they share through the use of privacy policies and settings features. However, such sites face their own challenges, including what the content users share with other people, intrusion on online privacy, and other ethical conduct (Gorska et al., 2020; Krishnamurthy & Wills, 2009; Mousavi et al., 2020; Nemati et al., 2014). Another common danger associated with SNS, more often than not, is that information on such sites is subject to misuse including the sharing, doctoring and deliberate wide misuse of data with personal identifiable information as well as non-anonymized facts without the consent of users (Cao & Everard, 2008; Chen et al., 2013; Gorska et al., 2020; Mitchell & El-Gayar, 2020; Nemati et al., 2014). Users' private information could also be easily collected, disclosed, and shared with other businesses and organizations with or without the knowledge and consent of users (Cao & Everard, 2008; Chen et al., 2013; Gorska et al., 2020). Further, identity theft and privacy invasion are critical problems facing SNS firms (Mitchell & El-Gayar, 2020). There is therefore a growing genuine concern over the threat, perceived or real, about the use of SNS by academics for the dissemination of information.

Under the backdrop that there are several pioneering studies that have examined online privacy in general (e.g. Cao & Everard, 2008; Gorska et al., 2020; Khandelwal et al., 2020; Mehta & Sivadas, 1995; Miyazaki & Fernandez, 2001; Mutimukwe et al., 2020), this paper provides an alternate perspective based on the gender of users. This paper also proposes a theoretical framework within the discourse of information dissemination on SNS and its consequential privacy challenges. Specifically, this paper focuses on exploring two principal questions:

RQ1: What are the gender differentials on information sharing by academics on SNS?

RQ2: Are the privacy concerns by academics who share information on SNS gendered?

The evidence from classical existing literature on the issue of information privacy suggest that at best, there are conflicting perspectives regarding the differences between the perceptions of males and females on information privacy in general (Carr & Kaynak, 2007; Rafique, 2017). For example, while some researchers find no gender differences in a number of privacy-related issues (e.g. Gorska et al., 2020; Lin & Brooks, 2013; Xiaolin Lin et al., 2013); others argue that there are demonstrable gender differences in a number of privacy-related issues (e.g. Dwyer et al., 2002; Mutimukwe et al., 2020). The significance of exploring the gender dimension of privacy in the use of SNS is to promote education on the topic, trigger political debates, make a case for gender equality and help in shaping policy. Such is necessary, particularly in cultures with strict gender roles. This paper therefore seeks to explore the gender differentials on information sharing and privacy concerns on SNS from the perspectives of academic users. The ensuing section provides a review of the literature on information privacy concerns.

LITERATURE REVIEW

In an era of growing use of SNS for both academic and non-academic purposes, information sharing is an important concept worth exploring in relation to this paper. According to Wang and Noe (2010, p. 117), the term information sharing is defined as "the provision of task information and know-how to help others and to collaborate with others to solve problems, develop new ideas, or implement policies and procedures". Further, Al Saifi et al. (2016) also defined the concept of information sharing

as a process of exchange between people, groups, or organizations that has a source and a recipient. Information sharing therefore takes place when individuals convey their information to others, or acquires it from them. In recent years, SNS have become a major medium used as a conveyor belt for information sharing. Doing so through the use of SNS presents us opportunities to communicate, collaborate, connect, and cooperate to exchange knowledge, skills, news and maintain contact (Issa et al., 2019).

The merits of SNS for academics is not farfetched including; the ability to enable users to share information across a range of different information fields, such as shopping, culture, arts, sports, and business, among others (Al Saifi et al., 2016; Chen & Sharma, 2012; Majchrzak et al., 2013). SNS also allows users to rapidly and easily integrate their own information and ideas with those of others, anywhere and at any time (Majchrzak et al., 2013). Further, SNS present a hugely effective virtual space in which information can be shared and acquired by many individuals, groups, and communities (Kwahk & Park, 2016). Specific to the realm of education, SNS quickens the accomplishment of task, allows for easy collaboration and enhances network sustainability (Issa et al. 2019). Other benefits of such SNS include the propensity of being able to provide key tools that enable the connection of many users in one place, who can quickly and easily share their thoughts, experiences, and information with one another (Kaplan & Haenlein, 2010). Majchrzak et al. (2013) have also identified that SNS help users to easily find useful information within their organizations. This claim is supported by Al Saifi et al. (2016) who have demonstrated that employees are often encouraged by their employers to use SNS for information sharing as it is considered the most efficient way to disseminate information. Moreover, about 86 percent of managers are perceived to consider SNS to be beneficial for sharing information in their companies (Al Saifi et al., 2016; Chen & Sharma, 2012; Majchrzak et al., 2013). On the flipside, issues such as depression, loneliness, as well as security and privacy concerns have been identified as some disadvantages of SNS (Issa et al., 2019). Of interest in this paper is information privacy and the use of SNS for information sharing, a subject matter explored below.

Information privacy concerns are individuals' attitudes and perceptions of how and why information about them is shared with others, and how fairly their personal information is treated (Campbell, 1997; Cao & Everard, 2008; Kruikemeier et al., 2020). Individuals often have widely varying attitudes and opinions regarding information privacy on SNS. For instance, the privacy concerns of individuals, Culnan and Bies (2003) have argued is significantly affected by external influences including culture, industry and the rule of law in a country. Individuals' privacy concerns can also differ according to their previous experiences and personal characteristics (Kruikemeier et al., 2020; Libaque-Sáenz et al., 2020). Scales used by practitioners to measure people's information privacy concerns are typically of the one-dimensional global privacy concern (GPIC) type (Jacobson et al., 2020; Jozani et al., 2020). GPIC does indeed measure privacy concerns in a general sense, but does not delve deeper into the specific dimensions of these concerns. Therefore, in order to obtain a better understanding of people's privacy concerns, a number of studies have been carried out utilizing more rigorous methodologies. This shift has resulted in the development of a new multidimensional scale referred to as 'Concern for Information Privacy' (CfIP). The CfIP scale is more accurate in measuring individuals' concerns regarding the privacy practices used by organizations. The CFIP scale comprises 15 items, compiled to reflect four dimensions of information privacy concerns, namely improper access; collection; unauthorized secondary use; and errors. Stewart and Segars (2002) have further established the psychometric properties of the CFIP scale, and confirmed these properties empirically.

Since the four-dimensional CFIP model was established as a valid and reliable measurement tool, it has been applied with considerable success in research related to offline direct marketing, internet and app usage as well as social media marketing (Jacobson et al., 2020; Jozani et al., 2020; Libaque-Sáenz et al., 2020; Stewart & Segars, 2002). Nevertheless, "the dimensionality is neither absolute nor static, since perceptions of advocates, consumers, and scholars could shift over time"

(Smith et al., 1996, p. 190). This is certainly true and is evidenced in the universal adoption of the internet and subsequent massive shift in how businesses conduct their operations.

On the subject of gender, research has helped to establish that data on users of SNS could be transformed into useful information and actionable knowledge based on their gender (Gorska et al., 2020; Xu et al., 2017). Therefore, the question of whether gender may affect the way people share their information and its associated privacy issues has gained both prominence and legitimacy over time. For instance, it has been established that in online communication, women are more likely to express their opinions subjectively and express emotions than men (Gorska et al., 2020; Venkatesh et al., 2003; Zhang et al., 2009). Gender differences have also been long studied in the adoption and use of IT (e.g. Ahuja & Thatcher, 2005; Venkatesh et al., 2003). Further, and more specific to gender differences in the context of SNSs, more recent studies suggest that gender differences exist in both the effects of satisfaction and attractive alternatives among bloggers in regard to their intention to switch (Chen et al., 2013; Gorska et al., 2020; Xiaolin Lin et al., 2013; Zhang et al., 2009). There is also evidence that men and women use SNSs differently as well as with varying frequencies (e.g. Ong & Lai, 2006). Men and women also differ in the subject matter and/or topics they share on SNS (Chen et al., 2013; Gorska et al., 2020). For instance, while women are more likely to share a variety of topics, men are more likely to share information about sports. Men and women are also deemed to differ in their perceptions of risks and benefits associated with information sharing on SNS (Gorska et al., 2020). For example, it has suggested that men have a stronger inclination to taking risk on SNS; while women are considered to be relatively risk adverse.

This study is based on a mixed method approach to research – that is, a combination of both quantitative and qualitative research techniques, methods, approaches in a single study (Johnson & Onwuegbuzie, 2004, p. 17). The reason for using a mixed method approach was, principally, an acknowledgment that either methods are limited on their own for object and purposes of this study (Braun & Clarke, 2006). The use of a mixed method therefore offered us the opportunity to draw on the strengths of each, thereby, allowing for the provision of a rich and detailed findings. In practical terms, this study involved two separate stages, namely: the exploratory stage and the confirmatory stage.

EXPLORATORY STAGE

The exploratory stage was based on findings from the existing literature, which was relied on to develop the hypothesis for this study. The aim was to collect sufficient and rich data that will allow for a deeper interrogation of the research question. The following sub-sections provide detailed description of how the data gathering in the exploratory stage was achieved.

Sample and Data Collection Procedure

The research sample and data collection procedure involved interviews with 18 randomly selected academics who are users of SNS for the dissemination of information. The selection criteria included each participant having experienced sharing information on at least one SNS for at least a year. Participants were also selected from diverse academic backgrounds as well as gender. More details about the interviewees are shown in Table 1.

The sample size was determined based on the concept of saturation. Saunders et al. (2018, p. 1894), defines data saturation as a method, which is “a criterion for discontinuing data collection and/or analysis”. In this instance, the number of participants for the interviews was considered to be enough, as the final three interviews did not seem to reveal any new themes or perceptions different from earlier interviewees. Each interview session lasted approximately an hour. All interviews were recorded for later transcription and analysis. The findings of this exploratory stage which set the basis for the research hypotheses and model are presented below.

Table 1. Participant characteristic distribution for the interviews

Participant Characteristic		Frequency
Gender	Male	10
	Female	8
SNS experience	> 3 year	7
	3 to 5	6
	< 5	5
Academic background	Humanities	11
	Sciences	7

Findings of the Exploratory Study and Developing the Hypotheses

The findings of the exploratory study stage were analyzed using a thematic analysis approach, which is “a method for identifying, analyzing and reporting patterns (themes) within data” (Braun & Clarke, 2006, p. 97). Here, themes are drawn from textual data and are identified, examined and interpreted to find out how these themes can help answer the research question. In order to make sure this process was as rigorous as possible, the data were triangulated to identify any points of convergence (agreement/common understanding among all participant groups), divergence (disagreement/differences in understanding among groups) and complementarity (to help provide a deeper understanding of participants’ views).

Further, while there is a dearth of literature exploring information privacy concerns in an SNS context, the notion of gender differences across the spectrum of disciplines including academia is new. In this paper, the perceptions of the research respondents on information privacy as identified and articulated in the exploratory study will be explored and discussed based on gender. The findings are presented based on the following three thematic areas – that is, Personal Information Collection & Usage (PICU), Personal Information Control (PIC), and Awareness of the Effectiveness of Privacy Policy (AEPP).

Information Collection and Usage (PICU)

Defined as the concerns of users about how individual-specific information possessed by SNS are utilized, this dimension of the exploratory study explored the influence of PICU on SNS for information sharing. In the data, two common themes came through highlighting the perceptions of male participants. For instance, it was suggested by the male participants that, “Whether one is sharing information for personal reasons, doing so for academic purposes or other reasons, ... there is a cost or price to pay...” The participants argued that this perception helps to shape their perceptions when sharing information on SNS. They further explained that the ‘cost or price’ comes in various forms and could be, “theft of user personal information” or such data “being subject to misinformation”. In another sense, male participants were perceptive that, “The sharing of information or transfer of knowledge on SNS is the new norm regardless of discipline or context”. They argued that the onus is on individuals who need the services of such SNS to take interest in the processes involved in safeguarding their information. The position demonstrates that the male participants appeared to understand the challenges associated with the use of SNS for information sharing and that they are not influenced by PICU.

These perceptions are contrasted with the perceptions expressed by female participants who suggested that, “... hugely concern about how much information is collected by SNS. Given that none of these companies are in the Arab world, what does one do when there is a misuse of one’s data?” In contrast to the perception of the male participants, the views expressed by their female counterparts

appeared to be that of uncertainty if not fear. They stressed that, “We also know or at least have heard how powerful these companies have become over the years. It will even be scary to think about taking any of them to court in case of any breach of information”. Further, the female participants suggested that, “The privacy of information is radically different from the traditional methods of information sharing or knowledge transfer which we are used to...” The position of the female participants was much of concern and skepticism over how privacy issues are handled on SNS. This position is similar to concerns of users expressed in the existing literature. Data collection concerns are one of the most important factors affecting online usage including SNS (Y. Chen & Zahedi, 2016; Smith et al., 2011; Yu et al., 2020). Gillespie and Dietz (2009) have also identified that an individual’s perception of the actions taken by SNS with regard to data collection has a significant impact on their decision to use the site or its services. It has also been demonstrated that data collection concerns are able to affect people’s attitudes towards SNS and the level of trust placed in them (Ayaburi & Treku, 2020). However, trust can be repaired provided there is response, diagnosis, intervention and evaluation, and each are carried out in a timely manner and can show that there is capacity to prevent future invasion of privacy (Ayaburi & Treku, 2020).

Based on the above findings from the exploratory study and literature review regarding SNS privacy concerns, we hypothesize that:

Hypothesis One: The PICU influences users’ intention to use SNS for information sharing.

Hypothesis Two: The PICU influences on users’ intention to use SNS for information sharing differ between male and female users.

Personal Information Control (PIC)

PIC is defined in this study as the degree to which users believe they have control over their individual-specific information on SNS. This dimension of the exploratory study explored the influence of PIC for information sharing on SNS. Overall, the participants identified that PIC does have influence on their information sharing on SNS. Yet, there were glimpses of the gender divide on this theme. For instance, a strong perspective of the male participants expressed was that, “... privacy of the information shared on SNS is most significant but most users have no control of the data they share making them vulnerable ...” The lack of control of what users of SNS renders them vulnerable to the owners of these sites and other unauthorized users of such data and/or information. In their view, the only control users of SNS can exercise to, “Share information on SNS when you know that such information is harmless and good for public consumption”. The male participants therefore had the perception that their lack of control and vulnerability was to be mitigated by circumspection and due diligence by users regarding what they put of such SNS.

Perspectives of female participants expressed the following perceptions about PIC. For instance, it was suggested that, “... PIC is pertinent but only to the extent of how much SNS savvy a user is. ..., the use of filters available on SNS and having very strong passwords help...” This view sought to put the burden on the individual user of SNS. It means that by learning how to better manage and protect the information in the possession of a user, by focusing on how personal data are collected, used, stored, and exchanged. Further, the participants proposed that, “... users need better self-education because it not the responsibility of governments in this case and those companies won’t do it either”. This is to suggest that the issue of PIC is an individual responsibility. In the literature, it has been suggested that the necessity of having control (perceived or real) over the information users share on SNS has a significant influence on decision-making and information sharing behaviors (Gabriel et al., 2020; Lunardo & Saintives, 2020). Moreover, it seems natural that if a person has perceived control over a situation then certain positive outcomes are achieved, such as user acceptance (Donmez-Turan, 2019). Perceived control of information also plays an active role in internet information privacy (Krasnova et al., 2010; X Lin & Brooks, 2013). Further, Yu et al. (2020) found that individual’s perceived control

when using online services affected their attitudes towards sharing their information. Users of SNS such as Twitter and Facebook make decisions about sharing their information with the sites based on their perceived level of control over its use (Lin et al., 2013).

Based on the findings from the exploratory study and the literature reviewed in relation to this theme, we hypothesize that:

Hypothesis Three: The PIC influences users' intention to use SNS for information sharing.

Hypothesis Four: The PIC influences on users' intention to use SNS for information sharing differ between male and female users.

Awareness of the Effectiveness of Privacy Policy (AEPP)

This refers to the degree of awareness of users about information privacy on SNS. This dimension of the exploratory study explored the influence of AEPP on information privacy on SNS. Against the backdrop that user awareness of about information privacy on SNS influence their perception, the following demonstrate the position of male and female participants. First of all, the male participants argued that, "... Aware that all the big companies collect user's data from SNS and that these companies have long advocated regulating privacy and data protection through self-regulation..." These self-regulatory mechanisms, the male participants suggest, though provide greater flexibility for users, "Many users still struggle because of the technicalities and/or lengthy nature of these privacy policies of SNS". Another layer highlighted is the awareness that, "these privacy policies on SNS are non-binding on the companies". It was also suggested that on this issue, it really does not matter which particular SNS they all seem to be the same and have similar interest, which is to maximize profits.

The above sentiments were shared by the female participants. They added the following: "... the privacy policies matter... as females who are Muslims such privacy policies are rather generic and often built to fit the laws of western countries". They quizzed if it was possible to have country or context specific privacy policies to take care of the cultural needs. In addition, the female participants suggested that, "The level of awareness of users of SNS depend on their level of education and exposure ...". In this regard, the question of how do users seek redress when something goes wrong about your personal information which compromises your safety was flagged. The importance of privacy policies is in terms of users' perception towards sharing their information on SNS. The awareness and effectiveness of privacy policies focus on the potential for misuse or unauthorized disclosure of users' personal information (Balapour et al., 2020; Pavlou & Gefen, 2004). This kind of privacy policy awareness has been shown to impact on users' attitudes, including how willing they are to share personal information (Dinev & Hart, 2006; Trepte et al., 2020) and make transactions online (Slyke et al., 2006; Zimaitis et al., 2020).

Similarly, an individual's lack of awareness of privacy policies or lack of effectiveness of these policies have a negative impact on their likelihood of providing personal information online (Balapour et al., 2020; Zimaitis et al., 2020). For SNS, users' information could in principle be easily gathered, shared, and utilized without their consent or awareness. This knowledge may result in users perceiving these sites as high risk, thus reducing their willingness to share their information with them. Thus, with greater awareness of how their information is treated individuals will have more favorable attitudes towards online information sharing.

Based on the findings from the exploratory study and the reviewed literature in relation to internet privacy concerns, we hypothesize that:

Hypothesis Five: The AEPP influences users' intention to use SNS for information sharing.

Hypothesis Six: The AEPP influences on users' intention to use SNS for information sharing differ between male and female users.

It has been demonstrated in the existing literature that information privacy has a stronger impact on women (e.g. Kwahk & Lee, 2008; Tifferet, 2019; Youn, 2009). Others have also sought to show that men are more strongly affected (e.g. Huang et al., 2018; Kisilevich et al., 2012). Yet, others have shown no differences between genders (Tufekci, 2008). Although this does not settle it, the differences highlighted here provide some significant glimpses that will be further explored.

Developing the Research Model

Arguably, the provision of personal information to SNS by individuals mark a long-term relationship between the individual and the SNS provider during which the individual shares information and the SNS provider is expected to hold such information in trust. Indeed, at the heart of such relationship is the fundamental assumption that the privacy of the information provided by individuals are protected and secured by the SNS providers. Thus, the research model was developed around the concept of information sharing privacy using the three thematic areas developed through the exploratory stage of this research, and theory of reasoned action (Fishbein & Ajzen, 1975).

TRA was developed by Fishbein and Ajzen in 1975 to explain, in general, why individuals exhibit certain behaviors. TRA is popular among researchers, familiar to many students, and accepted by policy makers. While TRA is drawn from the fields of psychology, it is applied in other fields such as information sharing and information privacy. TRA focuses on explaining behavior based on the individual's intention to undertake specific behaviors, such information sharing behaviors. Additionally, the individual's intention depends on, or is a function of, other person's factors specific behavior that explore (Ajzen, 1985). Based on this, we hypothesize that:

Hypothesis Seven: The intention to share information influences users' information sharing behavior.

Hypothesis Eight: The intention to share information on users' information sharing behavior differ between male and female users.

Figure 1 presents below illustrates the proposed relationship among PICU, PIC and AEPP and how theses influence a users' decision to use SNS.

CONFIRMATORY STAGE

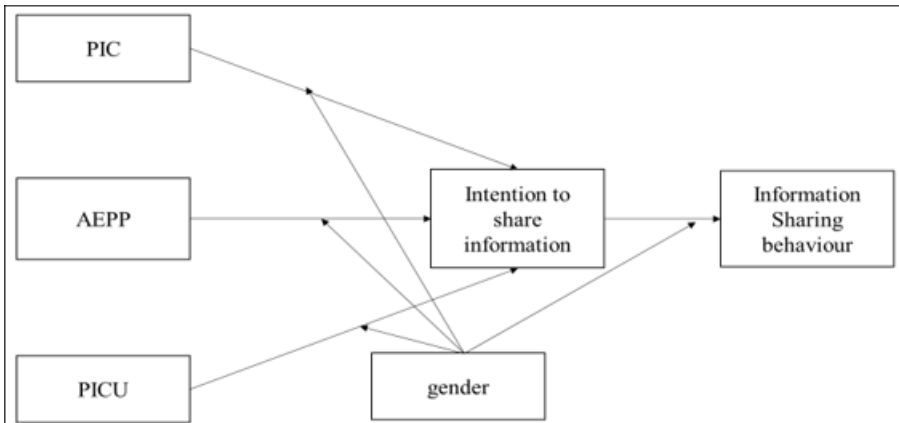
The confirmatory factor analysis stage was based on a questionnaire developed from the outcome of the first stage of this research as explained above. The questionnaire was used for testing and validating the research model as well as seeking to establish any gender differences that have significant influence on SNS users in relation to their information sharing and information privacy.

Developing the Research Questionnaire

There are various ways of developing items for surveys (Greene, 2007; Straub & Gefen, 2004). In this study, the questionnaire was developed out of the results of the interviews and review of the literature. A pool of 27 items was generated to reflect SNS users' information sharing and privacy concerns. Each of the items followed a seven-point Likert scale measurement, ranging from 'strongly disagree' to 'strongly agree'. Subsequently, the items were modified, wherever possible, to mirror existing scales that have been proven to be reliable. For instance, items that represented AEPP were adapted partially from Smith et al. (2011). Most of the items, nonetheless, were created for this study in order that the aims and objectives of the study could be met (see Table 3).

The questionnaire was then piloted to make sure that it was accurate and would be clearly understood by the participants as recommended by some experts in the field (e.g. Bryman & Bell, 2003; Van Teijlingen et al., 2001). The number of participants in the pilot was 65 SNS users (54% female, 46% male). This number included participants who actively used at least one SNS such as

Figure 1. Research model (Adapted from the theory of reasoned action (Fishbein & Ajzen, 1975))



Twitter, LinkedIn or Facebook for information sharing. The questionnaire was then altered slightly to improve the flow and easy understanding based on the feedback from the participants (see Table 3).

Content Validity Assessment

It was necessary to revalidate the questionnaire through content validity prior to data collection because the questionnaire was a mosaic of adapted items from earlier validated questionnaires and others developed solely for this study. MacKenzie et al. (2011) and Straub and Gefen (2004) recommend that in such instances, a content validity assessment be carried out. According to Field (2013, p. 13), content validity is defined as “the degree to which individual items represent the construct being measured, and cover the full range of the construct”. In this study, we relied on ‘expert judgement’, through which several experts were asked to judge the validity of the items in the questionnaire. We considered individuals to be experts according to their years of experience, standing in their field, research output, and qualifications (DeVellis, 2016). Although there is no consensus on the optimal number of experts to use, it seems at least three is the most common approach (Lynn, 1986). We invited 20 experts in the field via email but 11 returned their completed surveys. Based on the responses gathered from the experts, the first set of items was reduced from 27 items down to 20, with all items being sufficiently validated. These remaining items were then reviewed a second time to ensure that no further issues were raised prior to primary data collection.

Primary Data Collection

The study utilized a simple random sampling strategy by reaching out to a large number of participants through the mailing list of a number of University in Saudi Arabia. The web-based online survey was hosted by Google Forms, a widely used internet-based application, over two months for data collection. The mailing list comprised of students, lecturers and other staff with an interest in using SNS. We sent emails of reminder to non-responding participants bi-weekly to increase the response rate. Overall, a total of 421 questionnaires were returned; nine were disregarded due to missing information, and 412 valid questionnaires were used. Table 2 summarizes the respondents’ demographics and diversity of their profiles – gender representation, cultural diversity, and variety of social network site usage.

Data Analysis Techniques

The Statistical Package for the Social Sciences (SPSS) version 21 was used to code and clean up the collected raw data for further analysis. For example, the maximum, minimum, and frequency scores of each question were determined to make sure the data scores were entered accurately. Further, the

Table 2. Participant characteristic distribution for the questionnaire

Participant Characteristic		Frequency
Gender	Male	221
	Female	191
SNS experience	> 3 year	112
	3 to 5	203
	< 5	97
Ethnicity	Native	302
	Non-native	110
Academic level	Student	128
	Lecture	224
	Administration Staff	60

data were assessed to identify any potentially missed data (Hair et al., 2011). Structural equation modelling (SEM) was then used to analyze the psychometric properties of the measurement model as well as for hypothesis testing. The Amos (v.26) software package was utilized for the estimations at this stage.

Testing Measurement Model

The strength of the measurement model was tested using construct validity, defined as, “The extent to which a measured variable actually measures the conceptual variable (the construct) that it is designed to assess” (Stangor, 2007, p. 92). Further, the internal consistency reliability was assessed based on a set criteria adapted from the literature (see, Field, 2013; Fornell & Larcker, 1981; Hair et al., 2011). In this instance, factor loadings greater than 0.6, Cronbach’s alpha (CA) and composite reliability (CR) of greater than 0.7, as well as an average variance extracted (AVE) of over 0.5 were used to measure the strength of the model. Table 4 below presents the results of each of the factor loadings demonstrating that they either met or exceeded 0.6. In Table 3, the CR and CA values exceeded the criterion of 0.7, with the AVE reaching more than 0.5 for each construct. The diagonal values shown in bold represent the square root value for each of the constructs’ AVE, which are seen to be higher than the values on the rows beneath.

Results of Structural Model Evaluation

The Amos program was used for structural model analysis evaluation and for hypothesis testing – the results of the structural model test can be seen in Figure 2 below. It can be seen that: PIC, PICU and AEPP explain 44.6% of variance in intention to share information; and 56.5% of variance in information sharing behavior is explained by intention to share information – suggesting that a substantial amount of variance is explained (Chin, 1998). Further, the model fit was measured based on the SEM as reported in Table 5. The two indexes, normed fit index (NFI) and comparative fit index (CFI) are both above the 0.90 recommended and acceptable threshold, which is an indication that the model was a good fit. It is also recommended in the literature that for the Root Mean Square Error of Approximation (RMSEA) to be acceptable, it needs to be below 0.05 (Gefen & Straub, 2000). In this study, the RMSEA was 0.041, indicating its acceptability. Further, the chi-square value was 2.2, which is also less than the recommended and acceptable threshold of 3.0 by Schumacker and Lomax (2010). Overall, all the model-fit indices exceed the normal common acceptance levels, showing that the measurement model demonstrated a good fit with the data collected for this study.

Table 3. Correlations, Cronbach's alpha (CA), composite reliability (CR) and average variance extracted (AVE)

Constructs	CA	CR	AVE	Correlations				
				ISI	IS	PICU	PIC	AEPP
ISI	0.89	0.91	0.77	0.87				
IS	0.91	0.89	0.74	0.52	0.86			
PICU	0.88	0.91	0.68	0.68	0.76	0.82		
PIC	0.91	0.88	0.59	0.48	0.65	0.75	0.77	
AEPP	0.92	0.82	0.61	0.36	0.62	0.65	0.55	0.78

Note: Square root of AVE shown in bold as the diagonal. ISI: Intention to share information; IS: Information Sharing; PICU: Personal Information Collection & Usage; PIC: Personal Information Control; AEPP: Awareness of Effectiveness of Privacy Policy

Table 4. Constructs, items with factor loadings, and sources

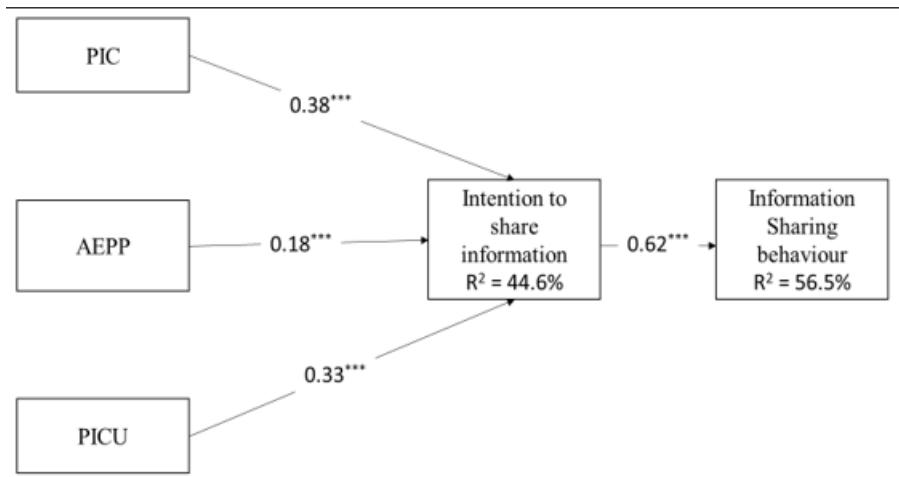
Constructs	Items	Loading	Source
ISI	ISI1: I intend to carry on sharing information using SNS.	0.86	(Fishbein & Ajzen, 1975).
	ISI2: I plan to carry on sharing information using SNS frequently.	0.89	
	ISI3: I will carry on try to share information using SNS in my daily life.	0.88	
IS	IS1: I often participate in information/knowledge sharing activities using SNS.	0.90	(Fishbein & Ajzen, 1975).
	IS2: I often share my experience or knowledge with others on SNS.	0.89	
	IS3: When participating on SNS, I usually actively share my information and knowledge with others.	0.78	
PICU	PICU1: It usually worries me when SNS ask me for personal information.	0.78	Self-develop based on the qualitative data & (Smith et al., 1996).
	PICU2: When SNS ask me for personal information, I sometimes think twice before providing it.	0.82	
	PICU3: It worries me to give personal information to so many SNS.	0.84	
	PICU4: I'm concerned that SNS are using my personal information for their business.	0.85	
PIC	PIC1: User control of personal information is the heart of user privacy.	0.78	Self-develop based on the qualitative data & (Krasnova et al., 2010).
	PIC2: I feel in control over the information I provide when using SNS.	0.75	
	PIC3: Privacy setting give me full control over the information I provide when using SNS.	0.72	
	PIC4: I feel in control of who can view my information when using SNS.	0.81	
AEPP	AEPP1: I believe that SNS privacy statements are an effective way to demonstrate their commitments to privacy.	0.77	Self-develop based on the qualitative data & (Smith et al., 2011).
	AEPP2: With their privacy statements, I believe that my personal information will be kept private and confidential by SNS.	0.71	
	AEPP3: I feel confident that SNS privacy statements reflect their commitments to protect my personal information.	0.86	

Finally, the results of the research suggest that all of our hypotheses are supported. PIC, AEPP and PICU have all been found to have significant effects on users' attitudes towards information sharing, as well as their intention to share information. This subsequently affects users' information

Table 5. Model fit

Index	Results	Ideal Acceptable Level
Chi-Square ($\chi^2/d.f$)	2.2	Value \leq 3.0
CFI	0.91	Value \geq 0.9
NFI	0.93	Value \geq 0.9
RMSEA	0.041	Value \leq 0.05

Figure 2. Results of structural model evaluation using the whole sample (Note: *** $p < 0.01$)



sharing behaviors on SNS. The t -values and standardized path coefficients of the model are presented in detail in Table 6.

Table 6. Path Coefficients and t -values for the whole sample

Hypothesis	Standardized path coefficient	t -value	Support?
Hypothesis One: PICU \rightarrow intention to use SNS for information sharing	0.33	5.18***	YES
Hypothesis Three: PIC \rightarrow intention to use SNS for information sharing	0.38	5.24***	YES
Hypothesis Five: AEPP \rightarrow intention to use SNS for information sharing	0.18	4.2***	YES
Hypothesis Seven: intention to use SNS for information sharing \rightarrow information sharing behavior	0.62	7.21***	YES

Note: ***, 0.001 significance

Gender Differentials Based on the Model

The hypotheses regarding group differences (male vs female) were tested using a multi-group partial least squares (PLS) analysis. This was achieved through comparison of the corresponding path coefficients in the structural model of both groups (Keil et al., 2000). Much of the existing literature also demonstrates the usefulness of multi-group PLS in identifying differences among subgroups (Ahuja & Thatcher, 2005). Given the sample distribution in this research, that is (221 male and 191 female participants), the analysis showed the standardized path coefficients for the female in regard to the relationship between PIC and PICU on the one hand, and intention to use SNS for information sharing on the other hand (see Table 7). These values were higher for female compared to that of the male participants. The female participants also showed higher standardized path coefficients in regard to the relationship between intention to use SNS for information sharing and information sharing behavior compared to the male participants. These results supported Hypothesis One, Two, Four, Six and Eight.

Table 7. Standardized comparisons of paths between female and male students

Hypothesis	Female (n = 191)		Male (n = 221)		Standardized comparisons of paths	Support?
	Standardized path coefficient	t-value	Standardized path coefficient	t-value	Δ path (Female - male)	
Hypothesis Two: PICU → intention to use SNS	0.65***	3.9	0.29**	2.72	0.36	YES
Hypothesis Four: PIC → intention to use SNS	0.48***	3.30	0.23***	3.42	0.25	YES
Hypothesis Six: AEPP → intention to use SNS	0.36***	2.97	0.21**	2.81	0.15	NO
Hypothesis Eight: intention to use SNS for information sharing → information sharing behavior	0.57***	6.38	0.30**	2.76	0.27	YES

DISCUSSION

In the current age of information technology, the use of individuals' shared information in a fair and transparent manner is a major ethical issue. Consequently, online privacy has been a primary concern for many SNS users (e.g. Blakesley & Yallop, 2019; Li et al., 2019; Roman, 2007). Understandably, recent studies regarding online privacy tend to be concerned with the moral and ethical behaviors of people, firms, and organizations (Gorska et al., 2020; Michaelidou et al., 2020; Mousavi et al., 2020; Nemati et al., 2014). In this study, we explored the perceptions of academics regarding information sharing on SNS and related privacy issues. Particularly, we were interested in understanding the gender differentials of academics in Saudi Arabia on this subject matter. It was also identified that gender is significant in shaping the worldview of individuals, groups and society within the research context. The paper therefore sought to contribute to the existing gender-based narrative on information sharing and privacy issues on SNS.

Principally, the research methodology used in this study sets it apart from many previous studies in this field this study (e.g. Michaelidou et al., 2020; Mousavi et al., 2020; Pavlou & Gefen, 2004).

This study is grounded on face-to-face in-depth interviews and a review of the relevant literature, which were used to systematically develop a model. Based on the outcomes of both the exploratory and confirmatory stages, this study provides a broader and more comprehensive understanding of the perceptions of academics regarding information sharing on SNS and related privacy issues.

The research outcomes also shed light on the importance of PICU, PIC, and AEPP influence in this regard. The empirical findings, for example, showed that PICU strongly influences SNS users' attitude and intention, which in turn influences their perceptions on information sharing. This outcome is similar to findings by Jozani et al. (2020) and Malhotra et al. (2004) who have identified that the privacy SNS users is an ongoing primary concern to those who share information on SNS.

Further, the empirical findings showed that PIC strongly influences the perception of SNS users, which in turn influences their information sharing behaviors. These results highlight how important individuals' perceived control of information relative to actual control of information. It has been demonstrated that while users of SNS do not have actual control, greater PIC meant more actual control to them; and lower PIC meant less actual control. Berings and Adriaenssens (2012) have also suggested, for example, that users' perceived privacy risks can be reduce their use of SNS and recommend giving them more options for controlling their information, including strategies like the implementation of more effective privacy policies and settings.

Another finding was that AEPP strongly influences SNS users' attitude and intention, which in turn influences their information sharing behaviors. This research outcome demonstrates that the more belief users have about AEPP on a SNS, the more they are likely to share information on those SNS. And although there are fewer studies that have explored the role played by AEPP on SNS, this is echoed in similar studies – for example, lower perception of privacy risk among internet users in general (S. E. Chang et al., 2017; Wu et al., 2012), online banking users in particular (S. E. Chang et al., 2017; Chang et al., 2018) as well as mobile application security (Balapour et al., 2020).

Finally, this study demonstrates that there are differences between females and males in terms of how important they feel PIC and PICU, attitudes and intention for their decision to use SNS for information sharing. Indeed, the existing literature makes the assumption that males and females base their knowledge and information sharing behaviors on the same factors (e.g. Chiu et al., 2006; Gorska et al., 2020; Oliveira et al., 2020). However, the differences found in this study highlight the value of spending more time examining such differences in the context of SNS online privacy risks. The research findings also support the suggestion that gender plays a moderating role in individuals' decision to use SNS for information sharing (e.g. Berings & Adriaenssens, 2012; Kwahk & Lee, 2008; Nemati et al., 2014; Tifferet, 2019), and give an interesting basis for future researchers to explore the gender differences in users' perceptions of SNS. Awareness of gender differences means that SNS designers will be able to create privacy features that are more user-friendly, and as a result, business will be able to capture customer information more effectively.

CONCLUSION

It is to be emphasized here that we set out to explore the perceptions of academics regarding information sharing on SNS and related privacy issues. In particular, we were interested in understanding the gender differentials of academics in Saudi Arabia on this subject matter. Overall, the research findings acknowledge that although both male and female users of SNS have concerns regarding the sharing of information and related privacy issues; this seems to have particular resonance in the Saudi context. These findings therefore raise a cultural question regarding gender in the SNS space – something worth exploring in future studies. This study could also have benefitted in further examining whether other control variables e.g. SNS experience, ethnicity could determine the information sharing behaviour of users independent of gender differences – another consideration for future research work. Finally, although the SEM analysis could have further examined other constructs to confirm the full mediation role of intention to use SNS for information sharing for the relationship from PIC, AEPP and PICC

to information sharing behaviour as indicated in the model; this was considered a step too far for the object and purposes of this current study. It would be explored in future studies.

ACKNOWLEDGMENT

The authors extend their appreciation to the Deanship of Scientific Research at King Saud University for funding this work through research group No (RG-1441-527).

FUNDING AGENCY

This research is funded by the Deanship of Scientific Research at King Saud University through research group No (RG-1441-527).

REFERENCES

- Ahuja, M., & Thatcher, B. J. (2005). Moving beyond Intentions and toward the Theory of Trying: Effects of Work Environment and Gender on Post-Adoption Information Technology Use. *Management Information Systems Quarterly*, 29(3), 427–459. doi:10.2307/25148691
- Ajzen, I. (1985). From Intentions to Actions: A Theory of Planned Behavior. In *Action Control* (pp. 11–39). Springer Berlin Heidelberg. doi:10.1007/978-3-642-69746-3_2
- Al Saifi, S. A., Dillon, S., & McQueen, R. (2016). The relationship between face to face social networks and knowledge sharing: An exploratory study of manufacturing firms. *Journal of Knowledge Management*, 20(2), 308–326. doi:10.1108/JKM-07-2015-0251
- Ayaburi, E. W., & Treku, D. N. (2020). Effect of penitence on social media trust and privacy concerns: The case of Facebook. *International Journal of Information Management*, 50, 171–181. doi:10.1016/j.ijinfomgt.2019.05.014
- Balapour, A., Nikkhah, H. R., & Sabherwal, R. (2020). Mobile application security: Role of perceived privacy as the predictor of security perceptions. *International Journal of Information Management*, 52, 102063. doi:10.1016/j.ijinfomgt.2019.102063
- Barnes, S. B. (2006). A privacy paradox: Social networking in the United States. *First Monday*, 11(9). Advance online publication. doi:10.5210/fm.v11i9.1394
- Berings, D., & Adriaenssens, S. (2012). The Role of Business Ethics, Personality, Work Values and Gender in Vocational Interests from Adolescents. *Journal of Business Ethics*, 106(3), 325–335. doi:10.1007/s10551-011-0999-2
- Blakesley, I. R., & Yallop, A. C. (2019). What do you know about me? Digital privacy and online data sharing in the UK insurance sector. *Journal of Information. Communication and Ethics in Society*, 18(2), 281–303. doi:10.1108/JICES-04-2019-0046
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. doi:10.1191/1478088706qp063oa
- Bryman, A., & Bell, E. (2003). *Business Research Methods*. Oxford University Press.
- Campbell, A. J. (1997). Relationship marketing in consumer markets: A comparison of managerial and consumer attitudes about information privacy. *Journal of Direct Marketing*, 11(3), 44–57. doi:10.1002/(SICI)1522-7138(199722)11:3<44::AID-DIR7>3.0.CO;2-X
- Cao, J., & Everard, A. (2008). User Attitude Towards Instant Messaging: The Effect of Espoused National Cultural Values on Awareness and Privacy. *Journal of Global Information Technology Management*, 11(2), 30–57. doi:10.1080/1097198X.2008.10856466
- Carr, A. S., & Kaynak, H. (2007). Communication methods, information sharing, supplier development and performance. *International Journal of Operations & Production Management*, 27(4), 346–370. doi:10.1108/01443570710736958
- Chang, S. E., Liu, A. Y., & Shen, W. C. (2017). User trust in social networking services: A comparison of Facebook and LinkedIn. *Computers in Human Behavior*, 69, 207–217. doi:10.1016/j.chb.2016.12.013
- Chang, Y., Wong, S. F., Libaque-Saenz, C. F., & Lee, H. (2018). The role of privacy policy on consumers' perceived privacy. *Government Information Quarterly*, 35(3), 445–459. doi:10.1016/j.giq.2018.04.002
- Chen, R., & Sharma, S. (2012). Understanding User Behavior at Social Networking Sites: A Relational Capital Perspective. *Journal of Global Information Technology Management*, 15(2), 25–45. doi:10.1080/1097198X.2012.11082754
- Chen, X., Ma, J., Jin, J., & Fosh, P. (2013). Information Privacy and Affective Commitment in Chinese Organizations. *Journal of Global Information Technology Management*, 16(1), 30–57. doi:10.1080/1097198X.2013.10845629

- Chen, Y., & Zahedi, F. M. (2016). Individuals' Internet Security Perceptions and Behaviors: Polycontextual Contrasts Between the United States and China. *Management Information Systems Quarterly*, 40(1), 205–222. doi:10.25300/MISQ/2016/40.1.09
- Chin, W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), *Modern Methods for Business Research* (pp. 295–336). Lawrence Erlbaum Associates.
- Chiu, C.-M., Hsu, M.-H., & Wang, E. T. G. (2006). Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decision Support Systems*, 42(3), 1872–1888. doi:10.1016/j.dss.2006.04.001
- Culnan, M. J., & Bies, R. J. (2003). Consumer Privacy: Balancing Economic and Justice Considerations. *The Journal of Social Issues*, 59(2), 323–342. doi:10.1111/1540-4560.00067
- DeVellis, R. F. (2016). *Scale Development: Theory and Applications*. University of North Carolina.
- Dinev, T., & Hart, P. (2006). An Extended Privacy Calculus Model for E-Commerce Transactions. *Information Systems Research*, 17(1), 61–80. doi:10.1287/isre.1060.0080
- Donmez-Turan, A. (2019). Does unified theory of acceptance and use of technology (UTAUT) reduce resistance and anxiety of individuals towards a new system? *Kybernetes*, 49(5), 1381–1405. doi:10.1108/K-08-2018-0450
- Dwyer, P. D., Gilkeson, J. H., & List, J. A. (2002). Gender differences in revealed risk taking: Evidence from mutual fund investors. *Economics Letters*, 76(2), 151–158. doi:10.1016/S0165-1765(02)00045-9
- Field, A. P. (2013). *Discovering statistics using IBM SPSS statistics: and sex and drugs and rock “n” roll*. Sage.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behaviour: An introduction to theory and research*. Addison-Wesley.
- Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *JMR, Journal of Marketing Research*, 18(1), 39–50. doi:10.1177/002224378101800104
- Gabriel, A. S., Erickson, R. J., Diefendorff, J. M., & Krantz, D. (2020). When does feeling in control benefit well-being? The boundary conditions of identity commitment and self-esteem. *Journal of Vocational Behavior*, 119, 103415. doi:10.1016/j.jvb.2020.103415
- Gefen, D., & Straub, D. (2000). The Relative Importance of Perceived Ease of Use in IS Adoption: A Study of E-Commerce Adoption. *Journal of the Association for Information Systems*, 1(1), 1–30. doi:10.17705/1jais.00008
- Gillespie, N., & Dietz, G. (2009). Trust Repair After An Organization-Level Failure. *Academy of Management Review*, 34(1), 127–145. doi:10.5465/amr.2009.35713319
- Gorska, A., Korzynski, P., Mazurek, G., & Pucciarelli, F. (2020). The Role of Social Media in Scholarly Collaboration: An Enabler of International Research Team's Activation? *Journal of Global Information Technology Management*, 23(4), 273–291. doi:10.1080/1097198X.2020.1817684
- Greene, J. (2007). *Mixed Methods in Social Inquiry*. John Wiley & Sons.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–152. doi:10.2753/MTP1069-6679190202
- Huang, J., Kumar, S., & Hu, C. (2018). Gender Differences in Motivations for Identity Reconstruction on Social Network Sites. *International Journal of Human-Computer Interaction*, 34(7), 591–602. doi:10.1080/10447318.2017.1383061
- Jacobson, J., Gruz, A., & Hernández-García, Á. (2020). Social media marketing: Who is watching the watchers? *Journal of Retailing and Consumer Services*, 53, 101774. doi:10.1016/j.jretconser.2019.03.001
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher*, 33(7), 14–26. doi:10.3102/0013189X033007014
- Jozani, M., Ayaburi, E., Ko, M., & Choo, K.-K. R. (2020). Privacy concerns and benefits of engagement with social media-enabled apps: A privacy calculus perspective. *Computers in Human Behavior*, 107, 106260. doi:10.1016/j.chb.2020.106260

- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, 53(1), 59–68. doi:10.1016/j.bushor.2009.09.003
- Keil, M., Tan, B. C. Y., Wei, K.-K., Saarinen, T., Tuunainen, V., & Wassenaar, A. (2000). A Cross-Cultural Study on Escalation of Commitment Behavior in Software Projects. *Management Information Systems Quarterly*, 24(2), 299–325. doi:10.2307/3250940
- Khandelwal, U., Yadav, S. K., & Kumar, Y. (2020). Understanding Research Online Purchase Offline (ROPO) Behaviour of Indian Consumers. *International Journal of Online Marketing*, 10(1), 1–14. doi:10.4018/IJOM.2020010101
- Kisilevich, S., Ang, C. S., & Last, M. (2012). Large-scale analysis of self-disclosure patterns among online social networks users: A Russian context. *Knowledge and Information Systems*, 32(3), 609–628. doi:10.1007/s10115-011-0443-z
- Krasnova, H., Spiekermann, S., Koroleva, K., & Hildebrand, T. (2010). Online Social Networks: Why We Disclose. *Journal of Information Technology*, 25(2), 109–125. doi:10.1057/jit.2010.6
- Krishnamurthy, B., & Wills, C. E. (2009). On the leakage of personally identifiable information via online social networks. *Proceedings of the 2nd ACM Workshop on Online Social Networks - WOSN '09*, 7. doi:10.1145/1592665.1592668
- Kruikemeier, S., Boerman, S. C., & Bol, N. (2020). Breaching the contract? Using social contract theory to explain individuals' online behavior to safeguard privacy. *Media Psychology*, 23(2), 269–292. doi:10.1080/15213269.2019.1598434
- Kwahk, K.-Y., & Lee, J.-N. (2008). The role of readiness for change in ERP implementation: Theoretical bases and empirical validation. *Information & Management*, 45(7), 474–481. doi:10.1016/j.im.2008.07.002
- Kwahk, K.-Y., & Park, D.-H. (2016). The effects of network sharing on knowledge-sharing activities and job performance in enterprise social media environments. *Computers in Human Behavior*, 55, 826–839. doi:10.1016/j.chb.2015.09.044
- Li, Y., Liu, H., Lee, M., & Huang, Q. (2019). Information privacy concern and deception in online retailing. *Internet Research*, 30(2), 511–537. doi:10.1108/INTR-02-2018-0066
- Libaque-Sáenz, C. F., Wong, S. F., Chang, Y., & Bravo, E. R. (2020). The effect of Fair information practices and data collection methods on privacy-related behaviors: A study of Mobile apps. *Information & Management*, 58(1), 103284. doi:10.1016/j.im.2020.103284
- Lin, X., Li, Y., Califf, C. B., & Featherman, M. (2013). Can Social Role Theory Explain Gender Differences in Facebook Usage? *2013 46th Hawaii International Conference on System Sciences*, 690–699. doi:10.1109/HICSS.2013.125
- Lin, X., & Brooks, S. (2013). *Factors Affecting Online Consumer's Behavior: An Investigation Across Gender*. AMCIS.
- Lunardo, R., & Saintives, C. (2020). How autonomy makes an experience pleasurable: The roles of risk perception and personal control. *Recherche et Applications en Marketing*, 35(1), 43–61. doi:10.1177/2051570719828674
- Lynn, M. R. (1986). Determination and Quantification Of Content Validity. *Nursing Research*, 35(6), 382–386. doi:10.1097/00006199-198611000-00017
- MacKenzie, S. R., & Podsakoff, P. Y. (2011). Construct Measurement and Validation Procedures in MIS and Behavioral Research: Integrating New and Existing Techniques. *Management Information Systems Quarterly*, 35(2), 293–334. doi:10.2307/23044045
- Majchrzak, A., Faraj, S., Kane, G. C., & Azad, B. (2013). The Contradictory Influence of Social Media Affordances on Online Communal Knowledge Sharing. *Journal of Computer-Mediated Communication*, 19(1), 38–55. doi:10.1111/jcc4.12030
- Malhotra, N. K., Kim, S. S., & Agarwal, J. (2004). Internet Users' Information Privacy Concerns (IUIPC): The Construct, the Scale, and a Causal Model. *Information Systems Research*, 15(4), 336–355. doi:10.1287/isre.1040.0032

- Mehta, R., & Sivadas, E. (1995). Direct marketing on the internet: An empirical assessment of consumer attitudes. *Journal of Direct Marketing*, 9(3), 21–32. doi:10.1002/dir.4000090305
- Michaelidou, N., Micevski, M., & Cadogan, J. W. (2020). Users' ethical perceptions of social media research: Conceptualisation and measurement. *Journal of Business Research*. Advance online publication. doi:10.1016/j.jbusres.2020.03.005
- Mitchell, D., & El-Gayar, O. (2020). The Effect of Privacy Policies on Information Sharing Behavior on Social Networks: A Systematic Literature Review. *Proceedings of the 53rd Hawaii International Conference on System Sciences*. doi:10.24251/HICSS.2020.517
- Miyazaki, A., & Fernandez, A. (2001). Consumer Perceptions of Privacy and Security Risks for Online Shopping. *The Journal of Consumer Affairs*, 35(1), 27–44. doi:10.1111/j.1745-6606.2001.tb00101.x
- Mousavi, R., Chen, R., Kim, D. J., & Chen, K. (2020). Effectiveness of privacy assurance mechanisms in users' privacy protection on social networking sites from the perspective of protection motivation theory. *Decision Support Systems*, 135, 113323. doi:10.1016/j.dss.2020.113323
- Mutumukwe, C., Kolkowska, E., & Grönlund, Å. (2020). Information privacy in e-service: Effect of organizational privacy assurances on individual privacy concerns, perceptions, trust and self-disclosure behavior. *Government Information Quarterly*, 37(1), 101413. doi:10.1016/j.giq.2019.101413
- Nemati, H., Wall, J. D., & Chow, A. (2014). Privacy Coping and Information-Sharing Behaviors in Social Media: A Comparison of Chinese and U.S. Users. *Journal of Global Information Technology Management*, 17(4), 228–249. doi:10.1080/1097198X.2014.978622
- Oliveira, T., Araujo, B., & Tam, C. (2020). Why do people share their travel experiences on social media? *Tourism Management*, 78, 104041. doi:10.1016/j.tourman.2019.104041 PMID:32322615
- Ong, C.-S., & Lai, J.-Y. (2006). Gender differences in perceptions and relationships among dominants of e-learning acceptance. *Computers in Human Behavior*, 22(5), 816–829. doi:10.1016/j.chb.2004.03.006
- Pavlou, P. A., & Gefen, D. (2004). Building Effective Online Marketplaces with Institution-Based Trust. *Information Systems Research*, 15(1), 37–59. doi:10.1287/isre.1040.0015
- Rafique, G. M. (2017). Personal Information Sharing Behavior of University Students via Online Social Networks. *Library Philosophy & Practice*. <https://digitalcommons.unl.edu/libphilprac/1454/>
- Roman, S. (2007). The Ethics of Online Retailing: A Scale Development and Validation from the Consumers' Perspective. *Journal of Business Ethics*, 72(2), 131–148. doi:10.1007/s10551-006-9161-y
- Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H., & Jinks, C. (2018). Saturation in qualitative research: Exploring its conceptualization and operationalization. *Quality & Quantity*, 52(4), 1893–1907. doi:10.1007/s11135-017-0574-8 PMID:29937585
- Schumacker, R. E., & Lomax, R. G. (2010). *A beginner's guide to structural equation modeling* (3rd ed.). Routledge.
- Slyke, C., Shim, J. T., Johnson, R., & Jiang, J. (2006). Concern for Information Privacy and Online Consumer Purchasing. *Journal of the Association for Information Systems*, 7(6), 415–444. doi:10.17705/1jais.00092
- Smith, D., Dinev, , & Xu, . (2011). Information Privacy Research: An Interdisciplinary Review. *Management Information Systems Quarterly*, 35(4), 989–1015. doi:10.2307/41409970
- Smith, H. J., Milberg, S. J., & Burke, S. J. (1996). Information Privacy: Measuring Individuals' Concerns about Organizational Practices. *Management Information Systems Quarterly*, 20(2), 167–196. doi:10.2307/249477
- Stangor, C. (2007). *Research methods for the behavioural sciences*. Houghton Mifflin Company.
- Stewart, K. A., & Segars, A. H. (2002). An Empirical Examination of the Concern for Information Privacy Instrument. *Information Systems Research*, 13(1), 36–49. doi:10.1287/isre.13.1.36.97
- Straub, D., & Gefen, D. (2004). Validation Guidelines for IS Positivist Research. *Communications of the Association for Information Systems*, 13, 380–427. doi:10.17705/1CAIS.01324

- Tifferet, S. (2019). Gender differences in privacy tendencies on social network sites: A meta-analysis. *Computers in Human Behavior*, 93, 1–12. doi:10.1016/j.chb.2018.11.046
- Trepte, S., Scharkow, M., & Dienlin, T. (2020). The privacy calculus contextualized: The influence of affordances. *Computers in Human Behavior*, 104, 106115. doi:10.1016/j.chb.2019.08.022
- Tufekci, Z. (2008). Can You See Me Now? Audience and Disclosure Regulation in Online Social Network Sites. *Bulletin of Science, Technology & Society*, 28(1), 20–36. doi:10.1177/0270467607311484
- Van Teijlingen, E. R., Rennie, A.-M., Hundley, V., & Graham, W. (2001). The importance of conducting and reporting pilot studies: The example of the Scottish Births Survey. *Journal of Advanced Nursing*, 34(3), 289–295. doi:10.1046/j.1365-2648.2001.01757.x PMID:11328433
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *Management Information Systems Quarterly*, 27(3), 425–478. doi:10.2307/30036540
- Wang, S., & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*, 20(2), 115–131. doi:10.1016/j.hrmr.2009.10.001
- Wu, K.-W., Huang, S. Y., Yen, D. C., & Popova, I. (2012). The effect of online privacy policy on consumer privacy concern and trust. *Computers in Human Behavior*, 28(3), 889–897. doi:10.1016/j.chb.2011.12.008
- Xu, X., Wang, X., Li, Y., & Haghighi, M. (2017). Business intelligence in online customer textual reviews: Understanding consumer perceptions and influential factors. *International Journal of Information Management*, 37(6), 673–683. doi:10.1016/j.ijinfomgt.2017.06.004
- Youn, S. (2009). Determinants of Online Privacy Concern and Its Influence on Privacy Protection Behaviors Among Young Adolescents. *The Journal of Consumer Affairs*, 43(3), 389–418. doi:10.1111/j.1745-6606.2009.01146.x
- Yu, L., Li, H., He, W., Wang, F.-K., & Jiao, S. (2020). A meta-analysis to explore privacy cognition and information disclosure of internet users. *International Journal of Information Management*, 51, 102015. doi:10.1016/j.ijinfomgt.2019.09.011
- Zhang, K. Z. K., Lee, M. K. O., Cheung, C. M. K., & Chen, H. (2009). Understanding the role of gender in bloggers' switching behavior. *Decision Support Systems*, 47(4), 540–546. doi:10.1016/j.dss.2009.05.013 PMID:32287567
- Zimaitis, I., Degutis, M., & Urbonavicius, S. (2020). Social Media Use and Paranoia: Factors That Matter in Online Shopping. *Sustainability*, 12(3), 904. doi:10.3390/su12030904

Ibrahim Mutambik is the assistant professor at the Department of Information Science - College of Arts - at King Saud University, Saudi Arabia. He received his PhD from Informatics School of The University of Edinburgh. His research interests focus on learning analytics, online learning, knowledge management, and knowledge sharing.

Yulong Liu is a senior lecturer in the Massey Business School, Massey University, New Zealand. His research interests pertain to organizational learning and innovation, emerging technology adoption and disruptive management, global business strategies, and cross-cultural relationship management. He has published articles in such journals as International Journal of Production Economics, International Business Review, Journal of Business Research, Long Range Planning, International Studies of Management and Organization and Thunderbird International Business Review.

Maryah Alhossayin is faculty member at Department of Information Science, King Saud University.

Fatmah Hussain Quintash is Master's student and Department of Information Science, King Saud University.