EXTENDING THE GENERALIZABILITY AND PRAGMATIC CONTRIBUTIONS TO SOLVE PRIVACY PARADOX

Robin Robin[1], University of Huddersfield

Len Tiu Wright[2], University of Huddersfield

Lisa Du-Lieu[3], University of Huddersfield

Giles Forbes[4], University of Huddersfield

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Corresponding author: Robin Robin[1], Postgraduate Researcher, Department of Logistics, Operations, Hospitality and Marketing, Business School, University of Huddersfield, Queensgate, Huddersfield, HD1 3DH, UK.
Email: robin.robin@hud.ac.uk

Len Tiu Wright[2], Professor of Marketing, Department of Logistics, Operations, Hospitality and Marketing, Business School, University of Huddersfield, Queensgate, Huddersfield, HD1 3DH, UK.
Email: l.t.wright@hud.ac.uk

Lisa Du-Lieu[3], Senior Lecturer in Marketing, Department of Logistics, Operations, Hospitality and Marketing, Business School, University of Huddersfield, Queensgate, Huddersfield, HD1 3DH, UK.
Email: l.du-lieu@hud.ac.uk

Giles Forbes[4], Senior Lecturer in Marketing, Department of Logistics, Operations, Hospitality and Marketing, Business School, University of Huddersfield, Queensgate, Huddersfield, HD1 3DH, UK.
Email: g.forbes@hud.ac.uk

ABSTRACT

Privacy issue has increasingly become an integral part of organizations and businesses that operate within the digital era. However, heretofore, there is a lack of a systematic literature review to help scholars to integrate what has been done in previous studies when privacy issues were addressed especially the privacy paradox that still perplexes both academia and practitioners alike. Furthermore, with the inconsistency of findings regarding the privacy paradox, there is also a need to support researchers in recognizing the substantial constructs to improve the results of their empirical papers. Therefore, this paper aims to serve as an integrated review to congregate constructs that can help scholars to improve the generalizability and pragmatic contributions when addressing privacy paradox issue. Besides the conclusion that there is a lack of empirical papers on privacy paradox published in the business, management and marketing journal publications, we also synthesize constructs such as the population of the study, methodology, cross-cultural aspect and context of the study to improve the extent of the generalizability and practical contributions of empirical paper related to the privacy paradox. The limitations and implications of this study are also discussed at the end of this paper.

Keywords: Online privacy; Information Disclosure; Privacy risk; Privacy paradox; Literature review; Privacy calculus; Generalizability; Pragmatic contributions

1 INTRODUCTION

The rise of digital age also entices the increase of online information availability. One of the concerns associated with the increment amount of online information is the privacy issues. According to Smith, Milberg, and Burke (1996), information privacy issues involve the activities of combining users' data with an unauthorized secondary use and collection. The issues are stemmed from the exponential development of technology that allows the speed and ability to collect, combine, and study the online information to also increase significantly (Malhotra, Kim, & Agarwal, 2004). While the Internet creates the privacy concerns for users and consumers, the marketers experience the beneficial side of the vast availability and ability to gather online information. For instance, Robertshaw and Marr (2006) argue that marketers perceive the ability to gather information online is more convenient and effective in comparison with the offline and conventional approaches of such activity.

Furthermore, the ubiquitous accessibility to the Internet via mobile devices has also alleviated the information self-disclosure through platforms such as Social Networking Sites (SNSs). Cecere, Le Guel, and Soulié (2015) argued that the SNSs' business model is dependent on the information self-disclosure of their users. The information that users disclose in those online social platforms has become one of the salient sources for marketing research to improve organization's business performance (Kozinets, 2002). Moreover, the online social platforms are not only valuable for business purpose, but they are also useful in other areas such as healthcare. Chou, Lin, and Huang (2016) suggested that the online social platforms can function as an appropriate medium to provide support for patients in the healthcare industry.

However, despite the benefits from the availability of online information, there is also a trade-off that consumers and users will experience. For instance, Taddicken (2014) implied that the cost of participating in the SNSs is to bargain their online privacy. In a more general extent, Okazaki, Navarro-Bailón, and Molina-Castillo (2012) also suggested there is a privacy issue that entails the online information disclosure and how the information is utilized. This trade-off between the benefits and risks of privacy in the online information disclosure has led to the emergence of privacy paradox, which refers to the willingness of consumers to disclose their personal information despite their privacy concerns (Smith, Dinev, & Xu, 2011).

2 BACKGROUND

Even though the cases of privacy and security breaches have increased over the years in countries such as the United States ("Data breaches," 2015), scholars have not been able to produce consistently generalizable results from their empirical research. Thus far, the work of Y. Li (2012) was the only study to summarize the privacy concerns in the online information disclosure, to aid academic researchers to assemble integrated theories usable for their empirical study. However, it still lacks the highlight of required constructs to further understand the existing privacy paradox research in online information disclosure, especially in a current and emerging context of marketing, business and management field. This paper reveals what has been done thus far in privacy paradox research and what can be done to improve the generalizability and pragmatic contributions of findings in the privacy paradox issue. Therefore, the objectives of this paper include the review and synthesis of the literature related to privacy paradox and to put together primary factors that could aid researchers in addressing privacy paradox issue in their empirical research. This paper used two major electronic

journals, which are Scopus and Science Direct, to filter related empirical papers to privacy paradox. Besides using privacy paradox as the keyword, privacy calculus was chosen to be the second keyword used within the search. Privacy calculus refers to the framework where customers weigh if the benefits of the disclosure exceeds the risks embedded within the disclosure (Culnan & Armstrong, 1999). Numerous studies have used privacy calculus framework to understand and even solve the privacy paradox (Dinev et al., 2006; Fife & Orjuela, 2012; Keith, Thompson, Hale, Lowry, & Greer, 2013; Han Li, Sarathy, & Xu, 2010; Morosan & DeFranco, 2015; Sun, Wang, Shen, & Zhang, 2015; Wang, Duong, & Chen, 2016; Xu, Teo, Tan, & Agarwal, 2009). Therefore, privacy calculus is an appropriate term to be used in conjunction with privacy paradox in this context.

3 METHODOLOGY

One of the most salient filtering process within this literature review is the journal impact factor (JIF) of the journal publication where each paper was published. According to van Dijk, Manor, and Carey (2014), JIF has been the guideline that affects academia's decision-making in determining the quality of their work and success. Therefore, to help with the objectives of this paper in increasing the quality of research in privacy paradox, JIF would be one of the filtering elements.

By applying privacy paradox and privacy calculus as the keywords within Scopus and Science Direct, there are 127 articles generated from the search. The subsequent procedures included the dismissal of duplicate articles, the separation of articles according to the journal publications, and the assessment of the JIF. After these procedures, the number of articles were down to 104 articles. Subsequently, we excluded 23 articles that were published in journal publications without any JIF information. Last but not least, the 81 articles with available impact factor information were thoroughly examined to determine their relevance to information disclosure in privacy paradox and privacy calculus context and to ensure that they are empirical studies. There are 45 relevant papers included within the next stage of the literature review (see Table 1).

Table 1 here.

4 FINDINGS

There are two main findings from the synthesis of the literature on privacy paradox. First of all, we found that there is a lack of empirical papers published in the marketing, business or management journal publications investigating privacy paradox issue. The second finding is the four constructs that are proposed to have the probability in improving research findings in terms of generalizability and pragmatic contributions. They are (1) the population of the study, (2) methodology applied, (3) existence of the cross-cultural aspect and (4) context of the study

4.1 The Lack of Privacy Research in Marketing Journal

Another prominent finding from the literature review is the lack of empirical research addressing the issue of privacy paradox in the marketing, business or management journal publications. While the privacy issue related to personal data has been one of the critical challenges faced by many organizations in this digital era ("Private data, public rules," 2012),

the unsolved puzzle of privacy paradox remains unnoticed by many marketing, business and management journal publications (See Table 2). This is especially important to be addressed because privacy issue is highly related to not only customer trust issue, but also to organization's marketing strategies (Martin & Murphy, 2016). Therefore, the privacy paradox issue should have more coverage in the respected journal publications in the field of business, management, and marketing.

Table 2 here.

Figure 1 here.

4.2 Population of the study

Besides having a robust sampling strategy, researchers also need to pay attention to the population of their study. Probability sampling is acknowledged to be the most robust sampling strategy in ensuring that the results can later be generalized due to its nature to represent the entire population (Teddlie & Yu, 2007). However, probability sampling strategy has its challenges. The biggest challenge would be the ample amount of resources it takes to select and invite participants for the research randomly in representing the population. Therefore, as academic researchers work closely with educational institutions, students are commonly the most approachable and less resource-consuming population for research. However, having students as the population of the study compromises the generalizability of the results. From this literature review, 60% of the papers used non-student as their samples and 40% used students as their samples. Nevertheless, although the difference is not significant, it is still noteworthy that samples representing the population, which is difficult to be achieved with just students participants, would be better in achieving statistical generalizability (A. S. Lee & Baskerville, 2003). Furthermore, there are nine studies (50%) with students as their samples (Baek, 2014; Dinev, Hart, & Mullen, 2008; Keith et al., 2013; C. H. Lee & Cranage, 2011; Han Li et al., 2010; Pentina, Zhang, Bata, & Chen, 2016; Peters, Winschiers-Theophilus, & Mennecke, 2015; Sun et al., 2015; Young & Quan-Haase, 2013) explicitly mentioned the limitation of using students as the samples due to its limited generalizability.

Besides generalizability issue, this paper also used JIF as the parameter to see the effects of student and non-student population because according to Korobkin (1999), JIF has been used to indicate the quality of a journal publication, thus representing the quality of a paper published in that journal. Therefore, we also propose to examine if population of a research could have any effect in influencing an academic paper's probability to be published in a journal publication with higher JIF. Profile plots (see Figure 2) was generated from factorial ANOVA using SPSS software to see the main effects and interaction between two independent variables (population of the study and cross-cultural aspect) and an independent variable (JIF). It can be seen that there is an apparent main effect of two independent variables of non-student population and cross-cultural element to JIF. However, these assumptions need to be further validated and tested for their significance.

Figure 2 here.

4.3 Methodology

With 57.8%, quantitative research methods using survey is the most commonly chosen methodology to conduct research on privacy paradox, followed by quantitative experimental

research (28.9%), mixed methods (8.9%), and qualitative research methods (4.4%) (See Table 3). In this paper, an emphasis will be given to the difference between conducting survey and experiment, which both are quantitative methods, in generating more generalizable and robust results to the privacy paradox issue.

Survey is one the strategies that quantitative researchers can adopt for their study. According to Saunders, Lewis, and Thornhill (2009), besides its usefulness to accommodate the collection of large amount of data, survey allows researchers to analyze and model the relationships between constructs. The descriptive results shown in Table 2 indeed confirms that the most common quantitative research strategy undertaken is survey. However, experiment, which is commonly used in Information Systems (IS) research (Gupta, 2014), has also emerged on the second place for IS researchers. Nevertheless, what are the merits of adopting an experimental design instead of solely adopting survey strategy in IS research, especially in addressing the privacy paradox? First and foremost, privacy paradox derives from the information disclosure performed using the tools developed from the advancement of information technology. One of the primary benefits of using experimental design is the ability to control the environment in order to observe the behavior (Charness, Gneezy, & Imas, 2013). In innovation research, this ability of experimental design to isolate and extract contexts where complex processes are involved has been argued by Sørensen, Mattsson, and Sundbo (2010) to have exceeded the ability of survey design.

Considering the complexity of cognitive processes of customers' behavior in disclosing information online and their attitude towards privacy concerns shown in the privacy paradox, adopting experimental methods could benefit the results generated by researchers. Payne and Westerman (2003) argued that through different experimental techniques, researchers can learn more about human's cognitive processes and unobservable knowledge. One of the examples mentioned is the effects of conversing via mobile phones on a driving simulation, where the conditions within the experiment reveal the association between participants' responses to traffic signal and the use of mobile phone (Payne & Westerman, 2003). Based on this premise, we propose that conducting experiments with specific conditions might create an additional realistic experience to understand privacy behavior, instead of using self-administered survey design.

Table 3 here.

4.4 Cross-cultural aspect

Most of the studies reviewed were conducted with participants from a similar cultural background (88.9%). Although cross-cultural aspect is not a necessity to obtain generalizable results nor improve the extent of pragmatic contributions, eight studies (Cheung, Lee, & Chan, 2015; Dinev, Xu, Smith, & Hart, 2013; H. Lee, Lim, Kim, Zo, & Ciganek, 2015; Han Li et al., 2010; Min & Kim, 2015; Morosan & DeFranco, 2015; Shibchurn & Yan, 2015a; Sun et al., 2015) purposely stated the need to conduct cross-cultural comparison study. For instance, Dinev et al. (2013) argue that privacy issue is contextual, hence the inclusion of culture will enhance the privacy framework constructed by researchers. Matsumoto and Yoo (2006) further argue that culture is indeed an integral and critical element in studying behavior. Their work also state that a cross-cultural comparison study also supports the use of experimental design to present the differences of various cultural groups (Matsumoto & Yoo, 2006).

Although the inclusion of different national cultures cannot guarantee the generalizability of the findings, the findings of whether two cultures are similar or different could further help

other researchers whom population might have similar traits to the cultures that have been studied before. Therefore, not only that cross-cultural aspect existence in the study could affect the generalizability of findings or practical implications of the study, but it can also aid and guide future research in building their hypothesis.

4.5 Context of the study

Last but not least, the context of the study was distilled. The context of a study is often regarded as a trivial contribution to the theories and literature. The context within a study frequently contributes to the utility or the practical side of the study. For example, within this review, there are studies which focus on the context of electronic commerce (13.3%), Social Networking Sites (SNS) (17.8%), mobile application (8.9%) or Location-Based Services (LBS) (6.7%). The saturation of the context within this review shows that most studies refer to the general context (28.9%) of privacy paradox, without adding a specific context to their study. Nonetheless, even when the paper discusses general issue of privacy, oftentimes cultural context appears.

In the academic field, theoretical contribution usually appears to have more focus than the practical contribution (Corley & Gioia, 2011). Nonetheless, it does not necessarily mean that practical contribution should be downplayed. Kilduff (2006) even emphasized the importance of addressing the real world issues instead of solely filling gaps in the literature in order to achieve a good theory formulation. Similarly, Baldridge, Floyd, and Markóczy (2004) also found that there is a positive correlation between the scholarly quality of an academic paper and expert panel's assessment of the practical relevance. In the context of this literature review, we propose that contextual difference can contribute to the pragmatic side of the research. For example, information disclosure and e-commerce have been repeatedly studied by scholars (Dinev & Hart, 2006; H. Lee et al., 2015; Han Li et al., 2010; Han Li, Sarathy, & Xu, 2011; Robinson, 2016; Treiblmaier & Chong, 2011). Nonetheless, different context could broaden the pragmatic contribution of the research, as well as its theoretical contribution. For instance, Robinson (2016) examined the disclosure of personal information in e-commerce to the comparative context of Estonians and Americans. At the end of the study, the nationality context forwards the study to understand how the model developed for this study could help better policy-making and strategy-building and that the model is fit for customers from different cultures.

On the other hand, it was once argued that academic researchers' practical contribution seldom addresses the real challenges faced by organizations, hence the results are rarely applicable to the real world organizations (Pfeffer, 1998; Sackett & Larson Jr, 1990). This is also one of the reasons why scholars and researchers should not set aside the importance of their research impact to the practical and pragmatic side of their research. Donald Hopkins and Swift (2008) argued that there is a need between academic researchers and business practitioners to work together to achieve useful pragmatic contributions. If context could make a difference to how the results of empirical research can increase the quality of its pragmatic contributions, then this would bring the role of contextual difference to a different extent.

5 RESULTS AND DISCUSSION

5.1 Increasing the Extent of Generalizability and Pragmatic Contribution of Research Findings

One of the propositions of this literature review is to promote the generalizability of research findings. A. S. Lee and Baskerville (2003) argued that by extending generalizability, the relevance of the findings could attract more focus. Although generalizability of findings is not an absolute value with particular absolute approaches, this paper attempted to synthesize what literature on privacy paradox and privacy calculus has thus far conducted to achieve the generalizability. Previously, Yin (2014) has structured a conception of generalizability, which includes elements such as population, sample and theory within two different levels of inference. Similarly, this paper also proposes the inclusion of non-student population and cross-cultural element within a privacy research to solve the paradoxical behavior of consumers.

Besides formulating the recipe for better generalizability, this paper also highlights the importance of pragmatic contribution. Although it rarely becomes the focus of research contributions, the extensive linkage between academic research and its real world application should heighten the importance of pragmatic contribution of a research. Therefore, our following proposition involves the inclusion of contextual and experimental methods and design into research investigating privacy paradox. First of all, referring to Hambrick (2007), to attain theoretical contributions, we would need to focus on real-life phenomena, instead of just trying filling the gap in the literature. For instance, privacy paradox is highly related to the use of new technology and human behavior. Conditioning the research into a particular context may reveal not only theoretical contributions, but also pragmatic contributions that are indeed applicable in real life business cases. Furthermore, Corley and Gioia (2011) also proposed the notion of theoretical contributions that have a definitive acknowledgement of its applicability. In this context, adopting experimental methods, where participants are situated to face specific manipulations to examine specific cause and effect (Field & Hole, 2003), may help researchers to achieve such objective. Thus, experimental methods allow researchers to mimic what possibly happen in a specific real-world situation, which subsequently can improve the relevance of pragmatic contributions of the research findings.

6 CONCLUSIONS AND IMPLICATIONS FOR THEORY AND PRACTICE

6.1 Limitation

There are several limitations that need to be addressed within this paper. First of all, future research may want to examine the specific citation of the related empirical paper instead of looking broadly at the journal publication where it was published. According to Baum (2011), it is unwarranted to justify the quality of a single journal article based on the impact factor of the journal publications where it is published. Future research may want to look at factors such as author co-citation analysis to analyze what works in increasing generalizability or research contributions.

Furthermore, we only included papers from two electronic journals, which are Scopus and Science Direct. Future research may want to include more results from other available electronic journals to broaden the synthesis of the literature.

6.2 Implications for theory and practice

This paper attempts to address the lack of guidance in the literature of privacy paradox to reach more generalizable findings, as well as to highlight the importance of pragmatic contributions in the privacy research. By addressing to these two issues theoretically, we offer a collaborative notion between researchers and organizations, where researchers try to solve privacy paradox by addressing issues that are close to what businesses and organizations deal with in daily basis. For instance, by combining the population of their study with cross-cultural element using experimental methods, researchers might generate findings that are effectively applicable for the specific business of multinational organizations.

6.3 Conclusion

This research addresses and integrate what works thus far within the research on privacy paradox. By incorporating the population of the study and cross-cultural element of a research using experimental design, in a context specific manner, this paper extracted the recipe that may help researchers to improve the generalizability and pragmatic contributions of their findings. This research would serve as a guidance for future research conducted by marketing and management scholars in finding the recipe to produce an effective research in solving privacy paradox issue.

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Table 1 Relevent empirical papers of privacy paradox and privacy calculus

No	Author	Title	Keywords	Journal	Journal Impact Factor (JIF)
1	Awad and Krishnan (2006)	The personalization privacy paradox: An empirical evaluation of information transparency and the willingness to be profiled online for personalization	online privacy; information transparency; web site features; online experience; consumer privacy; online personalisation; online information sharing; empirical studies of information systems; business value of information systems; information sharing practices	MIS Quarterly: Management Information Systems	4.901
2	Sutanto, Palme, Tan, and Phang (2013)	Addressing the personalization-privacy paradox: An empirical assessment from a field experiment on smartphone users	personalisation-privacy paradox; mobile advertising applications; uses and gratifications; information boundary theory	MIS Quarterly: Management Information Systems	4.901
3	Krasnova, Spiekermann, Koroleva, and Hildebrand (2010)	Online social networks: Why we disclose	online social networks; online communities; motivation; privacy; information disclosure; structural equation modelling	Journal of Information Technology	4.775
4	Xu et al. (2009)	The role of push-pull technology in privacy calculus: The case of location-based services	compensation; distributive justice; government regulation; industry self-regulation; information delivery mechanisms; location-based services (LBS); privacy calculus; procedural justice	Journal of Management Information Systems	3.775
5	C. H. Lee and Cranage (2011)	Personalisation-privacy paradox: The effects of personalisation and privacy assurance on customer responses to travel Web sites	personalisation; privacy assurance; privacy concerns; personalisation-privacy paradox; travel web sites	Tourism Management	3.14
6	Cheung et al. (2015)	Self-disclosure in social networking sites the role of perceived cost, perceived benefits and social influence	Facebook; social exchange theory; social influence; social networking sites; self-disclosure	Internet Research	3.017
7	N. Lee and Kwon (2015)	A privacy-aware feature selection method for solving the personalization–privacy paradox in mobile wellness healthcare services	privacy decision-making; feature selection; personalisation-privacy paradox; privacy calculus; mobile wellness healthcare services	Expert Systems with Applications	2.981
8	Dinev et al. (2013)	Information privacy and correlates: An empirical attempt to bridge and distinguish privacy related concepts	privacy; anonymity; secrecy; confidentiality; control; risk	European Journal of Information Systems	2.892
9	Miltgen and Peyrat-guillard (2014)	Cultural and generational influences on privacy concerns: A qualitative study in seven European countries	privacy concerns; personal data disclosure; focus groups; computer-aided text analysis; cultural variation; generation divide	European Journal of Information Systems	2.892

No	Author	Title	Keywords	Journal	Journal Impact Factor (JIF)
10	Baek (2014)	Solving the privacy paradox: A counter-argument experimental approach	online privacy opinions; online privacy concerns; privacy paradox; counterargument experiment; argument strength	Computers in Human Behavior	2.88
11	J.-M. Lee and Rha (2016)	Personalization-privacy paradox and consumer conflict with the use of location-based mobile commerce	personalisation-privacy paradox; location-based service; mobile commerce; personalisation; privacy; consumer conflict	Computers in Human Behavior	2.88
12	Pentina et al. (2016)	Exploring privacy paradox in information-sensitive mobile app adoption: A cross-cultural comparison	privacy calculus; mobile apps; personality traits; personal information privacy	Computers in Human Behavior	2.88
13	Peters et al. (2015)	Cultural influences on Facebook practices: A comparative study of college students in Namibia and the United States	Facebook; culture; United States and Namibia; cross-cultural; social networking sites	Computers in Human Behavior	2.88
14	Shibchurn and Yan (2015b)	Information disclosure on social networking sites: An intrinsic-extrinsic motivation perspective	social networking; intrinsic motivation; extrinsic motivation; privacy calculus; information ambiguity; behavioral intention	Computers in Human Behavior	2.88
15	Sun et al. (2015)	Location information disclosure in location-based social network services: Privacy calculus, benefit structure, and gender differences	location-based service; social networks; information disclosure; privacy calculus; benefit structure; gender difference	Computers in Human Behavior	2.88
16	Damschroder et al. (2007)	Patients, privacy and trust: Patients' willingness to allow researchers to access their medical records	USA; deliberative democracy; trust; privacy; medical records; health insurance portability and accountability act (HIPAA); health policy	Social Science and Medicine	2.814
17	Kordzadeh, Warren, and Seifi (2016)	Antecedents of privacy calculus components in virtual health communities	virtual health communities; online social networks; self-disclosure; personal health information; privacy calculus model; affective commitment	International Journal of Information Management	2.692
18	Wang et al. (2016)	Intention to disclose personal information via mobile applications: A privacy calculus perspective	privacy calculus; intention to disclose; privacy concerns; information privacy; mobile applications	International Journal of Information Management	2.692
19	Han Li, Gupta, Zhang, and Sarathy (2014)	Examining the decision to use standalone personal health record systems as a trust-enabled fair social contract	personal health records; PHR; privacy calculus; perceived privacy control; trust	Decision Support Systems	2.604
20	Han Li et al. (2011)	The role of affect and cognition on online consumers' decision to disclose personal information to unfamiliar online vendors	privacy belief; privacy concern; emotion; e-commerce; social contract	Decision Support Systems	2.604

No	Author	Title	Keywords	Journal	Journal Impact Factor (JIF)
21	Xu, Luo, Carroll, and Rosson (2011)	The personalization privacy paradox: An exploratory study of decision making process for location-aware marketing	privacy decision-making; personalisation privacy paradox; location-aware marketing (LAM); covert personalisation; overt personalisation	Decision Support Systems	2.604
22	Dinev et al. (2008)	Internet privacy concerns and beliefs about government surveillance - An empirical investigation	e-commerce; privacy; government; surveillance; LISREL	Journal of Strategic Information Systems	2.595
23	Wakefield (2013)	The influence of user affect in online information disclosure	intention model; positive affect; enjoyment; information disclosure; consumer data; PLS; website trust; website privacy; internet security; privacy paradox; strategic information systems; dynamic capabilities; cognitive consistency theory	Journal of Strategic Information Systems	2.595
24	Min and Kim (2015)	How are people enticed to disclose personal information despite privacy concerns in social network sites? the calculus between benefit and cost	-	Journal of the Association for Information Science and Technology	2.452
25	He Li, Wu, Gao, and Shi (2016)	Examining individuals' adoption of healthcare wearable devices: An empirical study from privacy calculus perspective	wearable devices; healthcare; adoption; privacy calculus	International journal of medical informatics	2.363
26	Brandimarte, Acquisti, and Loewenstein (2013)	Misplaced Confidences: Privacy and the Control Paradox	privacy; control; paradox; behavioural economics of privacy; web 2.0 applications	Social Psychological and Personality Science	2.325
27	Robinson (2016)	Disclosure of Personal Data in Ecommerce: A Cross-National Comparison of Estonia and the United States	self-disclosure; privacy; online marketing; cross-cultural; e-commerce	Telematics and Informatics	2.261
28	Brinson and Eastin (2016)	Juxtaposing the persuasion knowledge model and privacy paradox: An experimental look at advertising personalization, public policy and public understanding	privacy paradox; personalised advertising; information privacy; ad Choices icon; privacy policy	Cyberpsychology	2.188

No	Author	Title	Keywords	Journal	Journal Impact Factor (JIF)
29	James, Warkentin, and Collignon (2015)	A dual privacy decision model for online social networks	online social networks; privacy calculus; privacy trade-off; interaction management; information management; scale development	Information and Management	2.163
30	Anderson and Agarwal (2011)	The digitization of healthcare: Boundary risks, emotion, and consumer willingness to disclose personal health information	privacy calculus; healthcare; empathy gap; emotion; communication privacy management	Information Systems Research	2.146
31	Dinev and Hart (2006)	An extended privacy calculus model for e-commerce transactions	privacy calculus; trust; risk; e-commerce; LISREL	Information Systems Research	2.146
32	Jiang, Heng, and Ben (2013)	Privacy concerns and privacy-protective behavior in synchronous online social interactions	synchronous online social interactions; privacy concerns; privacy-protective behaviour; social rewards; self-disclosure; misrepresentation	Information Systems Research	2.146
33	Guo, Zhang, and Sun (2016)	The privacy–personalization paradox in mHealth services acceptance of different age groups	mHealth services; privacy-personalisation paradox; trust; adoption intention; age differences	Electronic Commerce Research and Applications	2.139
34	Young and Quan-Haase (2013)	Privacy protection strategies on Facebook: The Internet privacy paradox revisited	social network sites (SNSs); Facebook; information revelation; internet privacy; privacy protection strategies	Information Communication and Society	2.109
35	Morosan and DeFranco (2015)	Disclosing personal information via hotel apps: A privacy calculus perspective	mobile commerce; privacy calculus; emotions; value; trust; hotel industry	International Journal of Hospitality Management	2.061
36	Dienlin and Trepte (2015)	Is the privacy paradox a relic of the past? An in-depth analysis of privacy attitudes and privacy behaviors	-	European Journal of Social Psychology	1.921
37	Kearney and Kruger (2016)	Can perceptual differences account for enigmatic information security behaviour in an organisation?	information security awareness; phishing; social engineering; information security; behaviour; trust; perceptual differences	Computers & Security	1.64
38	Lwin and Williams (2003)	A model integrating the multidimensional developmental theory of privacy and theory of planned behavior to examine fabrication of information online	personal information privacy; online behaviour; fabrication; internet ethics	Marketing Letters	1.508

No	Author	Title	Keywords	Journal	Journal Impact Factor (JIF)
39	Keith et al. (2013)	Information disclosure on mobile devices: Re-examining privacy calculus with actual user behavior	information privacy; information disclosure; location data; mobile devices; smartphone; experimental methodology; privacy calculus	International Journal of Human Computer Studies	1.476
40	De Jong (2015)	Using Facebook as a Space for Storytelling in Geographical Research	Facebook; qualitative methodologies; storytelling; festivals; embodied and emotional geographies; online spaces; ethics; privacy	Geographical Research	1.353
41	Treiblmaier and Chong (2011)	Trust and perceived risk of personal information as antecedents of online information disclosure: Results from three countries	e-commerce; information disclosure; internet privacy; personal information; privacy calculus; trust	Journal of Global Information Management	1.222
42	H. Lee et al. (2015)	Compensation paradox: The influence of monetary rewards on user behaviour	monetary rewards; information sensitivity; information privacy concerns; information providing intention; information misrepresentation intention	Behaviour and Information Technology	1.211
43	Norberg, Horne, and Horne (2007)	The privacy paradox: Personal information disclosure intentions versus behaviors	-	Journal of Consumer Affairs	1.053
44	Han Li et al. (2010)	Understanding situational online information disclosure as a privacy calculus	privacy belief; information disclosure; exchange benefits; fairness of information exchange	Journal of Computer Information Systems	0.764
45	D'Souza and Phelps (2009)	The privacy paradox: The case of secondary disclosure	privacy concerns; secondary disclosure; channel attitudes; purchase likelihood; conjoint analysis; structural equation models; simultaneous equation regression	Review of Marketing Science	0.103

Table 2 Descriptive infomration on the type of journal publication

Journal Publication

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	IT	22	48.9	48.9	48.9
	Business and Management	4	8.9	8.9	57.8
	Social Science	6	13.3	13.3	71.1
	Other	1	2.2	2.2	73.3
	IT and Social Science	9	20.0	20.0	93.3
	IT and Business and Management	1	2.2	2.2	95.6
	IT and Health	1	2.2	2.2	97.8
	Health and Social Science	1	2.2	2.2	100.0
	Total	45	100.0	100.0	

Figure 1 Summary of the systematic literature review's synthesis

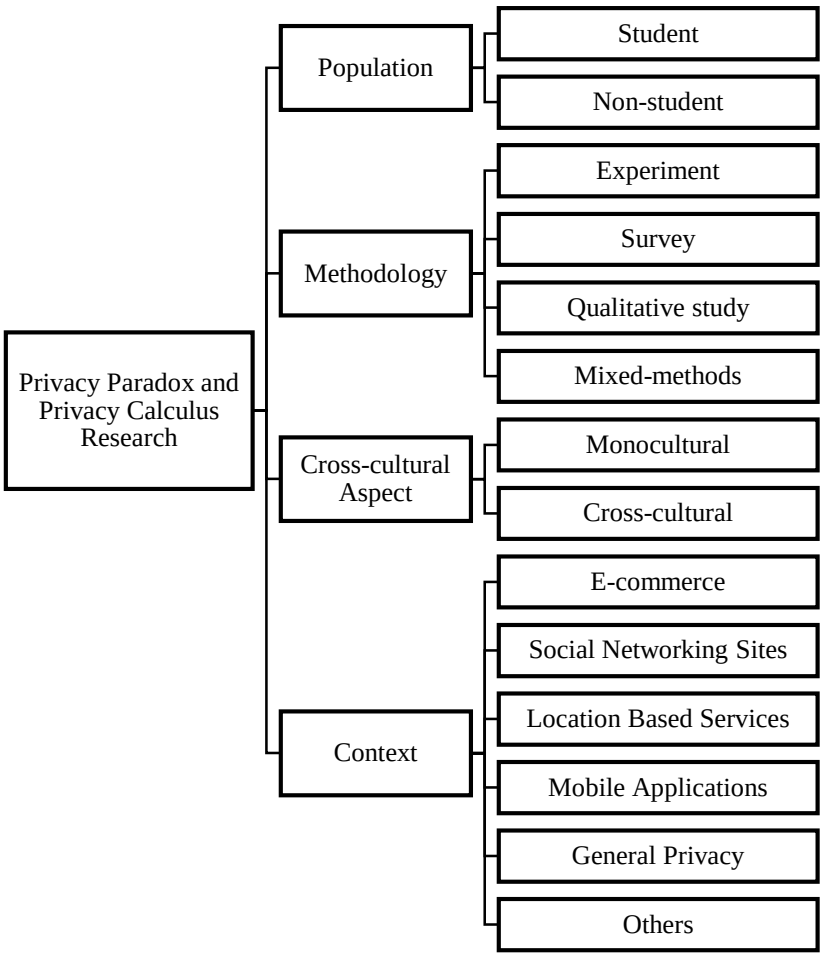

Figure 2 Profile plots for the journal impact factor, population of the study and cross-cultural aspect

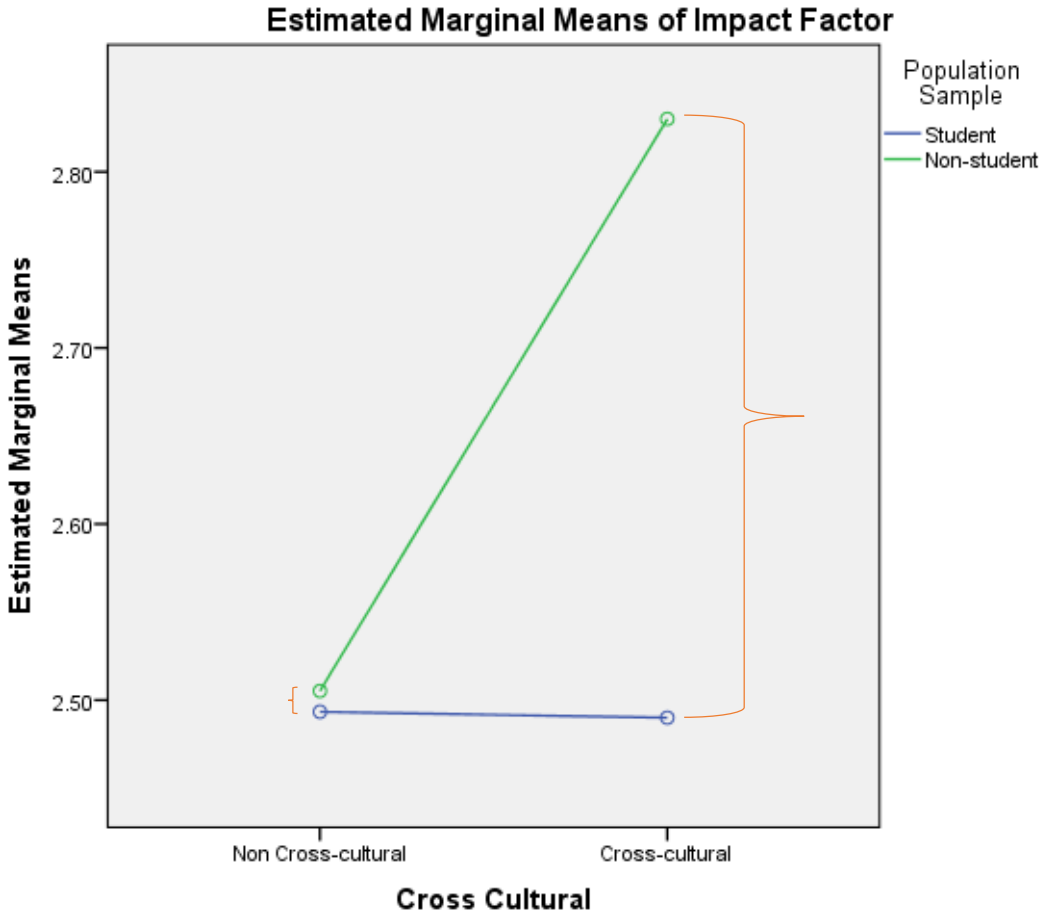

Table 3 Descriptive information on the type of methodology adopted

Methodology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Experiment	13	28.9	28.9	28.9
	Survey	26	57.8	57.8	86.7
	Qualitative	2	4.4	4.4	91.1
	Mixed methods	4	8.9	8.9	100.0
	Total	45	100.0	100.0	