

Consumers' Willingness to Disclose Personal Information in E-Commerce: the effect of local privacy policies in a two-country perspective

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Abstract

In the context of e-commerce globalization, personal information has become a core resource for platform operations. Investigating consumers' attitudes toward privacy disclosure across different countries not only deepens understanding of cultural differences but also guides the design of localized privacy policies. We develop a structural equation model and employ multi-group analysis to compare survey data from 342 respondents in China and Germany. The results indicate similarities, but also significant differences. The role of risk perception and privacy concerns was weaker for Chinese consumers, while German consumers have a more cautious privacy attitude. Contrary to expectations, the mediating effect of perceived regulatory effectiveness on disclosure willingness through trust is stronger in China. Overall, this study contributes to the literature on cross-cultural privacy research and offers practical implications for privacy management in global e-commerce platforms.

Key Words: *Personal information disclosure, cross-cultural study, privacy concerns*

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1. Introduction

Private information has become the core resource during the operation of e-commerce (Schneider et al., 2017; Schumacher et al., 2023). By collecting, analysing, and utilizing customer data, companies can not only enhance the personalization of products and services but also develop more precise marketing strategies. This increases user loyalty and purchase conversion rate. The effective use of such data creates significant business value for companies. For example, empirical research shows that personalized ads can generate 200% more revenue than non-personalized ads (Bleier and Eisenbeiss, 2015).

However, along with the significant economic benefit generated by personal information, issues of privacy and security have become a global concern. In recent years, data breaches involving e-commerce and social media platforms have occurred frequently (Januarita et al., 2025; Mayer et al.). In China, a data breach in 2025 exposed 4 billion sensitive records, including 630 million entries detailing financial data, WeChat IDs of over 805 million users and Alipay information of 300 million users (Bizga, 2025). In Europe, Germany is among the top three countries experiencing data breaches (McKean et al., 2025). In April 2025, personal information was freely accessible online, affecting 270,000 customers of Samsung Germany (CertPro Digest, 2025). In November 2024, sensitive credit rating data at infoscore Consumer Data GmbH was compromised, which affected almost 8 million consumers (Knobloch, 2024). As a result, many users have become deeply concerned about the potential risks of disclosing personal information, worrying that their data may be collected and used without their consent (Rath and Kumar, 2021).

For Chinese consumers, leakage of personal information is, with 37.3%, the top consumption problem in 2023 (Li, 2023). According to a 2018 survey carried out by the China Consumers Association titled “Personal Information Leakage in Mobile Apps”, unauthorized collection of personal information (62.2%) and intentional disclosure by businesses (60.2%) are the primary channels for personal information leaks. Once consumers’ personal information was leaked, they often faced problems such as sales calls or text message harassment (86.5%), scam calls (75.0%), and spam emails (63.4%). Respondents were mainly concerned about their personal information being used for fraudulent activities (70.5%) or being disclosed to third parties (52.4%). Nearly one-third of respondents chose to take no action after a personal information leak, which reflects, to some extent, Chinese consumers’ lack of effective control over their personal data (China Consumers Association, 2018).

At the same time, nearly 90% German consumers considered online privacy important (89%), over 70% of respondents reported using various tools to enhance their privacy, and

more than half (54%) believed they were able to effectively control their online personal information. However, only 42% of respondents thought they might become the target of cyber-crime; this figure is almost half that of respondents in other countries (SurfShark, 2021).

These results indicate that German consumers generally place high importance on online privacy and have strong confidence in their ability to protect their own data. Taken together, the two surveys highlight a significant discrepancy in online privacy attitudes between Chinese and German consumers. The reasons behind this discrepancy deserve further investigation.

With the globalization of e-commerce platforms, multinational companies face different privacy challenges in different markets. Cross-cultural research on online privacy disclosure can help e-commerce platforms better understand the differences in privacy attitudes and intentions among consumers in different countries, therefore formulating privacy policies and data management strategies that are more aligned with local cultural characteristics.

Previous studies have identified various key factors influencing personal information disclosure, such as trust, perceived benefits, and perceived risk in single and multiple countries (Degutis et al., 2023; Miltgen and Peyrat-Guillard, 2014; Mutambik et al., 2022; Schumacher et al., 2023; Wang et al., 2023). However, they often concentrate on selected factors. We aim to provide a more comprehensive explanation and understanding of how privacy disclosure behaviour differs in countries with significant cultural differences. We also include the effect of privacy regulation on the local level, which has been investigated in the context of privacy concerns. (Bellman et al., 2004). Therefore, this study mainly explores the differences in consumer privacy disclosure from the perspective of China (n=198) and Germany (n=144) based on the Theory of Planned Behaviour and Social Exchange Theory employing structural equation modelling and multi-group analysis.

2. Literature Review and Hypothesis Development

2.1. *Baseline model*

Privacy concerns are individuals' concerns about how organizations collect, use and access their personal information (Smith et al., 1996). In the context of the Internet, researchers define privacy concerns as the degree to which consumers feel worried about how websites collect, store, transmit, and publish their personal information (Hong and Thong, 2013). More specifically, three dimensions can be distinguished (Malhotra et al., 2004): (1) Collection: concern about the amount and scope of data collected; (2) Control: concern about whether individuals can effectively manage and control information after it is collected; (3) Awareness: concern about understanding privacy policies, data usage and protection measures.

Our baseline model combines several theoretical perspectives: relying on the Theory of Planned Behavior (Ajzen, 1991) studies show that higher privacy concerns generally reduce the willingness to disclose personal data (Martins et al., 2024). We therefore conclude:

H1: Privacy concerns negatively affect a consumer's willingness to disclose personal information.

According to the Privacy Calculus Theory (Al-Jabri et al., 2019) higher perceived risk often triggers concerns about the security of personal information, thereby reducing consumers' willingness to disclose information in online environments (Dinev and Hart, 2006). In contrast, when users perceive utilitarian benefits (e.g., time and effort saved, coupons or cash-back), they are more willing to share personal information (Degutis et al., 2023; Fernandes and Pereira, 2021). We hypothesize:

H2: Consumer-perceived personal information disclosure risk positively affects privacy concerns.

H3: Consumer-perceived personal information disclosure risk negatively affects consumers' willingness to disclose personal information.

H4: Consumer-perceived personal information disclosure benefit positively affects consumers' willingness to disclose personal information.

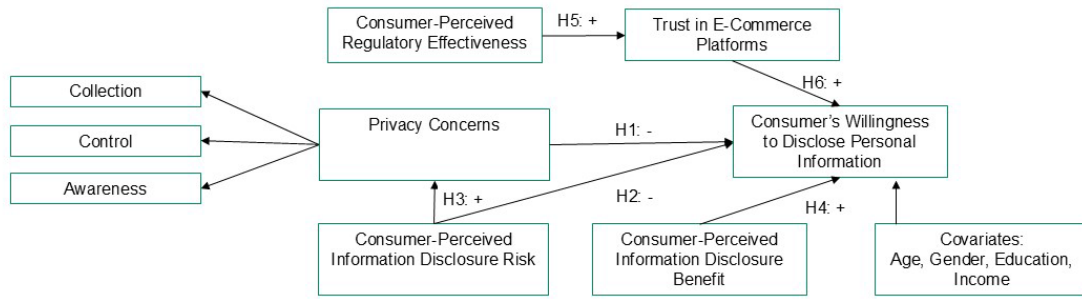
The Social Exchange Theory emphasizes the central role of trust in information exchange. In the context of e-commerce platforms, trusting consumers believe the platform and its sellers will act fairly and keep their promises and expectations (Degutis et al., 2023; Dinev and Hart, 2006). In addition, strict privacy regulations, such as the European GDPR, can effectively regulate how platforms handle consumers' personal data (Weydert et al., 2019). When consumers perceive these privacy regulations as effective, their trust in companies' handling of personal data is enhanced, which in turn positively influences their willingness to disclose information in online shopping contexts (Martin and Murphy, 2017). We derive the following hypotheses:

H5: Perceived regulatory effectiveness positively affects consumers' trust in e-commerce platforms.

H6: Trust in e-commerce platforms positively affects consumers' willingness to disclose personal information.

In addition, this study also includes gender, age, education level, and income as control variables, since demographic characteristics may influence privacy disclosure willingness (Robinson, 2017). The research model is presented in Figure 1.

Figure 1. Conceptual research model.



2.2. Two-country perspective

In China, information sharing is often understood as a means of maintaining social relationships rather than as a threat to personal privacy. Consequently, a lot of personal information (such as income, age, or marital status) is not strictly considered private in social interactions (Chen and Zhang, 2021). In contrast, Germans are more individualistic, placing greater emphasis on personal privacy and self-awareness (Hofstede et al., 2010). German consumers have a stronger need for autonomous management of their privacy and attach greater importance to the controllability and transparency of information disclosure (Ilhan and Fietkiewicz, 2020).

In the context of e-commerce, consumers with a high level of individualism tend to rely more on institutional rules to build trust in platforms (Krasnova et al., 2012). If the platforms provide fair and transparent privacy policies, such as clarifying how data is collected and used as well as implementing protective measures, consumers' privacy concerns will be reduced, their trust will increase, and consequently their willingness to disclose information will also be enhanced (Martin and Murphy, 2017). When consumers observe that companies adopt such fair privacy policies, they are more likely to believe that external regulation is effective (Cheng and Huang, 2025). Therefore, when regulation is perceived as effective, we expect users from highly individualistic cultures to be more likely to disclose personal information:

H7: The positive mediating effect of perceived regulatory effectiveness on disclosure willingness through trust is stronger among German consumers.

In high power distance culture countries such as China, personal information disclosure might be mandated by governments or institutional environments (Schumacher et al., 2023). Thus, even when privacy concerns are great, consumers may still demonstrate relatively frequent disclosure of personal information (Bellman et al., 2004). As a result, privacy concerns exert a weaker effect on disclosure willingness. By contrast, in cultures characterized by low power distance and high individualism, such as Germany, consumers demonstrate a stronger

sense of autonomous control over their privacy and are more inclined to reduce self-disclosure due to privacy concerns (Krasnova et al., 2012). Thus, there tends to be greater consistency between privacy attitudes and behaviours, and the privacy paradox is relatively weaker. Therefore, we suggest:

H8: The negative mediating effect of privacy concerns on disclosure behaviour through disclosure willingness is weaker among Chinese consumers, showing a greater privacy paradox.

3. Methods

An online survey was conducted to collect data from Chinese and German consumers between June 1 and July 1, 2025. We relied on two crowdsourcing platforms (Clickworker, Xiaohongshu). In total, 434 questionnaires were returned, of which 342 were kept for the analysis (78.8%). We removed straight-liners or respondents who failed either of the two attention checks. Overall, the sample consisted of 144 responses from Germany and 198 from China. The questionnaire was built on validated item scales from prior studies, administered on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). Starting with a German version, the questionnaire was translated into Chinese and back-translated.

4. Results

Privacy concerns were greater in Germany (mean: 3.83, std.: 0.581) than in China (mean: 3.62, std.: 0.874). However, disclosure willingness of personal information was higher in Germany than in China (Germany: mean: 3.36, std.: 0.887; China: mean: 3.06, std.: 1.021). The risk of disclosing personal information was also perceived as lower in Germany than in China (Germany: mean: 3.62, std.: 0.711; China: mean: 3.89, std.: 0.945). In contrast, the trust in e-commerce platforms (Germany: mean: 2.79, std.: 0.838; China: mean: 3.25, std.: 1.001) and the perceived regulatory effectiveness (Germany: mean: 2.98, std.: 0.908; China: mean: 3.38, std.: 1.073) were evaluated as higher in China.

We employed Partial Least Squares Structural Equation Modeling (PLS-SEM), which enabled a path coefficient analysis, and the use of a multi-group analysis (MGA). After verifying the quality of the item scales, we first applied the Measurement Invariance of Composite Models (MICOM) procedure to ensure the comparability of path coefficients across Chinese and German samples (Cheah et al., 2023). We could confirm configural and compositional invariance, which is sufficient for comparing path coefficients. However, the equality of means and variances was not established, warranting further mean-comparison tests.

The results indicate that most of the estimated six direct paths are significant at $p < 0.05$, confirming the proposed hypotheses for both the German and the Chinese samples (see Table 1). In contrast to H1, the path between privacy concerns and disclosure willingness of personal information was insignificant for the Chinese sample ($\beta = 0.140$, $t = 1.207$, $p = 0.227$). This also holds for the indirect effect of consumer's perceived information disclosure risk on disclosure willingness via privacy concerns ($\beta = 0.118$, $t = 1.196$, $p = 0.232$). Thus, H8 was confirmed. However, the direct effect is significantly negative in the Chinese sample ($\beta = -0.255$, $t = 2.216$, $p = 0.027$) as proposed (H2). For the German sample, this effect is also negative, but not significant ($\beta = -0.107$, $t = 0.920$, $p = 0.358$). Contrary to H6, the path between trust in e-commerce platforms and consumer's disclosure willingness was only significant for the Chinese sample ($\beta = 0.261$, $t = 2.478$, $p = 0.013$). This also applies to the indirect effect of consumer-perceived regulatory effectiveness on disclosure willingness via trust (H7).

Table 1. Results of MGA.

<i>Hyp.</i>	<i>Relationship</i>	<i>Country</i>	<i>Sup-ported</i>	<i>Path co-efficient</i>	<i>t-statistic (p-value)</i>	<i>Path coeffi-cient differ-ences</i>	<i>t-statistic (p-value)</i>
H1	PRC → WDI	Germany	Yes	-0.213	2.146 (0.032)	0.353	2.221 (0.028)
		China	No	0.140	1.207 (0.227)		
H2	PR → WDI	Germany	No	-0.107	0.920 (0.358)	0.099	0.808 (0.420)
		China	Yes	-0.255	2.216 (0.027)		
H3	PR → PRC	Germany	Yes	0.603	8.465 (0.000)	0.241	3.578 (0.000)
		China	Yes	0.844	33.262 (0.000)		
H4	PB → WDI	Germany	Yes	0.410	4.794 (0.000)	0.114	0.914 (0.362)
		China	Yes	0.524	6.050 (0.000)		
H5	PRE → T	Germany	Yes	0.662	7.147 (0.000)	0.146	1.303 (0.193)
		China	Yes	0.787	17.314 (0.000)		
H6	T → WDI	Germany	No	0.090	0.922 (0.356)	0.171	1.151 (0.251)
		China	Yes	0.261	2.478 (0.013)		
<i>Specific indirect effects</i>							
H7	PR → PRC → WDI	Germany	Yes	-0.129	2.142 (0.038)	0.247	1.954 (0.052)
		China	No	0.118	1.196 (0.232)		
H8	PRE → T → WDI	Germany	No	0.060	0.924 (0.355)	0.146	1.303 (0.193)
		China	Yes	0.206	0.014 (0.014)		

Hyp. = Hypothesis, PRC = Privacy Concerns, WDI = Willingness to Disclose Personal Information, PR = Consumer-Perceived Information Disclosure Risk, PB = Consumer-Perceived Information Disclosure Risk, PRE = Consumer-Perceived Regulatory Effectiveness, T = Trust in E-Commerce Platforms

5. Discussion

From the results of the structural models, most hypotheses are statistically significant in the Chinese and German samples. For example, in both groups, perceived benefits had a significant positive effect on disclosure willingness (H4), perceived risk significantly increased consumers' privacy concerns (H3), and higher perceived regulatory effectiveness was associated with stronger trust in platforms (H5). In particular, Chinese consumers frequently

disclose personal information when enjoying the convenience of platforms and responding to various incentives. These results confirm the broad applicability of privacy calculus theory and social exchange theory across different cultural contexts.

The results also highlight several important differences. First, in the Chinese sample, the negative effect of perceived risk on disclosure willingness (H3) was not significant. In addition, H7 and the indirect effect of perceived risk via privacy concerns were also less relevant. This may be related to the high frequency of e-commerce use and the necessity of certain information disclosures, which weaken the inhibitory role of risk perception and privacy concerns. In contrast, among German consumers, privacy concerns negatively affect disclosure willingness (H1), reflecting overall a more cautious privacy attitude.

The results show that the mediating effect of perceived regulatory effectiveness on disclosure willingness through trust is more significant in China. Although perceived regulatory effectiveness increased trust in platforms in both samples, only in the Chinese sample did trust further show a significant positive effect on disclosure willingness, whereas in the German sample, this path was not significant. This indicates that, for German consumers, even a relatively high level of trust does not necessarily translate into a stronger willingness to share personal information. One possible explanation is that German consumers generally adopt a more cautious attitude toward information disclosure: even when they trust a platform, they may still refrain from sharing personal data. In Germany, the strong privacy culture and strict laws (e.g., GDPR) make trust more of a basic requirement than a factor that drives disclosure.

For multinational e-commerce platforms, the findings of this study can be translated into more targeted privacy management and localized operational strategies. For example, German consumers place greater emphasis on data control and platform transparency. However, in the German sample, trust did not significantly increase disclosure willingness. This suggests that building trust alone is insufficient to encourage consumers to disclose more information. Instead, improving transparency and controllability is more likely to form long-term interaction and information sharing. Although Chinese consumers disclose information on e-commerce platforms more frequently, their privacy concerns and the perceived risk remain relatively strong. Therefore, platforms need to adopt multiple measures to enhance users' sense of security. In addition, these results also provide some implications for policymakers. For Chinese regulatory authorities, it is important to further strengthen the enforcement and dissemination of privacy laws in order to reduce the contradictory situation where consumers frequently disclose information but lack adequate protection.

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