



The Impact of Consumer Perceptions of Privacy and Security Risks on Re-purchasing Intention for Online Shopping in Chiang Mai Province, Thailand

Tiya Pilakaew¹, Phithagorn Thanitbenjasith² and Pongsiri Kamkankaew³

¹⁻³ Faculty of Business Administration, North-Chiang Mai University, Thailand

¹E-mail: g652301008@northcm.ac.th ORCID ID: <https://orcid.org/0009-0005-3114-2014>

²E-mail: phithagorn.ncu@gmail.com ORCID: <https://orcid.org/0000-0002-8967-8285>

³E-mail: Kpongsiri85@gmail.com, ORCID: <https://orcid.org/0000-0002-5885-4805>

Received 12/06/2024

Revised 15/06/2024

Accepted 16/08/2024

Abstract

Background and Aim: Chiang Mai Province, a growing economic center in northern Thailand, is a preferred mode of consumerism due to its convenience and wide product selection, but faces barriers to adoption due to concerns about these risks. This research investigates the impact of consumer perceptions of privacy and security risks on re-purchasing intention for online shopping in Chiang Mai Province, Thailand. The study aims to understand how these perceptions influence consumer behavior in the digital marketplace.

Materials and Methods: A quantitative cross-sectional survey design was employed, with data collected from 385 online shoppers in Chiang Mai Province. The research instrument consisted of a structured online questionnaire assessing perceived privacy and security risks, as well as re-purchasing intentions. Multiple regression analysis was used to test the hypotheses.

Results: The findings reveal that both perceived privacy and security risks significantly influence re-purchasing intention. Consumers who perceive higher levels of privacy and security are more likely to engage in repeat online purchases. The model explained a substantial proportion of the variance in re-purchasing intention, highlighting the importance of these factors in shaping online shopping behavior.

Conclusion: This research provides valuable insights for e-commerce businesses and policymakers in Chiang Mai Province. By prioritizing and investing in measures that enhance consumer perceptions of privacy and security, businesses can foster trust, encourage repeat purchases, and drive sustainable growth in the online marketplace.

Keywords: Re-purchasing Intention; Privacy; Security Risks; Online Shopping; Consumer Behavior

Introduction

The advent of digital technologies has transformed the retail sector, with online shopping emerging as a preferred mode of consumerism due to its convenience, extensive product selection, and competitive pricing (Vasquez, 2020; Kamkankaew et al, 2022). This shift in consumer behavior is particularly pronounced in Chiang Mai Province, a burgeoning economic hub in northern Thailand (Li & Suteeca, 2024). However, the rapid growth of e-commerce has been accompanied by concerns regarding privacy and security risks, which pose significant barriers to the widespread adoption of online shopping (Lee & Chae, 2013).

Consumer perceptions of these risks are shaped by various factors, including personal experiences, media reports, and the overall digital literacy of the population (Lee, Min & Kang, 2008). Understanding these perceptions is crucial for both retailers and policymakers, as it can inform the development of targeted interventions aimed at bolstering consumer confidence and trust in the online marketplace (Turkmen, & Sarican, 2022). Chiang Mai, with its diverse demographic profile and varying levels of technological adoption, provides a unique context to examine these issues in depth (Fubin & Pichayakul, 2022).

This research aims to investigate consumer perceptions of privacy and security risks associated with online shopping in Chiang Mai Province (Li & Suteeca, 2024). It will examine the specific concerns that consumers harbor, the extent to which these concerns influence their online shopping behavior, and the strategies they employ to mitigate perceived risks (Changchit et.al, 2019). By analyzing these issues, this research aims to contribute to the growing body of knowledge on consumer behavior in the digital age (Kamkankaew, Thongyoy & Phonracharnon, 2024). It will offer valuable insights for retailers and e-commerce platforms seeking to enhance their security measures and tailor their marketing strategies to address consumer concerns (Miyazaki & Fernandez, 2001). Additionally, the findings will inform





policymakers in developing regulations and initiatives that foster a secure and trustworthy online shopping environment.

Furthermore, this research will contribute to the broader academic discourse on consumer behavior in the digital age. By focusing on the specific geographical context of Chiang Mai Province, this study will provide valuable insights into the localized nuances of consumer perceptions. The research findings will be disseminated through academic publications, presentations at conferences, and engagement with relevant stakeholders, fostering a dialogue that will drive positive change in the online shopping landscape of Chiang Mai Province.

Objectives

This research aims to test the impact of consumer perceptions of privacy and security risks on repurchasing intention for online shopping in Chiang Mai Province.

Literature review

The overview of consumer behavior concept

The academic exploration of consumer behavior has evolved significantly, encompassing a multidisciplinary approach that draws from psychology, sociology, economics, and marketing (Han & Stoel, 2017). Initial research emphasized rational choice models, presuming consumers' decisions were driven by utility maximization (Kim et.al, 2022). However, this perspective has shifted to acknowledge the complexities of human cognition and affect. Notably, Han & Stoel (2017) worked on prospect theory and heuristics challenged the notion of purely rational consumers, illuminating the role of cognitive biases and mental shortcuts in decision-making processes.

Contemporary investigations have delved into the impact of social and cultural dynamics on consumer behavior. Studies on reference groups, social identity, and cultural norms have elucidated how consumption choices are influenced by the desire for affiliation and self-expression (Zhang & Benyoucef, 2016; Taufique & Vaithianathan, 2018; Trudel, 2019). Furthermore, the proliferation of digital technologies and online platforms has spurred research into the effects of social media, online reviews, and personalized advertising on consumer decision journeys, revealing the intricate interplay between technology and consumption patterns (Ozkaynar, 2022).

Recent scholars have also highlighted the growing significance of ethical and sustainable consumption (Han, 2021; Rachmad, 2024). Consumers are increasingly prioritizing the environmental and social consequences of their choices, leading to a heightened demand for eco-conscious products and transparent business practices. Research in this domain investigates the motivations underpinning ethical consumption, the barriers hindering its widespread adoption, and the role of marketing in fostering sustainable behaviors (Han, 2021). A comprehensive understanding of these trends is paramount for businesses and policymakers aiming to align with evolving consumer values and preferences, ensuring their offerings resonate with the conscientious consumer landscape.

Re-purchasing intention

The extant literature on repurchase intention demonstrates a multi-faceted exploration of the factors influencing consumers' decisions to revisit a product or service. Seminal research emphasized the pivotal role of customer satisfaction in fostering repurchase intention (Lee & Chae, 2013; An, 2020), a perspective later augmented by studies highlighting the synergistic influence of perceived value, brand loyalty, and trust (Lee & Baek, 2017).

Contemporary investigations have broadened the purview of repurchase intention, scrutinizing its manifestation in diverse domains such as e-commerce and service industries. Scholars have probed the impact of website design, online reviews, and social media engagement on repurchase intention within the digital landscape (Yu, Chan & Zolkepli, 2023). Concurrently, research has elucidated the significance of service quality, customer-employee interactions, and post-purchase support in stimulating repurchase intention within service contexts (Ibrahim, 2018).



Furthermore, nascent research has begun to unravel the interplay of individual differences and contextual factors in shaping repurchase intention (Yen, Hsu & Chang, 2013). Personality traits, cultural values, and social norms have been posited as moderators of the relationship between repurchase intention and its antecedents (Lee, Min & Kang, 2008). Additionally, situational variables such as time constraints, perceived risk, and the availability of alternative options have been shown to sway repurchase decisions (Benesbordi et.al, 2019).

Despite the wealth of accumulated knowledge, the dynamic nature of consumer behavior and the evolving market landscape necessitate continued inquiry into the determinants of repurchase intention (Nasution & Nasution, 2023). The escalating emphasis on sustainability and ethical considerations in consumer choices warrants investigation into their impact on repurchase decisions. Moreover, the burgeoning popularity of subscription-based models and the sharing economy offer novel avenues for exploring repurchase intention within these emergent paradigms.

Privacy

The scholarly discourse on consumer perceptions of privacy within the online shopping domain reveals a multifaceted and dynamic landscape. Seminal research predominantly centered on the trade-off between privacy apprehensions and the convenience afforded by e-commerce (Miyazaki & Fernandez, (2001). These initial investigations underscored the pivotal role of trust in mitigating privacy concerns, with consumers exhibiting a greater propensity to divulge personal information on websites perceived as trustworthy (Bernard & Makienko, 2011).

As e-commerce proliferated, subsequent inquiries delved into the specific determinants influencing privacy perceptions. This encompassed an examination of the impact of website design elements, including privacy policies and security seals, on consumer trust and the willingness to disclose personal information (Tsai & Yeh, 2010). Concurrently, studies commenced exploring the influence of individual differences, such as demographic variables and personality traits, on the formation of privacy concerns (Bawack, Wamba & Carillo, 2021).

More recent scholars (Bernard & Makienko, 2011; Bawack, Wamba & Carillo, 2021; Saeed, 2023) have addressed the escalating complexity of online privacy issues, notably the advent of big data and personalized advertising. This has precipitated heightened scrutiny of data collection practices and an augmented awareness of privacy risks among consumers (Kamkankaew, Thongyoy & Phonracharnon, 2024). Investigations have also probed the ramifications of data breaches and privacy scandals on consumer trust and subsequent behavior (Okazaki et.al, 2020).

The scholarly trajectory on consumer perceptions of privacy in online shopping is characterized by a transition from generalized concerns to a more nuanced comprehension of the factors modulating these perceptions. While early research accentuated the significance of trust and website design, contemporary studies have elucidated the role of individual differences, the impact of emergent technologies, and the repercussions of privacy infringements. This evolving landscape underscores the imperative for sustained research to more comprehensively understand and address the intricate challenges confronting consumers in the digital epoch.

Security risks

The proliferation of e-commerce has reshaped the retail sector, affording consumers unprecedented convenience and product accessibility (Kamkankaew, Thongyoy & Phonracharnon, 2024). Concurrently, the inherent digital nature of online transactions has introduced a unique set of security risks, fostering a complex interplay between perceived threats, consumer behavior, and trust in the online marketplace (Tran & Nguyen, 2022).

Scholarly investigation into consumer perceptions of security risks in online shopping has largely centered on identifying the specific types of risks that elicit the greatest concern (Miyazaki & Fernandez, 2001). These include financial risks (e.g., credit card fraud, identity theft), privacy risks (e.g., unauthorized data collection, misuse of personal information), and product risks (e.g., receipt of counterfeit or substandard goods). Studies (Bhatti, Saad & Gbadebo, 2020; Tran, 2020; Tran & Nguyen, 2022)

consistently demonstrate that perceived security risks can significantly impact consumer willingness to engage in online transactions, with heightened risk perceptions correlating to decreased purchase intentions.

Furthermore, researchers (Miyazaki & Fernandez, 2001; Alrawad et.al, 2023; Kamkankaw, Thongyoy & Phonrachamon, 2024) have sought to elucidate the factors that shape and influence consumers' perceptions of security risks. These factors can be broadly categorized as individual characteristics (e.g., demographics, online experience, risk aversion), situational factors (e.g., website design, security cues, past experiences), and external influences (e.g., media coverage, social networks). A comprehensive understanding of these factors is paramount for developing effective strategies to mitigate perceived risks and bolster consumer confidence in online shopping (Qalati et.al, 2021).

While existing research has yielded valuable insights into consumer perceptions of security risks, several avenues for further inquiry remain (Indiani & Fahik, 2020). For instance, there is a need for more nuanced investigations into the specific types of risks that are most salient for diverse consumer segments (Amirtha, Sivakumar & Hwang, 2020). Additionally, the long-term effects of security breaches on consumer behavior, as well as the potential for interventions to restore trust after such incidents, warrant further exploration (Nofrialdi & Herfina, 2021).

This research endeavors to address these knowledge gaps by undertaking a rigorous examination of consumer perceptions of security risks in online shopping. By employing a mixed-methods approach that integrates quantitative surveys and qualitative interviews, this study aims to provide a more comprehensive understanding of the multifaceted nature of perceived risks and their subsequent impact on consumer behavior. The resultant findings will contribute to the development of evidence-based strategies to enhance the security and trustworthiness of the online shopping environment.

Conceptual Framework

A review of extant literature (Mann & Sahni, 2013; Demirdogmez & Gultekin, 2020; Aboul-Dahab, Agag & Abdelmoety, 2021; Tri Cuong, 2021; Sarioglu, 2023) indicates a significant relationship between consumer perceptions of privacy and security risks and their re-purchasing intentions. Building upon this established body of knowledge, the present study adapts and applies these findings to develop a conceptual framework, as illustrated in Figure 1. This framework serves as the foundation for further investigation into the nuanced interplay between consumer perceptions and purchasing behavior within the context of privacy and security concerns.

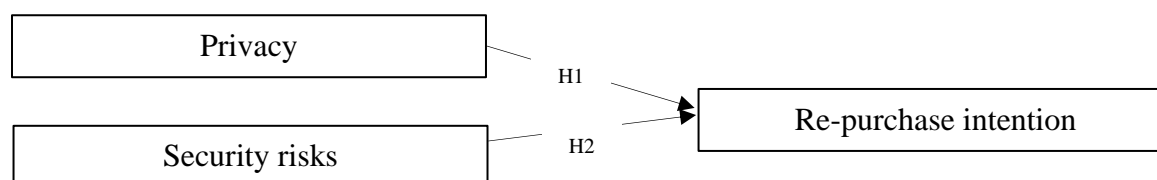


Figure 1 Conceptual framework

Methodology

Research Design

This study will adopt a quantitative research method, cross-sectional survey design to examine the relationship between consumer perceptions of privacy and security risks and their repurchase intentions in the context of online shopping in Chiang Mai Province, Thailand. This design is well-suited for identifying correlations and capturing a snapshot of consumer sentiment at a given point in time.

Population and Sample

The target population encompasses consumers residing in Chiang Mai Province who have engaged in at least one online purchase within the past six months. To ensure statistical robustness, a sample size of



approximately 385 participants will be determined using a power analysis, targeting a moderate effect size, a power level of 0.80, and a significance level of 0.05.

Sampling

Due to practical considerations and resource constraints, a non-probability convenience sampling approach will be employed. Participants will be recruited through diverse online channels, including social media platforms, online forums, and potentially through collaborations with local businesses and organizations in Chiang Mai. While acknowledging the potential for sampling bias, this approach offers a pragmatic solution to accessing the target population.

Data Collection

Data collection will be conducted via a structured online questionnaire designed to assess consumer perceptions of privacy and security risks associated with online shopping, as well as their corresponding repurchase intentions. The questionnaire will be meticulously crafted, drawing upon established scales and adapting them to the unique cultural and technological context of Chiang Mai Province.

Research Instrument

The questionnaire will comprise distinct sections. The section on perceived privacy risks utilizes validated measures to gauge concerns related to information disclosure, unauthorized access, and potential misuse of personal data. The section on perceived security risks assesses apprehensions about payment security, fraudulent activity, identity theft, and the overall security of online platforms. The section on repurchase intention employs established scales to quantify the likelihood of future online purchases from the same vendor or platform. The majority of questionnaire items will utilize five - Likert-type scales, facilitating nuanced responses and capturing the intensity of participant agreement or disagreement. Before the main data collection, a pilot study with 30 participants will be conducted to test the clarity and validity of the survey questions. The reliability of the scales used in the survey will be assessed using Cronbach's alpha, with alpha coefficients ranging from 0.785 to 0.895, well above the conventional threshold of 0.7 (Kamkankaew et al., 2023).

Data Analysis

Descriptive statistics will be employed to summarize the normal distribution of data and responses to individual questionnaire items. Following that, inferential statistics, such as multiple regression analysis, will be used to thoroughly test the study hypotheses and show how perceived risks affect plans to buy again.

Results

This research investigates the influence of consumer perceptions regarding privacy and security risks on their intention to make repeat purchases through online shopping platforms in Chiang Mai Province, utilizing descriptive statistics, correlation analysis, hypothesis testing, and regression analysis to examine the relationships between these factors. The result of this section is the following.

Descriptive statistics of the variables

The descriptive statistics presented in Table 1 reveal several key insights about the variables under investigation. The means for privacy (PVY), security risks (SCR), and re-purchasing intention (Y_RPI) are 4.03, 4.01, and 4.12 respectively. These values, all above 4 on a Likert scale, suggest that respondents generally perceive a high level of privacy and security and express a high intention to re-purchase.

The standard deviations (S.D.) for all three variables are relatively consistent, ranging from 0.820 to 0.850. This indicates a moderate degree of variability in responses around the mean. The skewness values for privacy (PVY), security risks (SCR), and re-purchasing intention (Y_RPI) are 0.470, 0.671, and 0.476 respectively, all positive and less than 1, suggesting a slightly right-skewed distribution for each variable. This implies that while most responses lean towards the higher end of the scale, some respondents perceive lower levels of privacy and security and have a lower intention to re-purchase.

The kurtosis values for privacy (PVY), and security risks (SCR) are 0.377 and 0.443 respectively, indicating a relatively normal distribution with slightly lighter tails than a perfectly normal distribution. The kurtosis for re-purchasing intention (Y_RPI) is 0.696, suggesting a slightly leptokurtic distribution with



heavier tails. This implies that there are relatively more respondents who have either very high or very low re-purchasing intentions compared to a perfectly normal distribution.

Overall, the data suggest a relatively normal distribution for all three variables, with a slight rightward skew. This implies that most respondents perceive high levels of privacy and security and have a high intention to re-purchase, with some variability in responses. The leptokurtic distribution of re-purchasing intention (Y_RPI) suggests a greater concentration of responses at the extremes, indicating a more polarized response pattern for re-purchasing intention.

Table 1 Descriptive statistics of the variables

Variables	Mean	S.D.	skewness	kurtosis	Meaning of Mean
Privacy (PVY)	4.03	0.841	0.470	0.377	High
Security risks (SCR)	4.01	0.850	0.671	0.443	High
Re-purchasing intention (Y_RPI)	4.12	0.820	0.476	0.696	High

Correlation analysis

Table 2 presents a correlation analysis revealing significant interrelationships among re-purchasing intention (Y_RPI), privacy concerns (PVY), and perceived security risks (SCR). A strong positive correlation ($r = 0.586$, $p < 0.01$) between Y_RPI and PVY indicates that consumers who prioritize privacy are more inclined to exhibit re-purchasing behaviors. Similarly, a notable positive correlation ($r = 0.551$, $p < 0.01$) between Y_RPI and SCR suggests that perceived security risks significantly influence consumers' willingness to make repeat purchases.

Furthermore, the robust positive correlation ($r = 0.729$, $p < 0.01$) between PVY and SCR highlights a strong association between these constructs, implying that individuals concerned about privacy are likely to be equally apprehensive about potential security breaches.

These findings collectively underscore the pivotal role of privacy and security concerns in shaping consumer re-purchasing intentions. The results offer actionable insights for businesses aiming to cultivate customer loyalty and drive repeat purchases. Prioritizing robust privacy protection and security measures can effectively mitigate consumer concerns and enhance brand reputation, thereby fostering a secure and trustworthy environment conducive to sustained consumer engagement.

Table 2 The result of the Correlation analysis

	Re-purchasing intention (Y_RPI)	Privacy (PVY)	Security risks (SCR)
Re-purchasing intention (Y_RPI)	1.000		
Privacy (PVY)	0.586**	1.000	
Security risks (SCR)	0.551**	0.729**	1.000

Note: ** means a statistical significance level of 0.01

The rigorous assessment of multicollinearity, a statistical phenomenon that can undermine the reliability of regression models, revealed no significant concerns within the dataset. As indicated in Table 3, the Variance Inflation Factor (VIF) values for both 'Privacy' (PVY) and 'Security Risks' (SCR) are well below the critical threshold of 5, signifying that these predictors are not excessively correlated with other





variables included in the model. Further corroborating this finding, the tolerance values for both PVY (2.74) and SCR (2.81) substantially exceed the recommended minimum of 0.2. The tolerance statistic, representing the proportion of a predictor's variance that is not explained by other predictors, underscores the unique contribution of each variable to the model's predictive capacity. In summation, the multicollinearity diagnostics provide compelling evidence that the relationships between the predictors in the model are not unduly influenced by high correlations, thereby bolstering the robustness and validity of the regression analysis.

Table 3 The result of multicollinearity testing

Variables	VIF values	Tolerance values	Meaning
Privacy (PVY)	0.366	2.74	Not Multicollinearity
Security risks (SCR)	0.356	2.81	Not Multicollinearity

Hypothesis Testing

The results of the regression analysis in Table 4 reveal significant insights into the factors influencing re-purchasing intention (RPI) for online shopping in Chiang Mai Province. Both consumer perceptions of privacy (PVY) and security risks (SCR) emerged as statistically significant predictors of RPI, with p-values of 0.014 and 0.000, respectively.

The standardized regression coefficients (β) indicate the relative importance of each factor. The coefficient for security risks ($\beta = 0.229$) is slightly higher than that for privacy ($\beta = 0.174$), suggesting that while both are important, consumer perceptions of security risks have a marginally stronger impact on re-purchasing intention. This implies that consumers in Chiang Mai Province are more sensitive to concerns about the security of their personal and financial information during online transactions than to general privacy concerns.

The model explains a substantial proportion of the variance in re-purchasing intention ($R^2 = 0.461$), indicating that privacy and security risk perceptions account for almost half of the variation in consumer decisions to repurchase online. This underscores the critical role of these factors in shaping online shopping behavior in the region. The high F-value (50.3) and low significance level ($<.001$) further confirm the overall significance of the model, indicating that the observed relationships are unlikely due to chance.

Table 4 The result of entering method regression analysis

Independent Variable	Dependent Variable: Re-purchasing intention (Y_RPI)				
	b	SE	β	t	p-value
constant(a)	1.181	0.192		6.136	0.034*
Privacy (PVY)	0.170	0.067	0.174	2.470	0.014*
Security risks (SCR)	0.223	0.069	0.229	3.203	0.000*

$$R = 0.679, R^2 = 0.461, \text{Adjusted } R^2 = 0.452$$
$$F = 50.3, \text{Sig } F = <.001, \text{Durbin-Watson} = 1.204$$

Note: * means a statistical significance level of 0.05

These findings have significant implications for e-commerce businesses operating in Chiang Mai Province. To enhance customer re-purchasing intention, online retailers must prioritize and invest in measures that bolster consumer confidence in the privacy and security of their platforms. This could involve

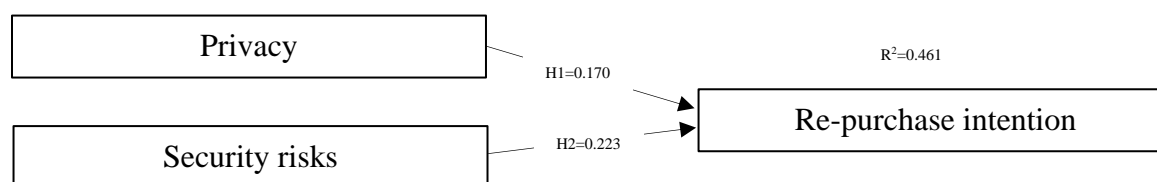


implementing robust data protection protocols, ensuring transparent communication about data practices, and proactively addressing any security vulnerabilities.

The established regression equation is as follows:

$$Y_PRPI = 1.181 + 0.170(PVY) + 0.223(SCR)$$

The multiple regression analysis reveals that both perceived privacy (PVY) and security risks (SCR) significantly influence consumers' re-purchasing intention (Y_RPI) in the context of online shopping in Chiang Mai Province. Specifically, the model indicates that a one-unit increase in perceived privacy leads to a 0.170-unit increase in re-purchasing intention, holding other factors constant. Similarly, a one-unit increase in perceived security risks results in a 0.223-unit increase in re-purchasing intention. The constant term of 1.181 suggests a baseline level of re-purchasing intention exists even when privacy and security concerns are not considered. These findings underscore the importance of both privacy and security perceptions in shaping consumer behavior in the online shopping landscape of Chiang Mai Province.



Note: * means a statistical significance level of 0.05

Figure 2 Result of Hypothesis Testing

Discussion

The current study's findings echo and expand upon previous research exploring the factors that influence repurchase intention in online shopping. Aligned with the literature (Lee & Chae, 2013; An, 2020), our results underscore the pivotal role of consumer perceptions of security risks in shaping repurchase decisions. This finding resonates with the broader scholarly discourse, which consistently demonstrates the negative impact of heightened security risk perceptions on consumer willingness to engage in online transactions (Bhatti, Saad & Gbadebo, 2020; Tran, 2020; Tran & Nguyen, 2022).

This study's emphasis on privacy concerns adds another dimension to the understanding of repurchase intention. While the effect of privacy perceptions was slightly less pronounced than that of security risks, it remains a statistically significant predictor. This finding aligns with the extant literature, which highlights the multifaceted nature of privacy concerns in online shopping, encompassing apprehension about data collection, misuse of personal information, and personalized advertising (Bernard & Makienko, 2011; Bawack, Wamba & Carillo, 2021; Saeed, 2023).

The substantial explanatory power of our model, accounting for nearly half of the variance in repurchase intention, underscores the critical role of privacy and security risk perceptions in shaping online consumer behavior. This finding reinforces the importance of addressing these concerns to foster trust and encourage repeat purchases among consumers in Chiang Mai Province. It also suggests that interventions aimed at enhancing perceived security and privacy could yield significant returns in terms of increased customer loyalty and sustained revenue growth.

Furthermore, our study contributes to the ongoing scholarly conversation by adapting and applying existing theoretical frameworks to a specific geographical and cultural context. By focusing on Chiang Mai Province, we offer insights into the unique concerns and priorities of consumers in this region, thereby



enriching the broader understanding of the factors influencing online shopping behavior across diverse populations.

In conclusion, this research not only reaffirms established findings but also extends the current understanding of repurchase intention in online shopping. By elucidating the relative importance of privacy and security risk perceptions among consumers in Chiang Mai Province, our study provides actionable insights for businesses and policymakers seeking to cultivate a thriving and secure online marketplace.

Conclusion

In conclusion, this research underscores the pivotal role of consumer perceptions of privacy and security risks in shaping re-purchasing intentions within the online shopping landscape of Chiang Mai Province. The empirical findings unequivocally affirm the hypotheses, revealing that heightened concerns regarding both privacy and security risks significantly impede consumers' willingness to engage in repeat transactions. Notably, the study's robust methodology, encompassing a comprehensive survey of 385 online shoppers and rigorous statistical analysis, lends credence to the generalizability of these results. The implications of these findings are far-reaching, particularly for e-commerce businesses operating within the region. To foster customer loyalty and drive sustained growth, these entities must prioritize and invest in measures that bolster consumer confidence in the privacy and security of their platforms. This could entail implementing state-of-the-art data protection protocols, ensuring transparent communication regarding data handling practices, and proactively addressing any potential security vulnerabilities. By assuaging consumer apprehensions and cultivating a secure and trustworthy online environment, businesses can not only enhance re-purchasing intentions but also fortify their brand reputation and long-term profitability.

Recommendation

Implementation

1. E-commerce platforms should prioritize transparent communication regarding their data collection and usage practices. Articulated privacy policies, readily accessible information about security measures, and proactive notifications about potential risks can significantly alleviate consumer concerns and foster trust.
2. Investing in state-of-the-art security technologies, such as encryption protocols, multi-factor authentication, and intrusion detection systems, is paramount. Regular security audits and vulnerability assessments can proactively identify and address potential weaknesses, thereby bolstering consumer confidence in the platform's security infrastructure.
3. Leveraging data analytics to offer personalized product recommendations and tailored promotions can enhance the overall shopping experience. However, this should be done with explicit consent and clear communication about how personal data is utilized, ensuring that consumers feel empowered and in control of their information.

Future research recommendation

1. Future research could adopt a longitudinal design to track changes in consumer perceptions of privacy and security risks over time and their subsequent impact on re-purchasing behavior. This would provide a more nuanced understanding of the dynamic interplay between these factors and offer insights into the long-term effects of interventions aimed at enhancing perceived security and privacy.
2. Conducting comparative studies across different regions or countries could shed light on the cultural and contextual factors that shape consumer perceptions of privacy and security risks. This would enable the development of tailored strategies that address the specific concerns and priorities of diverse consumer populations, thereby fostering a more inclusive and secure online shopping environment.





References

- Aboul-Dahab, S., Agag, G., & Abdelmoety, Z.H. (2021). Examining the influence of cultural and ethical ideology on consumers' perceptions about the ethics of online retailers and its effects on their loyalty. *Journal of Retailing and Consumer Services*, 61, 102559.
- Alrawad, M., Lutfi, A., Alyatama, S., Al Khattab, A., Alsoboa, S. S., Almaiah, M. A., & Al-Khasawneh, A. L. (2023). Assessing customers perception of online shopping risks: A structural equation modeling-based multigroup analysis. *Journal of Retailing and Consumer Services*, 71, 103188.
- Amirtha, R., Sivakumar, V.J., & Hwang, Y. (2020). Influence of perceived risk dimensions on e-shopping behavioral intention among women—a family life cycle stage perspective. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(3), 320-355.
- An, S.H. (2020). Effects of Mobile Shopping Tendencies and Information Search on the Shopping Mall Satisfaction and Repurchase Intention: Focusing on Fashion Clothing. *Journal of Digital Convergence*, 18(8), 469-478.
- Bawack, R. E., Wamba, S. F., & Carillo, K. D. A. (2021). Exploring the role of personality, trust, and privacy in customer experience performance during voice shopping: Evidence from SEM and fuzzy set qualitative comparative analysis. *International Journal of Information Management*, 58, 102309.
- Benesbordi, A., Fesanghari, J., Ranjbar, S., & Bidkhori, N. (2019). The Effect of Brand, Design, and Price on Perceived Quality and Re-Intent of Customers to Purchase Sports Brand Shoes. *New Approaches in Exercise Physiology*, 1(1), 117-138.
- Bernard, E. K., & Makienko, I. (2011). The effects of information privacy and online shopping experience in e-commerce. *Academy of Marketing Studies Journal*, 15, 97.
- Bhatti, A., Saad, S., & Gbadebo, S. M. (2020). Moderator trust and subjective norms influence the risk and online shopping behavior of consumers. *International Journal of Science & Technology Research*, 9(1), 627-641.
- Changchit, C., Cutshall, R., Lonkani, R., Pholwan, K., & Pongwiritthon, R. (2019). Determinants of online shopping influencing Thai consumer's buying choices. *Journal of Internet Commerce*, 18(1), 1-23.
- Demirdogmez, M., & Gultekin, N. (2020). A Research on The Effect of E-Service Quality, Confidence in Website, and Perceived Risk on Perceived Value and Positive Behaviours of Consumers. *OPUS International Journal of Society Researches*, 16(29), 3225-3250.
- Fubin, W., & Pichayakul, P. (2022). Marketing Mix Affecting Consumers in Purchasing at Refill Shops in Mueang Chiang Mai District. *Rajabhat Chiang Mai Research Journal*, 23(3), 15-27.
- Han, H. (2021). Consumer behavior and environmental sustainability in tourism and hospitality: a review of theories, concepts, and latest research. *Journal of Sustainable Tourism*, 29(7), 1021-1042. <https://doi.org/10.1080/09669582.2021.1903019>
- Han, T.I., & Stoel, L. (2017). Explaining socially responsible consumer behavior: A meta-analytic review of the theory of planned behavior. *Journal of International Consumer Marketing*, 29(2), 91-103.
- Ibrahim, M.M. (2018). *The Role of Brand Loyalty and Corporate Image as Mediating Variables in the Relationship between Cause-Related Marketing and Consumer Re-Purchasing Decision*. Doctoral dissertation, Ain Shams University.
- Indiani, N.L.P., & Fahik, G.A. (2020). Conversion of online purchase intention into actual purchase: the moderating role of transaction security and convenience. *Business: Theory and Practice*, 21(1), 18-29.
- Kamkankaew, P., Meesubthong, C., Khumwongpin, S., Jeernorn, W., & Phungjitpraphai, P. (2023). How Do Ecological Consumption, Perceived Value, and Satisfaction Affect Destination Loyalty? - A Description After the COVID-19 Pandemic of Thai Tourists in a National Park in Lampang, Thailand. *International Journal of Sociologies and Anthropologies Science Reviews*, 3(2), 121-138.





- Kamkankaew, P., Sribenjachot, S., Wongmahatlek, J., Phattarowas, V., & Khumwongpin, S. (2022). Reconsidering the mystery of digital marketing strategy in the technological environment: Opportunities and challenges in digital consumer behavior. *International Journal of Sociologies and Anthropologies Science Reviews*, 2(4), 43-60.
- Kamkankaew, P., Thongyoy, P., & Phonracharnon, Y. (2024). From Clicks to Satisfaction: A Study on How Customer-Based Brand Equity Shapes Customer Satisfaction in Online Food Delivery Realm for Generation Z in Lampang Province, Thailand. *International Journal of Sociologies and Anthropologies Science Reviews*, 4(2), 109-124.
- Kim, J., Yang, K., Min, J., & White, B. (2022). Hope, fear, and consumer behavioral change amid COVID-19: Application of protection motivation theory. *International Journal of Consumer Studies*, 46(2), 558-574.
- Lee, H., & Chae, Y. I. (2013). Factors influencing the customer satisfaction and re-purchasing intention of a mobile shopping mall. *Journal of Information Technology Services*, 12(2), 215-229.
- Lee, J. B., & Baek, D. H. (2017). The effect of smartphone purchasing determinants on repurchase intention. *Journal of the Society of Korea Industrial and Systems Engineering*, 40(2), 1-12.
- Lee, S. G., Min, S. K., & Kang, M. C. (2008). A Study for Strategy of On-line Shopping Mall: Based on Customer Purchasing and Re-purchasing Pattern. *Asia pacific journal of information systems*, 18(3), 91-121.
- Li, Y., & Suteeca, R. (2024). The Positive Influence of Purchase Intention Factors on Shopee Thai Students in Chiang Mai. In *2024 Joint International Conference on Digital Arts, Media, and Technology with ECTI Northern Section Conference on Electrical, Electronics, Computer and Telecommunications Engineering (ECTI DAMT & NCON)* (pp. 324-329). IEEE.
- Mann, B.J.S., & Sahni, S. K. (2013). Role of trust and customer loyalty in reducing perceived security risk in Internet banking. *International Journal of Electronic Business*, 10(4), 331-354.
- Miyazaki, A. D., & Fernandez, A. (2001). Consumer perceptions of privacy and security risks for online shopping. *Journal of Consumer Affairs*, 35(1), 27-44.
- Nasution, S.U.A., & Nasution, S.W.P. (2023). The Determinants Factor on Repurchase Intentions: A Study from Developing Economies. *International Journal of Management Science and Application*, 2(2), 87-107.
- Nofrialdi, R., & Herfina, M. (2021). Online Shopping Behavior Model: Determining the Factors Affecting Repurchase Intention. *Journal of Law, Politic and Humanities*, 1(2), 88-97.
- Okazaki, S., Eisend, M., Plangger, K., de Ruyter, K., & Grewal, D. (2020). Understanding the strategic consequences of customer privacy concerns: A meta-analytic review. *Journal of Retailing*, 96(4), 458-473.
- Ozkaynar, K. (2022). Marketing strategies of banks in the period of Metaverse, Block-chain, and Cryptocurrency in the context of consumer behavior theories. *International Journal of Insurance and Finance*, 2(1), 1-12.
- Qalati, S.A., Vela, E. G., Li, W., Dakhan, S.A., Hong Thuy, T.T., & Merani, S.H. (2021). Effects of perceived service quality, website quality, and reputation on purchase intention: The mediating and moderating roles of trust and perceived risk in online shopping. *Cogent Business & Management*, 8(1), 1869363.
- Rachmad, Y.E. (2024). *The Future of Influencer Marketing: Evolution of Consumer Behavior in the Digital World*. PT. Sonpedia Publishing Indonesia.
- Saeed, S. (2023). A customer-centric view of E-commerce security and privacy. *Applied Sciences*, 13(2), 1020.
- Sarioglu, C.I. (2023). The Effect Of Customer Perceptions Concerning Online Shopping, Viral Marketing And Customer Loyalty On Purchasing Behaviour. *Uluslararası Yönetim İktisat ve İşletme Dergisi*, 19(2), 348-370.



- Taufique, K.M.R., & Vaithianathan, S. (2018). A fresh look at understanding Green consumer behavior among young urban Indian consumers through the lens of the Theory of Planned Behavior. *Journal of Cleaner Production*, 183, 46-55.
- Tran, V.D. (2020). The relationship among product risk, perceived satisfaction, and purchase intentions for online shopping. *The Journal of Asian Finance, Economics and Business*, 7(6), 221-231.
- Tran, V.D., & Nguyen, T.D. (2022). The impact of security, individuality, reputation, and consumer attitudes on purchase intention of online shopping: The evidence in Vietnam. *Cogent Psychology*, 9(1), 2035530.
- Tri Cuong, D. (2021). The Impact of Convenience and Trust on Satisfaction and Rebuying Intention in Online Shopping: Using The PLS Algorithm. In *Proceedings of the 2021 3rd International Conference on Management Science and Industrial Engineering* (pp. 51-56).
- Trudel, R. (2019). Sustainable consumer behavior. *Consumer Psychology Review*, 2(1), 85-96.
- Tsai, Y.C., & Yeh, J.C. (2010). Perceived risk of information security and privacy in online shopping: A study of environmentally sustainable products. *African Journal of Business Management*, 4(18), 4057.
- Turkmen, M.A., & Sarican, M.A. (2022). Effects of E-Service Quality in E-Logistics Applications on Shopping Satisfaction, Payment Options, and Re-Purchasing Intention. *Cumhuriyet Universitesi Journal of Economics & Administrative Sciences (JEAS)*, 23(3), 672 – 689.
<https://doi.org/10.37880/cumuiibf.1086622>
- Vasquez, F. (2020). From e-quality and brand perceptions to repurchase: A model to explain purchase behavior in a web-store. *Journal of theoretical and applied electronic commerce research*, 15(3), 20-36.
- Yen, C., Hsu, M. H., & Chang, C. M. (2013). Exploring the online bidder's repurchase intention: A cost and benefit perspective. *Information Systems and e-Business Management*, 11, 211-234.
- Yu, C., Chan, T., & Zolkepli, I. (2023). Bridging social media content and re-purchasing behavior: The mediation role of interactivity and e-WOW. *International Journal of Data and Network Science*, 7(1), 251-264.
- Zhang, K. Z., & Benyoucef, M. (2016). Consumer behavior in social commerce: A literature review. *Decision support systems*, 86, 95-108.

