DIGITAL TRANSFORMATION READINESS, TECHNOLOGICAL TRUST, AND ONLINE PURCHASING BEHAVIOR AMONG E-COMMERCE USERS IN SELECTED CITIES IN LAGUNA, PHILIPPINES, IN THE ERA OF INDUSTRY 4.0

Ronald C. Bajet, Mary Grace C. Catapang, Warly D. Del Rio, Milain N. Escosia, Josebec M. Rodriguez, and Steven Juergen A. Salazar
Doctor of Philosophy in Business Management, University of Perpetual Help System Laguna, **PHILIPPINES**

ABSTRACT

This study looked at how digital transformation readiness and technological trust are related to the online purchasing behavior of e-commerce users in Calamba, Sta. Rosa, and Biñan, Laguna, Philippines. It used a descriptive-correlational design and was guided by the Technology Acceptance Model, the Diffusion of Innovation Theory, and the Trust-Based Model of E-Commerce. A researcher-made four-point questionnaire was answered by 239 active e-commerce users chosen through purposive sampling. Weighted mean, Pearson correlation, and multiple regression were used. Respondents were Fully Ready in readiness (composite mean = 3.45), Trusted in technological trust (3.05), and showed Positive online purchasing behavior (3.15). Readiness ($r = .534$, $p < .001$) and trust ($r = .517$, $p < .001$) were each moderately and positively related to purchasing behavior, and readiness was moderately related to trust ($r = .457$, $p < .001$). In separate regression models, the readiness dimensions explained 29.2 percent of the variance in purchasing behavior, with technological accessibility and adaptability as significant predictors. The trust dimensions explained 26.9 percent, with confidence in digital systems and perceived security as significant predictors. Digital literacy and privacy protection were not significant. Cash on delivery had the highest agreement among payment items, so payment behavior is still partly non-digital. Because the design was cross-sectional, the results show association and not causation.

Keywords: digital transformation readiness, technological trust, online purchasing behavior

1. INTRODUCTION

Industry 4.0, with its automation, artificial intelligence, and data-driven innovation, has pushed digital systems into almost every part of daily life (Javaid et al., 2024). One result is the growth of e-commerce, which gives consumers easy access to products and services online. Because of this, the ability of people to adjust to digital change, called digital transformation readiness, has become important in understanding how consumers behave (Samundeeswari, 2024). For an individual consumer, readiness has three parts. Digital literacy is the skill to use online platforms with confidence (Akram et al., 2023). Technological accessibility is the availability of devices and internet connection and the ease of using them (Hasan et al., 2021). Adaptability is the capacity to adjust to new technologies and systems (Kreiterling, 2023).

Readiness alone does not explain why people buy online. Buyers cannot see the seller, touch the product, or hand over payment in person, so trust also matters. Technological trust is the confidence of consumers in the security, privacy, and reliability of online platforms. Siagian et al. (2022) found that perceived security is closely tied to trust in digital payment platforms. Houcheimi and Mezei (2024) stressed the role of secure payment in online retail, and Handoyo (2024) pointed to trust, risk, and security as central factors in digital

purchasing. Online purchasing behavior is the outcome that connects these ideas. Bhatt (2021) described it through how often consumers buy, what they buy, and how they pay. Amarullah et al. (2022) showed that trust and perceived risk shape purchase intention. Nguyen et al. (2024) and Rahardja et al. (2023) linked digital literacy, security behaviors, and technological readiness to the intention to use electronic and mobile payment.

The Philippine setting has its own conditions. E-commerce became a regular part of life in Laguna after the technological push of the COVID-19 pandemic (Gironella, 2022), and studies have looked at live selling and other online buying in the country (Ong et al., 2024). Yet differences in access, readiness, and trust remain, and cash on delivery is still widely used. Three gaps follow. Few studies examine readiness, trust, and purchasing behavior together among consumers in urbanizing Philippine areas such as Laguna. Readiness and trust are seldom studied in one framework with their separate dimensions kept visible. And little is known about which dimensions are related to purchasing behavior, including the choice among cash on delivery, e-wallets, and cards.

This study therefore aimed to (1) describe the readiness of e-commerce users in selected cities in Laguna, (2) describe their technological trust, (3) describe their online purchasing behavior, (4) test the relationships among the three variables, and (5) determine how well the readiness and trust dimensions, taken singly, predict purchasing behavior.

1.1 Theoretical framework and hypotheses

The study uses three theories. The Technology Acceptance Model explains technology use through perceived usefulness and ease of use (Davis, 1989), and it has been extended with trust in studies of digital payment (Linh & Huyen, 2025). The Diffusion of Innovation Theory explains how new technologies spread among people who differ in how fast they adopt them (Rogers, 1962), which fits the idea of readiness. The Trust-Based Model of E-Commerce treats perceived security, privacy, and reliability as the basis of trust, and trust as the basis of willingness to transact online (Gefen et al., 2003; Pertiwi et al., 2025).
Readiness and trust were each treated as correlates and predictors of purchasing behavior, and readiness as a correlate of trust. Mediation was not tested. The following null hypotheses were tested at the .05 level.

- H01: There is no significant relationship between readiness and online purchasing behavior.
- H02: There is no significant relationship between technological trust and online purchasing behavior.
- H03: There is no significant relationship between readiness and technological trust.
- H04: The readiness dimensions and the trust dimensions, taken singly, do not significantly predict online purchasing behavior.

2. METHODS

2.1 Design and respondents

The study used a descriptive-correlational design. The descriptive part identified the levels of the three variables, and the correlational part examined how they are related without manipulating them. Because data were collected at one point in time, the design supports conclusions about association only. The population was active e-commerce users living in Calamba City, Sta. Rosa City, and Biñan City. Purposive sampling selected respondents who were at least 18 years old, used platforms such as Shopee, Lazada, Shein, and TikTok Shop,

and had made an online purchase within the last six months. A total of 239 respondents took part. The Raosoft calculator at a 5 percent margin of error was used as a guide for sample size. Since sampling was purposive, the results cannot be statistically generalized to all e-commerce users in Laguna.

2.2 Instrument

Data were gathered with a researcher-made questionnaire of 30 items in three parts of ten items each. Part I measured readiness through digital literacy (three items), technological accessibility (three), and adaptability (four). Part II measured trust through perceived security (four items), privacy protection (three), and confidence in digital systems (three). Part III measured purchasing behavior through frequency of online transactions (three items), preferred product categories (four), and payment methods used (three).

All items were statements rated on a four-point scale: 4 for Strongly Agree, 3 for Agree, 2 for Disagree, and 1 for Strongly Disagree. This included the items on product categories and payment methods, so the behavior score shows agreement with each statement and not recorded purchases. Means were interpreted as follows: 3.26 to 4.00 (Fully Ready, Fully Trusted, or Very Positive Behavior), 2.51 to 3.25 (Ready, Trusted, or Positive Behavior), 1.76 to 2.50 (Partially Ready, Partially Trusted, or Negative Behavior), and 1.00 to 1.75 (Not Ready, Not Trusted, or Very Negative Behavior).

Four experts in e-commerce, information technology, and research checked the content of the instrument, and items were revised from their comments. A pilot test with 20 respondents outside the study area checked reliability using Cronbach alpha, with 0.70 as the acceptable level.

2.3 Data gathering and analysis

The researchers first asked permission from the proper authorities in the three cities. The questionnaire was then given through Google Forms and through printed copies for respondents with limited internet access. Each respondent received an informed consent statement, participation was voluntary, and responses were kept confidential in line with the Data Privacy Act of 2012. Incomplete or invalid responses were excluded.

The data were processed in SPSS. The weighted mean gave the levels of each variable. Pearson r tested the relationships, interpreted using Evans (1996): .00 to .19 very weak, .20 to .39 weak, .40 to .59 moderate, .60 to .79 strong, and .80 to 1.00 very strong. Multiple regression tested how well the readiness dimensions, and the trust dimensions, predict purchasing behavior. Probabilities shown as .000 are reported as $p < .001$.

3. RESULTS

3.1 Levels of readiness, trust, and purchasing behavior

Respondents were Fully Ready in readiness (composite mean = 3.45). Digital literacy ranked first, but the three dimensions differ by only 0.01 to 0.09 and all fall in the same range, so the ranking is descriptive only. The highest item was operating digital devices (3.61), and the lowest were having a stable internet connection (3.37) and being able to access platforms anytime (3.34).

Table 1. Digital transformation readiness

Dimension	Weighted mean	Interpretation	Rank
Digital literacy	3.48	Fully Ready	1
Technological accessibility	3.39	Fully Ready	3
Adaptability to digital innovations	3.47	Fully Ready	2
Composite	3.45	Fully Ready	

Respondents were Trusted in technological trust (composite mean = 3.05). The highest item was feeling confident in using digital platforms for important tasks (3.22). The lowest items were in the security dimension: feeling secure in online transactions (2.86) and trusting systems to protect information from hackers (2.84). All items stayed in the Trusted range, which means respondents are willing to use online systems but remain careful about hacking and fraud.

Table 2. Technological trust

Dimension	Weighted mean	Interpretation	Rank
Perceived security		Trusted	3
Privacy protection	3.09	Trusted	2
Confidence in digital systems	3.11	Trusted	1
Composite	3.05	Trusted	

Online purchasing behavior was Positive (composite mean = 3.15). Respondents agreed most with using cash on delivery to lower financial risk (3.52), using sales and promos (3.49), and buying online often (3.40). The e-wallet item had a mean of 3.00 and the debit or credit card item 2.65. The lowest item was buying gadgets and electronics online (2.61).

Table 3. Online purchasing behavior

Dimension	Weighted mean	Interpretation	Rank
Frequency of online transactions	3.39	Very Positive Behavior	1
Preferred product categories	3.00	Positive Behavior	3
Payment methods used	3.06	Positive Behavior	2
Composite	3.15	Positive Behavior	

3.2 Relationships among the variables

All three relationships were positive, moderate, and significant (N = 239), so H01, H02, and H03 were rejected (Table 4). Readiness and purchasing behavior share about 28.5 percent of their variance, trust and purchasing behavior about 26.7 percent, and readiness and trust about 20.9 percent.

Table 4. Pearson correlations

Variables	r	r squared	p	Decision
Readiness and online purchasing behavior	.534	.285	< .001	H01 rejected
Trust and online purchasing behavior	.517	.267	< .001	H02 rejected
Readiness and trust	.457	.209	< .001	H03 rejected

3.3 Prediction of online purchasing behavior

The readiness model was significant, R squared = .292, adjusted R squared = .283, F(3, 235) = 32.353, p < .001. Technological accessibility (beta = .307, p < .001) and adaptability (beta = .196, p = .012) were significant predictors, while digital literacy was not (beta = .111, p = .147). Holding the other dimensions constant, a one-point rise in accessibility was associated with a .301 rise in the behavior score, and a one-point rise in adaptability with a .204 rise.

Table 5. Regression of purchasing behavior on the readiness dimensions

Predictor	B	SE	Beta	p	Decision
Digital literacy	.109	.075	.111	.147	Not significant
Technological accessibility	.301	.076	.307	< .001	Significant
Adaptability to digital innovations	.204	.081	.196	.012	Significant

The trust model was also significant, R squared = .269, adjusted R squared = .259, F(3, 235) = 28.793, p < .001. Confidence in digital systems (beta = .225, p = .029) and perceived security (beta = .212, p = .045) were significant predictors, while privacy protection was not (beta = .118, p = .255). A one-point rise in confidence in digital systems was associated with a .199 rise in the behavior score, and a one-point rise in perceived security with a .178 rise. For H04, the null hypothesis was rejected for accessibility, adaptability, confidence in digital systems, and perceived security, and not rejected for digital literacy and privacy protection.

Table 6. Regression of purchasing behavior on the trust dimensions

Predictor	B	SE	Beta	p	Decision
Perceived security	.178	.089	.212	.045	Significant
Privacy protection	.100	.087	.118	.255	Not significant
Confidence in digital systems	.199	.090	.225	.029	Significant

4. DISCUSSION

4.1 Levels of readiness, trust, and purchasing behavior

Respondents rated themselves as Fully Ready, which is expected because all of them were active online buyers. Their high digital literacy and adaptability agree with Akram et al. (2023), who said literacy helps consumers use online marketplaces with confidence, and with Samundeeswari (2024), who described the ability to adjust to digital change as basic to modern consumer behavior. Technological accessibility had the lowest mean, mainly because of the items on stable internet and access at any time. The gap is small and all dimensions are in the same range, but the pattern fits the view that reliable access is a basic requirement for online engagement (Hasan et al., 2021; Hossain et al., 2023). Since ratings were self-reported, the study cannot say whether connectivity is truly weaker in the three cities. It can only say that respondents felt less sure about access than about their skills.

Trust was at the Trusted level, which is one step below the highest range. Respondents felt most confident about using digital platforms and least sure about security. This is a kind of careful trust: users are willing to buy online but are not fully relaxed about hackers and fraud. It agrees with Siagian et al. (2022) on the role of security and with Houcheimi and Mezei (2024) on secure payment, and with Wang et al. (2021), who noted that privacy concerns grow as online shopping uses more artificial intelligence.

Purchasing behavior was Positive. Respondents shop online often and use promos, yet cash on delivery received the highest agreement of all 30 items, while the e-wallet and card items were lower. Frequent online shopping therefore does not mean full use of digital payment. Many respondents seem to buy online while keeping the option to pay only when the item arrives, which lowers their financial risk. This is consistent with studies linking financial literacy, habit, and security competence to the adoption of modern payment tools (Duxbury et al., 2025; Ngo et al., 2024). The low agreement on buying electronics online also fits the idea that costly items need more confidence in the seller and platform than everyday items do (Siagian et al., 2022).

4.2 Relationships among the variables

Readiness and trust were each moderately related to purchasing behavior, and the two correlations were close in size ($r = .534$ and $r = .517$). In this sample, users who are more ready and users who are more trusting tend to report more active online buying. This supports the Technology Acceptance Model (Davis, 1989; Linh & Huyen, 2025) and the Trust-Based Model of E-Commerce (Gefen et al., 2003; Pertiwi et al., 2025), and it fits the Diffusion of Innovation view that users who adapt easily take up new technology more fully (Rogers, 1962). Similar links were reported by Rahardja et al. (2023) for technological readiness and mobile payment use, and by Nguyen et al. (2024) for digital literacy, security behaviors, and e-payment intention.

The moderate link between readiness and trust ($r = .457$) suggests that capable and adaptable users feel more at ease with digital platforms. A user who knows how to check a seller and spot a suspicious message may simply feel safer. It is also possible that a user who feels safe tries more features and becomes more skilled. The data cannot separate these two directions. The size of the relationships should also be kept in view. Readiness shares about 28.5 percent of its variance with purchasing behavior, and trust about 26.7 percent. Most of the differences in behavior are therefore linked to factors not measured here, such as price, product availability, delivery service, platform reputation, and social influence. Because the design

was cross-sectional, people who shop online often may also become more ready and more trusting through experience, a possibility that is in line with Amarullah et al. (2022), who found that shopping experience changes how trust and risk affect purchase intention. The results are therefore read as association and not as proof that readiness or trust causes buying.

4.3 Which dimensions predict purchasing behavior

In the readiness model, accessibility and adaptability were significant predictors, and accessibility had the largest coefficient. This agrees with the view that access to devices and a stable connection is a requirement for online engagement (Hasan et al., 2021; Hossain et al., 2023). The significance of adaptability agrees with Samundeeswari (2024) and Hwang (2025), who stressed that willingness to try new digital tools affects how people use online platforms. The result for digital literacy needs care. It does not mean that literacy is unimportant. Literacy was the highest-rated dimension, so most respondents scored high on it, and a variable with little spread has less chance to show a significant effect. The three dimensions are also likely to overlap, so literacy may share explanatory power with the other two. A reasonable reading is that, among users already literate enough to shop online, differences in access and in willingness to adopt new tools are more closely linked to differences in purchasing behavior. This explanation was not tested and should be checked in future work.

In the trust model, confidence in digital systems and perceived security were significant, while privacy protection was not. Users seem to act on how reliable and safe a platform feels in practice, such as whether payment goes through and whether it protects them from hackers. Privacy may not be significant because it overlaps with the other two dimensions, or because respondents see it as a basic expectation that does not set one platform apart from another. This also was not tested. Two cautions apply. The readiness and trust dimensions were analyzed in separate models, so their coefficients should not be compared across models. The models also describe prediction within this sample and do not show that improving one dimension will change purchasing behavior. In addition, because agreement with the cash-on-delivery statement raises the behavior score, and cash on delivery may itself signal limited trust in digital payment, the trust and behavior link may be understated or mixed. Payment choice should be studied as a separate outcome.

4.4 Implications for practice

These suggestions come from the findings and should be checked by experts and tested before wide use. First, platform operators may give attention to accessibility, since it was the lowest-rated readiness dimension and the strongest readiness predictor. Light versions of mobile apps and faster loading on slow connections may help users with limited data or older phones. Second, real-time payment confirmation, verifiable digital receipts, live order tracking, and quick handling of failed transactions may strengthen confidence in digital systems. Third, security should be made visible, because perceived security was the lowest-rated trust dimension and a significant predictor. Biometric log-in, visible encryption badges, and clear privacy notices at checkout may help users feel protected and may slowly move some of them from cash on delivery to e-wallets and cards. Fourth, rewards and simple guided tutorials may help users adopt new platform features. Fifth, consumer programs may keep teaching safe wallet use and how to spot phishing. Literacy was not a significant predictor, but it supports safe use of digital wallets and the recognition of scams, which relate to trust. Policymakers may first gather objective data on connectivity quality in the three cities to see where infrastructure support is most needed.

4.5 Limitations and future research

The data were self-reported from a researcher-made questionnaire, and purchasing behavior was measured by agreement with statements and not by recorded purchases. Respondents were active users chosen by purposive sampling in three cities, so the results cannot be generalized to all users or other areas, and the range of readiness scores may be narrow because non-users were excluded. The design was cross-sectional, so the direction of influence is unknown. The readiness and trust dimensions were analyzed in separate regression models, and a combined model with both sets of predictors was not part of this analysis. The dimensions may also overlap.

Future studies may use probability sampling across more regions, objective purchase records, and longitudinal designs to test whether readiness and trust come before buying or follow it. Mediation analysis or structural equation modeling can test whether trust links readiness to purchasing behavior, and logistic regression can study the choice among cash on delivery, e-wallets, and cards. Other factors such as social influence, perceived risk, price sensitivity, and brand reputation can help explain the large share of variance left unexplained.

5. CONCLUSION

E-commerce users in Calamba, Sta. Rosa, and Biñan were Fully Ready for digital transformation, Trusted online platforms, and showed Positive online purchasing behavior. Readiness and trust were each significantly and moderately related to purchasing behavior, and readiness was related to trust. Technological accessibility, adaptability, confidence in digital systems, and perceived security were significant predictors, while digital literacy and privacy protection were not. Respondents shopped often but still strongly agreed with cash on delivery, which suggests that trust in fully digital payment is still growing. Because the study was cross-sectional and used self-reports from a purposive sample, the results show association and not causation and apply to the respondents of this study. Within these limits, e-commerce growth in Laguna appears to depend not only on skills but also on good access, the ability to adapt to new tools, and the feeling that platforms are reliable and secure.

DECLARATIONS

Participation was voluntary and all respondents gave informed consent. Responses were kept confidential in line with the Data Privacy Act of 2012.

REFERENCES

Akram, M. F., Ali, M. R., & Kadirova, Z. (2023). Role of consumer digital literacy in consumer behavioral intentions: Mediating effect of perceived ease of use, usefulness and customer engagement. ResearchGate. https://www.researchgate.net/publication/370927745

Amarullah, D., Handriana, T., & Maharudin, A. (2022). eWOM credibility, trust, perceived risk, and purchase intention in the context of e-commerce: Moderating role of online shopping experience. Jurnal Ekonomi Bisnis dan Kewirausahaan, 11(1). https://doi.org/10.26418/jebik.v11i1.50594

Bhatt, V. (2021). Factors influencing consumers online buying behavior: An empirical study. Shodhganga. https://shodhganga.inflibnet.ac.in/handle/10603/631760

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319-340. https://doi.org/10.2307/249008

Duxbury, D., Liñares-Zegarra, J. M., & Verousis, T. (2025). Consumer financial literacy and habitual behaviour as drivers of contactless payment ownership. European Journal of Finance, 1-18. https://doi.org/10.1080/1351847x.2025.2517119

Evans, J. D. (1996). Straightforward statistics for the behavioral sciences. Brooks/Cole Publishing.

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. MIS Quarterly, 27(1), 51-90. https://doi.org/10.2307/30036519

Gironella, K. D. E. M. (2022). Effects of COVID-19 pandemic to the consumer purchasing behavior of selected households in Barangay Tuntungin-Putho, Los Baños, Laguna. University Knowledge Digital Repository. https://www.ukdr.uplb.edu.ph/etd-undergrad/9233/

Handoyo, S. (2024). Purchasing in the digital age: A meta-analytical perspective on trust, risk, security, and e-WOM in e-commerce. Heliyon, 10(8), e29714. https://doi.org/10.1016/j.heliyon.2024.e29714

Hasan, M. K., Tonmon, T. T., Kabir, H., Masud, S. B., Hasan, M. A., Das, B., Akter, M., Hawlader, M. D. H., & Mitra, D. K. (2021). Availability and use of technology for e-learning: To what extent do these impact Bangladeshi university students? A cross-sectional study. F1000Research, 10, 1285. https://doi.org/10.12688/f1000research.75532.1

Hossain, M. B., Dewan, N., Senin, A. A., & Illes, C. B. (2023). Evaluating the utilization of technological factors to promote e-commerce adoption in small and medium enterprises. Electronic Commerce Research, 25(1), 349-368. https://doi.org/10.1007/s10660-023-09692-7

Houcheimi, A., & Mezei, J. (2024). The role of secure online payments in enabling the development of e-tailing. Journal of Organizational Computing and Electronic Commerce, 34(4), 299-317. https://doi.org/10.1080/10919392.2024.2371236

Hwang, N. J. Y. (2025). E-commerce and consumer behavior. World Journal of Advanced Research and Reviews, 25(1), 1132-1143. https://doi.org/10.30574/wjarr.2025.25.1.0194

Javaid, M., Haleem, A., Singh, R. P., & Sinha, A. K. (2024). Digital economy to improve the culture of Industry 4.0: A study on features, implementation and challenges. Green Technologies and Sustainability, 2(2), 100083. https://doi.org/10.1016/j.grets.2024.100083

Kreiterling, C. (2023). Digital innovation and entrepreneurship: A review of challenges in competitive markets. Journal of Innovation and Entrepreneurship, 12(1). https://doi.org/10.1186/s13731-023-00320-0

Linh, T. T., & Huyen, N. T. T. (2025). An extension of Trust and TAM model with TPB in the adoption of digital payment: An empirical study in Vietnam. F1000Research, 14, 127. https://doi.org/10.12688/f1000research.157763.3

Ngo, T. T. A., Nguyen, H. L. T., Nguyen, H. P., Mai, H. T. A., Mai, T. H. T., & Hoang, P. L. (2024). A comprehensive study on factors influencing online impulse buying behavior: Evidence from Shopee video platform. Heliyon, 10(15), e35743. https://doi.org/10.1016/j.heliyon.2024.e35743

Nguyen, T. T., Tran, T. N. H., My, T. H., Do, Dinh, T. K. L., Nguyen, T. U. N., & Dang, T. M. K. (2024). Digital literacy, online security behaviors and e-payment intention. Journal of Open Innovation: Technology, Market, and Complexity, 10(2), 100292. https://doi.org/10.1016/j.joitmc.2024.100292

Ong, A. K. S., German, J. D., Almario, A. Y. V., Vistan, J. M. V., Galang, J. A. P., Dantis, J. R., & Balboa, E. (2024). Consumer behavior analysis and open innovation on actual purchase from
online live selling: A case study in the Philippines. Journal of Open Innovation: Technology, Market, and Complexity, 10(2), 100283. https://doi.org/10.1016/j.joitmc.2024.100283

Pertiwi, T. K., Joseph, C., Warmana, G. O., Khoirotunnisa, F., & Hariyana, N. (2025). Exploring platform trust, borrowing intention, and actual use of PayLater services in Indonesia and Malaysia. Journal of Risk and Financial Management, 18(5), 255. https://doi.org/10.3390/jrfm18050255

Rahardja, U., Hapsari, I. D., Putra, P., & Hidayanto, A. N. (2023). Technological readiness and its impact on mobile payment usage: A case study of Go-Pay. Cogent Engineering, 10(1). https://doi.org/10.1080/23311916.2023.2171566

Rogers, E. M. (1962). Diffusion of innovations (5th ed.). Free Press.

Samundeeswari, D. (2024). Exploring the significance of e-commerce in today's world. ResearchGate. https://www.researchgate.net/publication/385651632

Siagian, H., Tarigan, Z. J. H., Basana, S. R., & Basuki, R. (2022). The effect of perceived security, perceived ease of use, and perceived usefulness on consumer behavioral intention through trust in digital payment platform. International Journal of Data and Network Science, 6(3), 861-874. https://doi.org/10.5267/j.ijdns.2022.2.010

Wang, S., Chen, Z., Xiao, Y., & Lin, C. (2021). Consumer privacy protection with the growth of AI-empowered online shopping based on the evolutionary game model. Frontiers in Public Health, 9, 705777. https://doi.org/10.3389/fpubh.2021.705777