

# The Antecedents of Smart Technology-induced Loyalty Change

Zhenpan Wang\* and Sulin Chung

Department of Industrial Engineering and Economics, Tokyo Institute of Technology, Tokyo, Japan;

Email: chung.s.aa@m.titech.ac.jp (S.C.)

\* Correspondence: wang.z.an@m.titech.ac.jp (Z.P.W.)

**Abstract**—China is experiencing a boom in the development of smart technologies which have enormous commercial potential. This study uses robotics, Internet of Things (IoT), and AR as representatives of smart technologies. We examine the effects of technology-induced consumer value perception change, privacy concern, and word-of-mouth (WOM) change on consumer satisfaction and loyalty change. Value perception change and WOM change have a positive effect on satisfaction and loyalty change. The findings have implications for both theoretical and practical smart technology research as well as for companies. This study integrates three smart technologies and examines, for the first time, the relationship between changes in consumer behavior and cognition induced by the application of technology. It provides new ideas for the study of smart technologies and also has implications for companies that apply smart technologies.

**Keywords**—smart technology, consumer behavior, consumer perception

## I. INTRODUCTION

Technologies that are constantly developing and evolving impact customers' actions and decisions in many facets of their lives (Alimamy and Gnoth, 2022). Consumer behavior is impacted by new technologies, and managers must understand them to make informed decisions on how to create new technologies and serve their customers (Pillai *et al.*, 2020).

The following categories roughly describe how technology is used today: robots (Grewal *et al.*, 2020), healthcare (Talukder *et al.*, 2020), smart retail technology (Pillai *et al.*, 2020), AR technologies (Alimamy & Gnoth, 2022), and IoT (Mital *et al.*, 2018). Healthcare, smart home appliances, smart manufacturing, smart cities, and aviation are among the industries that benefit greatly from the IoT. The capacity of AR, exemplified by showrooms, to push information to customers and persuade them to buy things quickly is pushed and employed by the retail industry (Roggeveen & Sethuraman, 2020). Consumers can receive more convenient services from robots. These robots can also assist people in their duties by directing and welcoming clients. Technology offers these services to improve operational efficiency, consumer experience, and

loyalty (Grewal *et al.*, 2020). Therefore, research on technology is required. This study integrates the above-mentioned mainstream smart technology with robotics, IoT, and AR as research objects.

The study of loyalty has become a central objective (Cuesta-Valiño *et al.*, 2022). Customers' cognitive and emotional reactions to technology use affect their loyalty and influence their purchasing decisions, giving the firm a competitive edge (Nadeem *et al.*, 2021). The amount or frequency of repeat purchases of the same brand is the most common definition of loyalty (Tellis, 1988).

Previous studies have examined the causes and effects of loyalty (Nadeem *et al.*, 2021). Previous studies have also examined loyalty in different contexts, such as omnichannel retail (Tyrvänen *et al.*, 2020b), small retailers (Cuesta-Valiño *et al.*, 2022), and mobile advertising (Lu *et al.*, 2019). However, these have mostly examined the antecedents and consequences of loyalty (Nadeem *et al.*, 2021; Martínez-Caro *et al.*, 2018; Lu *et al.*, 2019; Adapa *et al.*, 2020). The empirical analysis of what cognitive and behavioral changes in customers are induced by the application of technology and the change in customers' attitudes toward technology is inadequate and scattered.

Therefore, it is necessary to explore the antecedents of changes in consumer loyalty owing to the application of smart technologies and the relationship between them. This study synthesizes the Information System (IS), consumer perception, and consumer behavior literature to fully grasp technologies and determine what changes technology induces in customers.

Based on the above discussion, this study analyzes how changes in value perception, privacy concerns, Word-of-Mouth (WOM), and satisfaction due to technology affect loyalty. These findings add to the body of knowledge in the fields of information systems and marketing. First, a quantitative analysis helped examine the effect linkages between four components (value perception change, satisfaction change, privacy concerns, and WOM change) and changes in loyalty. Second, we analyze the behavioral and cognitive changes of customers caused by three cutting-edge technologies, robotics, AR, and IoT, which contribute to technology and service innovation. These

findings offer specific recommendations for companies seeking to boost customer loyalty through technology. It also provides a theoretical underpinning that promotes productivity, engagement, and customer experience.

The remainder of this paper is organized as follows. Section II outlines the theoretical background and development of the hypotheses, Section III covers the methodology, Section IV details the analysis and results, Sections V and VI cover the discussion and implications, and Section VII discusses the study's limitations and further study.

## II. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

### A. Value Perception, WOM, and Privacy Concerns

Customers' overall judgment of a product based on their thoughts about the product that has been characterized as value perceptions (Zeithaml, 1988). Customers generally determine their value perception by comparing usefulness and price (Konuk, 2019). It can also be regarded as a cognitive trade-off between perceived worth and effort (Dodds *et al.*, 1991). Value perceptions significantly influence purchasing behavior (Inman & Nikolova, 2017).

WOM refers to non-profit-driven customer feedback regarding goods or services that takes both offline and online forms (Sun *et al.*, 2021). WOM communication is one of the most significant responsibilities in marketing and is especially enabled by numerous forms of internet communication. Therefore, it is crucial to understand WOM (Cuesta-Valiño *et al.*, 2022).

Security, privacy, and financial risks are examples of cognitive risks in digital contexts (Talwar *et al.*, 2020). These concerns include the possible loss of personal information and privacy (Kaur *et al.*, 2020) as well as consumers' uncertainty regarding the outcome of their adoption decisions (Arslan *et al.*, 2013). Privacy risk, which is a key barrier to technology adoption, is an essential predictor of reluctance to adopt new services or technologies (Lin *et al.*, 2014).

### B. Satisfaction and Loyalty

Satisfaction is a measure of how well a product or service satisfies customers' expectations. Measuring consumer satisfaction, used as a yardstick for business performance and excellence, is one of the most important difficulty faced by commercial firms (Grigoroudis & Siskos, 2010). Satisfaction has received considerable attention in the body of research on customer perceptions. According to a prior study, satisfaction affects decision-making and purchasing behavior, and another study claimed that satisfaction affects decision making and purchasing behavior (Rust & Zahorik, 1993).

Consumer intent to return to a retailer is defined as loyalty (Roy *et al.*, 2017). Consumer satisfaction with a company's goods, services, and technological applications is referred to as loyalty. This affects consumers' future purchases (Yoon & Park, 2018). Loyalty is a commitment to future purchases or patronage (Oliver, 2014). Consumer repeat purchases significantly influence a company's growth and profitability (Razak *et al.*, 2014). It provides a

significant source of profit since customers continue to buy from and refer new customers to their favored firms. Furthermore, repeat consumers purchase more than any other possible consumer, and recurring purchases lower operational expenses (Safa & Von Solms, 2016).

### C. Hypotheses Development

Sweeney *et al.*, (2015) found that perceived value commonly causes recurring purchasing behavior intention and has a beneficial impact on behavior intentions and reactions. Affective and cognitive customer experiences have a direct favorable influence on recurrent purchase behavior intention (Tyrväinen *et al.*, 2020b). Floh *et al.* (2014) revealed that value perception is a significant driver of loyalty. This association was also supported by Chen and Quester (2006). The impression of purchasing value through technology influences loyalty (Adapa *et al.*, 2020). As technology allows customers to buy chores more easily, customers have a higher perceived appraisal of companies that use technology, which leads to repeat purchasing intention. Consequently, we propose the following hypothesis:

H1. A change in value perception has a positive impact on loyalty.

Value perception influences behavior intentions and conduct favorably (Benamar *et al.*, 2020). Technology provides customers with individualized services, more power over their purchasing experience, and more enjoyable and convenient shopping (Roy *et al.*, 2018). This may lead to positive attitudes toward technology (Adapa *et al.*, 2020) and increase customers' overall value perception of products, services, companies, and satisfaction. Koo (2003) verified how satisfaction is influenced by various discount retail store environments and the overall attitudes toward discount retail stores. Based on the above discussion, we propose that:

H2. Changes in value perception has a positive impact on changes in satisfaction.

Studies have shown that cognitive uncertainty is the inability of customers to accept new technological innovations (Talwar *et al.*, 2020). Talwar *et al.*, (2021) point out that cognitive uncertainty belongs to customers' fear of the security of shared information, and that customers will stop using mobile wallets. A company can use technology to better understand customers' preferences, interests, and needs and to provide better products and services. However, innovations and developments in technology also increase customer concerns (Malhotra *et al.*, 2004). Therefore, we propose the following hypothesis:

H3. Changes in privacy concerns has a negative impact on changes in satisfaction.

WOM is more powerful than other market-controlled sources in changing people's behavior intention (Buttle, 1998). Özdemir *et al.* (2016) pointed out that satisfaction and WOM intention are related. Zhang *et al.* (2019) verified the relationship between satisfaction, WOM behavior intentions, and attitudes. Akinci and Aksoy (2019) analyzed the positive relationship between WOM and satisfaction with tourism. Cuesta-Valiño *et al.*, (2022) confirmed a positive relationship between WOM and

satisfaction. Meuter *et al.* (2000) found that customers are more likely to have positive WOM toward the incidence of technology. Therefore, we propose the following hypothesis:

H4. The change in WOM has a positive impact on the change in satisfaction

WOM becomes more important in the service context, as WOM is the intangible nature of the service (Roy *et al.*, 2017), and innovative, unique products may attract interest and lead to better WOM (Berger & Schwartz, 2011). Emotional and cognitive customer experiences result in positive WOM (Tyrvänen *et al.*, 2020a), and positive experiences influence customer loyalty (Brakus *et al.*, 2009). Casaló *et al.*, (2008) found that loyalty and favorable WOM are strongly correlated. Therefore, we believe the following:

H5. The change in WOM has a positive impact on the change in loyalty.

Satisfaction is an important factor in the success of information technology (Jang *et al.*, 2013). It is critical to better understand how satisfaction influences customers' propensity to make repeat purchases (Cuesta-Valiño *et al.*, 2022). Satisfaction has a direct impact on e-loyalty and online spending (Pratminingsih *et al.*, 2013). This study provides an integrated paradigm to define loyalty to an e-commerce provider, proposing that e-satisfaction influences e-loyalty (Lu *et al.*, 2019). In the hospitality arena, research evidence suggests that satisfaction promotes behavior intentional goals, such as returning and recommending intentions (Ryu *et al.*, 2008). Based on the discussion above, we propose the following hypothesis:

H6. The change in satisfaction has a positive impact on the change in loyalty.

III. METHODOLOGY

To put the framework (Fig. 1) to test, we provided a self-completion online survey to selected respondents.



Figure 1. Proposed model.

A survey approach was used because the study needed to obtain customer feedback. We fully presented the technologies in the questionnaire's introduction to images and text. In the questionnaire design, we utilized robots in restaurants and department shops, the IKEA Place app, and Xiaomi's IoT platform goods as examples to describe the application scenarios and technology utilization in detail to highlight the usage and result demonstration. Customers may learn and absorb technology in this manner, regardless of whether they have prior knowledge of the technology. Each respondent was asked to answer questions regarding each of the three technologies. Ultimately, valid questionnaires were obtained from 229

respondents. The sample population comprised 133 females (58.08%) and 96 males (41.92%). They were asked to carefully study the technological description to verify that they had completely grasped the technology. Two questions derived from Cronin *et al.* (2000) were used to assess the value perception. Two items, derived from Inman and Nikolova (2017) and van Doorn and Hoekstra (2013) were used to assess privacy concerns. Maxham & Netemeyer (2018) satisfaction scale was used. WOM was measured using two items modified from Maxham & Netemeyer (2018). Three questions from Gao and Bai (2014) were used to assess loyalty. The surveys for each technology had the same content and were scored on a 10-point scale. All items were tailored to the situation and scored on a seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7).

IV. ANALYSIS AND RESULT

Path analysis was performed using AMOS. The Skewness and Kurtosis of all variables were measured, and it was discovered that they did not defy the assumption of normality (Sposito *et al.*, 2007). All measurement items were regarded as reliable because their Cronbach's alpha values were significantly higher than the 0.7 threshold. Statistics on model fit showed a good fit (Table I).

TABLE I. GOODNESS OF INDICES

CMIN	DF	CMIN/DF	CFI	RMSEA
0.92	1	0.92	1.00	0.00

Table II illustrates the construct path estimates, and the results show that changes in value perception and WOM have a positive and significant effect on changes in satisfaction. Value perception, WOM, and satisfaction changes can predict loyalty change, and there are positive relationships between them. From Table II, we can see that the standardized regression coefficients (except for privacy concerns) reach a significant level and are positive, indicating that H1, H2, H4, H5, and H6 are supported, and H3 is rejected. Table III lists the factor correlation matrices. From Table III, we can see that the correlation between privacy concerns and other variables is weak, whereas the rest of the variables show a strong positive correlation.

TABLE II. PATH ESTIMATES AND HYPOTHESES RESULTS

Relationship	Std. estimates	t-value	P-value	Hypotheses result
VAPEC->LOC	0.085	2.799	0.005**	H1 supported
VAPEC->SAC	0.320	10.043	***	H2 supported
PRCO->SAC	-0.021	-0.991	0.322	H3 reject
WOC->SAC	0.597	19.218	***	H4 supported
WOC->LOC	0.726	20.570	***	H5 supported
SAC->LOC	0.103	2.943	0.003**	H6 supported

VAPEC, value perception change; PRCO, privacy concern; WOC, WOM change; SAC, satisfaction change; LOC, loyalty change. \*p<0.05 \*\*p<0.01 \*\*\*p<0.001

TABLE III. CORRELATION MATRIX

	WOM change	Privacy concern	Value perception change	Satisfaction change	Loyalty change
WOM change	1.000				
Privacy concern	0.384	1.000			
Value perception change	0.780	0.438	1.000		
Satisfaction change	0.839	0.348	0.777	1.000	
Loyalty change	0.880	0.368	0.732	0.779	1.000

## V. DISCUSSION

This study considers the effect of value perception change, WOM change, and privacy concerns on satisfaction and subsequently on loyalty induced by smart technologies.

The results of the empirical analysis confirm that value perception change and WOM change affect satisfaction, and that all three predict loyalty change. The findings of this study are consistent with those of previous findings (Adapa *et al.*, 2020; Lu *et al.*, 2019; Konuk 2019; Meilatinova 2021). Although there was no significant effect of privacy concerns on satisfaction, the standardized regression coefficient was negative. We recommend that companies improve the security of user data through procedures and algorithms and truthfully explain to customers the security and confidentiality of the collected user data and its use to improve customer satisfaction. Adopting technology can help businesses promote customer value perception and WOM by enabling them to refer goods, services, and brands to other consumers. This boosts the company's competitive edge. Through the use of technology, businesses may increase customer satisfaction, affect future purchasing decisions, encourage repeat business, and create enduring customer connections.

## VI. IMPLICATIONS

### A. Implication for Research

Satisfaction and loyalty have long been significant research concerns in social science disciplinary studies. Customer experience, perceptions, loyalty, and behavioral purpose have all been the subject of prior research (Tyrväinen *et al.*, 2020a). The impact of technology on changing consumer perceptions and behaviors has not received much research attention. This study builds on earlier studies in this area by emphasizing the predicted and significant connections between perceptual and behavioral changes in China. This study offers fresh perspectives on how technology influences customer cognition and behavior.

### B. Implication for Companies

Based on our research, we suggest that companies can improve customer perceptions and WOM through the application of intelligent technologies, which in turn can increase customer satisfaction and loyalty. Although privacy concerns do not have a significant impact on

changes in customer satisfaction, we still recommend that companies strictly manage customer data and information to fully explain the use of data to customers. Additionally, companies can use smart technologies to meet the different needs of consumers, build good customer management relationships, and gain an advantage from fierce competition.

## VII. LIMITATIONS AND FUTURE RESEARCH

This study has several limitations. Future research may examine the issue in various cultural settings and other factors, such as business reputation and service quality, as this study is just looking at the market scenario in China, which has certain geographical restrictions.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## AUTHOR CONTRIBUTIONS

Zhenpan Wang designed the structure of the paper, collected data, and completed the paper; Sulin Chung gave guidance on the paper; Zhenpan Wang revised the paper according to the guidance; all authors had approved the final version.

## FUNDING

This work was supported by JST SPRING, Grant Number JPMJSP2106.

## REFERENCES

- Adapa, S., Fazal-e-Hasan, S. M., Makam, S. B., Azeem, M. M., & Mortimer, G. (2020). Examining the antecedents and consequences of perceived shopping value through smart retail technology. *Journal of Retailing and Consumer Services*, 52(June 2019), 101901. <https://doi.org/10.1016/j.jretconser.2019.101901>
- Akinci, S., & Aksoy, S. (2019). The impact of service recovery evaluation on word-of-mouth intention: A moderated mediation model of overall satisfaction, household income and gender. *Tourism Management Perspectives*, 31: 184–194. <https://doi.org/10.1016/j.tmp.2019.05.002>
- Alimamy, S., & Gnoth, J. (2022). I want it my way! The effect of perceptions of personalization through augmented reality and online shopping on customer intentions to co-create value. *Computers in Human Behavior*, 128 (March 2021), 107105. <https://doi.org/10.1016/j.chb.2021.107105>
- Arslan, Y., Geçi, F., Science, H. Z.-A. S., & 2013, undefined. (2013). Examining perceived risk and its influence on attitudes: A study on private label consumers in Turkey. *Pdfs.Semanticscholar.Org*, 9(4). <https://doi.org/10.5539/ass.v9n4p158>
- Benamar, L., Balagué C., & Zhong, Z. (2020). Internet of Things devices appropriation process: The Dynamic Interactions Value Appropriation (DIVA) framework. *Technovation*, 89. <https://doi.org/10.1016/j.technovation.2019.06.001>
- Berger, J., & Schwartz, E. M. (2011). What drives immediate and ongoing word of mouth? *Journal of Marketing Research*, 48(5): 869–880. <https://doi.org/10.1509/JMKR.48.5.869>
- Brakus, J. J., Schmitt, B. H., & Zarantonello, L. (2009). Brand experience: What is It? How is it Measured? Does it Affect Loyalty? *Journal of Marketing*, 73(3): 52–68. <https://doi.org/10.1509/JMKG.73.3.052>
- Buttle, F. A. (1998). Word of mouth: Understanding and managing

- referral marketing. *Journal of Strategic Marketing*, 6(3): 241–254. <https://doi.org/10.1080/096525498346658>
- Casaló L. V., Flavián, C., & Guinalú, M. (2008). The role of satisfaction and website usability in developing customer loyalty and positive word-of-mouth in the e-banking services. *International Journal of Bank Marketing*, 26(6): 399–417. <https://doi.org/10.1108/02652320810902433/FULL/HTML>
- Chen, S. C., & Quester, P. G. (2006). Modeling store loyalty: Perceived value in market orientation practice. *Journal of Services Marketing*, 20(3): 188–198. <https://doi.org/10.1108/08876040610665643/FULL/HTML>
- Cronin, J. J., Brady, M. K., & Hult, G. T. M. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing*, 76(2): 193–218. [https://doi.org/10.1016/S0022-4359\(00\)00028-2](https://doi.org/10.1016/S0022-4359(00)00028-2)
- Cuesta-Valiño, P., Gutiérrez-Rodríguez, P., & García-Henche, B. (2022). Word of mouth and digitalization in small retailers: Tradition, authenticity, and change. *Technological Forecasting and Social Change*, 175(November 2021): 1121382. <https://doi.org/10.1016/j.techfore.2021.121382>
- Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of Price, Brand, and Store Information on Buyers' Product Evaluations. *Journal of Marketing Research*, 28(3): 307–319. <https://doi.org/10.1177/002224379102800305>
- Floh, A., Zauner, A., Koller, M., & Rusch, T. (2014). Customer segmentation using unobserved heterogeneity in the perceived-value–loyalty–intentions link. *Journal of Business Research*, 67(5): 974–982. <https://doi.org/10.1016/J.BUSRES.2013.08.003>
- Gao, L., & Bai, X. (2014). A unified perspective on the factors influencing consumer acceptance of internet of things technology. *Asia Pacific Journal of Marketing and Logistics*, 26(2): 211–231. <https://doi.org/10.1108/APJML-06-2013-0061/FULL/HTML>
- Grewal, D., Hultand, J., Koppalle, P. K., & Karahanna, E. (2020). The future of technology and marketing: a multidisciplinary perspective. *Journal of the Academy of Marketing Science*, 48(1): 1–8. <https://doi.org/10.1007/S11747-019-00711-4/FIGURES/2>
- Grigoroudis, E., & Siskos, Y. (2010). *Customer Satisfaction Evaluation*. 139. <https://doi.org/10.1007/978-1-4419-1640-2>
- Maxham III, J. G., & Netemeyer, R. G. (2003). Firms reap what they sow: the effects of shared values and perceived organizational justice on customers' evaluations of complaint handling. *Journal of Marketing*, 67(1), 46–62
- Inman, J. J., & Nikolova, H. (2017). Shopper-Facing Retail Technology: A Retailer Adoption Decision Framework Incorporating Shopper Attitudes and Privacy Concerns. *Journal of Retailing*, 93(1): 7–28. <https://doi.org/10.1016/J.JRETAIL.2016.12.006>
- Jang, H., Ko, I., & Kim, J. (2013). The effect of group-buy social commerce and coupon on satisfaction and continuance intention: Focusing on the expectation confirmation model (ECM). *Proceedings of the Annual Hawaii International Conference on System Sciences*, 2938–2948. <https://doi.org/10.1109/HICSS.2013.516>
- Kaur, P., Dhir, A., Bodhi, R., Singh, T., & Almotairi, M. (2020). Why do people use and recommend m-wallets? *Journal of Retailing and Consumer Services*, 56, 102091. <https://doi.org/10.1016/J.JRETCOSER.2020.102091>
- Konuk, F. A. (2019). The influence of perceived food quality, price fairness, perceived value and satisfaction on customers' revisit and word-of-mouth intentions towards organic food restaurants. *Journal of Retailing and Consumer Services*, 50: 103–110. <https://doi.org/10.1016/j.jretconser.2019.05.005>
- Koo, D. M. (2003). Inter-relationships among store images, store satisfaction, and store loyalty among Korea discount retail patrons. *Asia Pacific Journal of Marketing and Logistics*, 15(4): 42–71. <https://doi.org/10.1108/13555850310765033/FULL/PDF>
- Lin, J., Wang, B., Wang, N., & Lu, Y. (2014). Understanding the evolution of consumer trust in mobile commerce: A longitudinal study. *Information Technology and Management*, 15(1): 37–49. <https://doi.org/10.1007/S10799-013-0172-Y/TABLES/5>
- Lu, C. C., Wu, I. L., & Hsiao, W. H. (2019). Developing customer product loyalty through mobile advertising: Affective and cognitive perspectives. *International Journal of Information Management*, 47: 101–111. <https://doi.org/10.1016/j.ijinfomgt.2018.12.020>
- Malhotra, N. K., Kim, S. S., & Agarwal, J. (2004). Internet users' information privacy concerns (IUIPC): The construct, the scale, and a causal model. *Information systems research*, 15(4), 336–355.
- Martínez-Caro, E., Cegarra-Navarro, J. G., García-Pérez, A., & Fait, M. (2018). Healthcare service evolution towards the Internet of Things: An end-user perspective. *Technological Forecasting and Social Change*, 136: 268–276. <https://doi.org/10.1016/j.techfore.2018.03.025>
- Meilatinova, N. (2021). Social commerce: Factors affecting customer repurchase and word-of-mouth intentions. *International Journal of Information Management*, 57: 102300. <https://doi.org/10.1016/j.ijinfomgt.2020.102300>
- Meuter, M. L., Ostrom, A. L., Roundtree, R. I., & Bitner, M. J. (2000). Self-service technologies: Understanding customer satisfaction with technology-based service encounters. *Journal of Marketing*, 64(3): 50–64. <https://doi.org/10.1509/JMKG.64.3.50.18024>
- Mital, M., Chang, V., Choudhary, P., Papa, A., & Pani, A. K. (2018). Adoption of Internet of Things in India: A test of competing models using a structured equation modeling approach. *Technological Forecasting and Social Change*, 136: 339–346. <https://doi.org/10.1016/j.techfore.2017.03.001>
- Nadeem, W., Tan, T. M., Tajvidi, M., & Hajli, N. (2021). How do experiences enhance brand relationship performance and value co-creation in social commerce? The role of consumer engagement and self brand-connection. *Technological Forecasting and Social Change*, 171: 120952. <https://doi.org/10.1016/j.techfore.2021.120952>
- Oliver, R. L. (2014). Satisfaction: A behavioral perspective on the consumer, Second edition. *Satisfaction: A Behavioral Perspective on the Consumer, Second Edition*, 1–519. <https://doi.org/10.4324/9781315700892/SATISFACTION-RICHARD-OLIVER>
- Özdemir, A., Tozlu, E., Şen, E., & Ateşoğlu, H. (2016). Analyses of Word-of-mouth Communication and its Effect on Students' University Preferences. *Procedia - Social and Behavioral Sciences*, 235: 22–35. <https://doi.org/10.1016/J.SBSPRO.2016.11.022>
- Pillai, R., Sivathanu, B., & Dwivedi, Y. K. (2020). Shopping intention at AI-powered automated retail stores (AIPARS). *Journal of Retailing and Consumer Services*, 57: 102207. <https://doi.org/10.1016/j.jretconser.2020.102207>
- Pratminingsih, S. A., Lipuringtyas, C., & Rimenta, T. (2013). Factors influencing customer loyalty toward online shopping. *International Journal of Trade, Economics and Finance*, 4(3), 104–110.
- Razak, N. S. A., Marimuthu, M., Omar, A., & Mamat, M. (2014). Trust and Repurchase Intention on Online Tourism Services among Malaysian Consumers. *Procedia - Social and Behavioral Sciences*, 130: 577–582. <https://doi.org/10.1016/J.SBSPRO.2014.04.067>
- Roggeveen, A. L., & Sethuraman, R. (2020). Customer-interfacing retail technologies in 2020 & beyond: An integrative framework and research directions. *Journal of Retailing*, 96(3): 299–309. <https://doi.org/10.1016/j.jretai.2020.08.001>
- Roy, S. K., Balaji, M. S., Quazi, A., & Quaddus, M. (2018). Predictors of customer acceptance of and resistance to smart technologies in the retail sector. *Journal of Retailing and Consumer Services*, 42: 147–160. <https://doi.org/10.1016/j.jretconser.2018.02.005>
- Roy, S. K., Balaji, M. S., Sadeque, S., Nguyen, B., & Melewar, T. C. (2017). Constituents and consequences of smart customer experience in retailing. *Technological Forecasting and Social Change*, 124: 257–270.

<https://doi.org/10.1016/j.techfore.2016.09.022>

- Rust, R. T., & Zahorik, A. J. (1993). Customer satisfaction, customer retention, and market share. *Journal of Retailing*, 69(2): 193–215. [https://doi.org/10.1016/0022-4359\(93\)90003-2](https://doi.org/10.1016/0022-4359(93)90003-2)
- Ryu, K., Han, H., & Kim, T. H. (2008). The relationships among overall quick-casual restaurant image, perceived value, customer satisfaction, and behavioral intentions. *International Journal of Hospitality Management*, 27(3): 459–469. <https://doi.org/10.1016/J.IJHM.2007.11.001>
- Safa, N. S., & Von Solms, R. (2016). Customers repurchase intention formation in e-commerce. *SA Journal of Information Management*, 18(1): 712. <https://doi.org/10.4102/SAJIM.V18I1.712>
- Sposito, V. A., Hand, M. L., & Skarpness, B. (1983). On the efficiency of using the sample kurtosis in selecting optimal lp estimators. *Communications in Statistics-simulation and Computation*, 12(3), 265-272.
- Sun, X., Foscht, T., & Eisingerich, A. B. (2021). Does educating customers create positive word of mouth? *Journal of Retailing and Consumer Services*, 62(June), 102638. <https://doi.org/10.1016/j.jretconser.2021.102638>
- Sweeney, J. C., Danaher, T. S., & McColl-Kennedy, J. R. (2015). Customer effort in value cocreation activities: Improving quality of life and behavioral intentions of health care customers. *Journal of Service Research*, 18(3): 318–335. [https://doi.org/10.1177/1094670515572128/ASSET/IMAGES/LARGE/10.1177\\_1094670515572128-FIG1.JPEG](https://doi.org/10.1177/1094670515572128/ASSET/IMAGES/LARGE/10.1177_1094670515572128-FIG1.JPEG)
- Talukder, M. S., Sorwar, G., Bao, Y., Ahmed, J. U., & Palash, M. A. S. (2020). Predicting antecedents of wearable healthcare technology acceptance by elderly: A combined SEM-Neural Network approach. *Technological Forecasting and Social Change*, 119793. <https://doi.org/10.1016/j.techfore.2019.119793>
- Talwar, M., Talwar, S., Kaur, P., Islam, A. K. M. N., & Dhir, A. (2021). Positive and negative word of mouth (WOM) are not necessarily opposites: A reappraisal using the dual factor theory. *Journal of Retailing and Consumer Services*, <https://doi.org/10.1016/j.jretconser.2020.102396>
- Talwar, S., Dhir, A., Khalil, A., Mohan, G., & Islam, A. K. M. N. (2020). Point of adoption and beyond. Initial trust and mobile-payment continuation intention. *Journal of Retailing and Consumer Services*, 55: 102086. <https://doi.org/10.1016/J.JRETCONSER.2020.102086>
- Tellis, G. J. (1988). Advertising Exposure, Loyalty, and Brand Purchase: A Two-Stage Model of Choice. *Journal of Marketing Research*, 25(2): 134–144. <https://doi.org/10.1177/002224378802500202>
- Tyrvänen, O., Karjaluoto, H., & Saarijärvi, H. (2020a). Personalization and hedonic motivation in creating customer experiences and loyalty in omnichannel retail. *Journal of Retailing and Consumer Services*, 57(June). <https://doi.org/10.1016/j.jretconser.2020.102233>
- Tyrvänen, O., Karjaluoto, H., & Saarijärvi, H. (2020b). Personalization and hedonic motivation in creating customer experiences and loyalty in omnichannel retail. *Journal of Retailing and Consumer Services*, 57: 102233. <https://doi.org/10.1016/J.JRETCONSER.2020.102233>
- Van Doorn, J., & Hoekstra, J. C. (2013). Customization of online advertising: The role of intrusiveness. *Marketing Letters*, 24(4): 339–351. <https://doi.org/10.1007/S11002-012-9222-1/FIGURES/2>
- Yoon, S., & Park, J. E. (2018). Tests of in-store experience and socially embedded measures as predictors of retail store loyalty. *Journal of Retailing and Consumer Services*, 45: 111–119. <https://doi.org/10.1016/J.JRETCONSER.2018.08.010>
- Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing*, 52(3): 2–22. <https://doi.org/10.1177/002224298805200302>
- Zhang, T., Chen, J., & Hu, B. (2019). Authenticity, quality, and loyalty: Local food and sustainable tourism experience. *Sustainability* 2019, 11(12): 3437. <https://doi.org/10.3390/SU11123437>

Copyright © 2023 by the authors. This is an open access article distributed under the Creative Commons Attribution License ([CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)), which permits use, distribution and reproduction in any medium, provided that the article is properly cited, the use is non-commercial and no modifications or adaptations are made.