EXPLORING THE ROLE OF ATTITUDE IN SHAPING YOUNG CONSUMERS INTENTION TO USE SELF-SERVICE KIOSKS IN QUICK SERVICE RESTAURANTS

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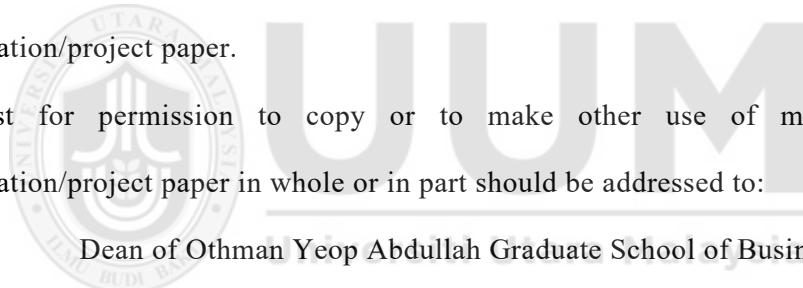
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ABSTRACT

The adoption of self-service kiosks in quick service restaurants is reshaping the way consumers interact with service technologies. Despite their operational benefits, young consumers may still hesitate to use these systems due to varying perceptions. This study investigates how perceived ease of use, perceived value, and perceived enjoyment influence users' attitudes, and in turn, their intention to use SSKs. The research targets students at Universiti Utara Malaysia (UUM), who frequently engage with such technologies. A quantitative method was employed using a structured online survey, and data from 214 students were analyzed using PLS-SEM. The results indicate that perceived ease of use and perceived enjoyment significantly shape young consumers' attitudes, which in turn strongly drive their intention to use self-service kiosks. However, perceived value was not a significant predictor of attitude in this context. These findings suggest that enhancing usability and emotional engagement may be more effective strategies than focusing on functional value alone. This study offers practical guidance for QSR operators and designers to prioritize intuitive, enjoyable experiences that resonate with younger users.

Keywords: Self-Service Kiosks; Perceived Ease of Use; Perceived Value; Perceived Enjoyment; Attitude; Behavioral Intention

ABSTRAK

Penerapan kios layan diri di restoran perkhidmatan pantas sedang mengubah cara pengguna berinteraksi dengan teknologi perkhidmatan. Walaupun ia menawarkan manfaat operasi, pengguna muda mungkin masih teragak-agak untuk menggunakan sistem ini disebabkan oleh persepsi yang berbeza-beza. Kajian ini menyiasat bagaimana persepsi terhadap kemudahan penggunaan, nilai yang dirasakan, dan keseronokan yang dirasakan mempengaruhi sikap pengguna, dan seterusnya, niat mereka untuk menggunakan kios layan diri. Penyelidikan ini memfokuskan kepada pelajar di Universiti Utara Malaysia (UUM), yang sering menggunakan teknologi tersebut. Kaedah kuantitatif telah digunakan melalui tinjauan dalam talian berstruktur, dan data daripada 214 pelajar dianalisis menggunakan Pemodelan Persamaan Struktur PLS (PLS-SEM). Hasil kajian menunjukkan bahawa kemudahan penggunaan dan keseronokan yang dirasakan secara signifikan membentuk sikap pengguna muda, yang seterusnya mendorong niat mereka untuk menggunakan kios layan diri. Namun, nilai yang dirasakan tidak merupakan peramal signifikan terhadap sikap dalam konteks ini. Penemuan ini mencadangkan bahawa meningkatkan kemudahan penggunaan dan penglibatan emosi mungkin lebih berkesan berbanding menumpukan kepada nilai fungsi semata-mata. Kajian ini memberikan panduan praktikal kepada pengendali restoran dan pereka bentuk untuk mengutamakan pengalaman yang intuitif dan menyeronokkan yang sejajar dengan keutamaan pengguna muda.

Kata Kunci: Kios Layan Diri; Persepsi Kemudahan Penggunaan; Nilai yang Dirasakan; Keseronokan yang Dirasakan; Sikap; Niat Tingkah Laku

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LIST OF ABBREVIATIONS

TAM	Technology Acceptance Model
PEOU	Perceived Ease of Use
PV	Perceived Value
PE	Perceived Enjoyment
SSKs	Self-Service Kiosks
QSRs	quick service restaurants
S-O-R	Stimulus-Organism-Response
ATU	Attitude Toward Using
BI	Behavioral Intention
TRI	Technology Readiness Index
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
UTAUT	Theory of Acceptance and Use of Technology
CR	Composite Reliability
AVE	Average Variance Extracted
CFA	Confirmatory Factor Analysis
HTMT	Heterotrait-Monotrait Ratio
SE	Standard Error
SPSS	Statistical Product and Service Solution
PLS-SEM	Partial Least Square Equation Modelling

CHAPTER ONE

INTRODUCTION

1.1   Background of the Study

Self-service kiosks are transforming the landscape of quick service restaurants by offering customers greater convenience, speed, and autonomy in ordering and payment processes. These digital interfaces are designed to streamline operations, reduce wait times, and enhance customer experiences (Rastegar et al., 2021). As global adoption of self-service kiosks accelerates, quick service restaurants in Malaysia are increasingly exploring these technologies to meet evolving consumer expectations and to remain competitive in the foodservice industry (Baba et al., 2023)

Despite the operational advantages of self-service kiosks, user acceptance remains a crucial challenge, particularly among young consumers who are more digitally literate yet may hold diverse perceptions about the value and ease of using such systems. Concerns about usability, enjoyment, and value can significantly influence behavioral intentions, as suggested by the Technology Acceptance Model (TAM) and its extensions (Amiri et al., 2025). While perceived ease of use (PEOU) reflects the cognitive effort required to operate kiosks, perceived value (PV) captures the cost-benefit trade-offs users consider when adopting the technology. Perceived enjoyment (PE), meanwhile, highlights the emotional dimension of technology use, acknowledging that a positive and engaging user experience can motivate continued adoption (Jumbri et al., 2024).

The target population of this study is young consumers, with data primarily collected from undergraduate students at Universiti Utara Malaysia (UUM). These students are typically frequent patrons of quick service restaurants and regularly use self-service

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REFERENCES

Abdul Hamid, N. A. (2021). User acceptance of self-service kiosks in Malaysia's fast food industry. *Journal of Retailing and Consumer Services*, 60, 102482. https://doi.org/10.1016/j.jretconser.2020.102482

Abdullah, T., Zainuddin, S. A., Jamil, A., Abdullah, S. S., Azmi, N. F., Mohamad Anuar, N. I., Nik Hashim, N. A. A., & Mohamad, S. R. (2024). Behavioral intention to use ICT among micro-entrepreneurs. In N. Hayat & N. C. Nawi (Eds.), *Contemporary issues in entrepreneurship and innovative technology* (pp. 109–123). Springer. https://doi.org/10.1007/978-3-031-50927-8_7

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Alshehri, M., Drew, S., Alhussain, T. and Alghamdi, R. (2012) The Effects of Website Quality on Adoption of E-Government Service: An Empirical Study Applying UTAUT Model Using SEM. 23rd Australasian Conference on Information Systems, Geelong, 3-5 December 2012, 1-13.

Amin, M., Rezaei, S., & Abolghasemi, M. (2014). User satisfaction with mobile websites: The impact of perceived usefulness (PU), perceived ease of use (PEOU) and trust. *Nankai Business Review International*, 5(3), 258–274. https://doi.org/10.1108/NBRI-01-2014-0005

Amiri, F., Shishan, F., Bazi, S., Nimri, R., & Obeidat, Z. (2025). Examining customers' continuous intention to use self-service kiosks: An extended approach in the context of fast food restaurants using the technology readiness index and technology acceptance model. *Information Technology & People*. https://doi.org/10.1177/14673584251324745

98

Ashraf, A. R., Thongpapanl, N. (Tek), & Auh, S. (2014). The Application of the

      Technology Acceptance Model under Different Cultural Contexts: The Case

      of Online Shopping Adoption. *Journal of International Marketing*, 22(3), 68–

      93. https://doi.org/10.1509/jim.14.0065

Aulia, S. A., Sukati, I., & Sulaiman, Z. (2016). A review: Customer perceived value

      and its dimension. *Asian Journal of Social Sciences and Management Studies*,

      3(2), 150–162. https://doi.org/10.20448/journal.500/2016.3.2/500.2.150.162

Baba, N., Ahmad, R., Hamid, S., & Yusof, N. (2023). Investigating customer

      acceptance, usage, trust, and perceived safety risk of self-ordering kiosk

      technology in Malaysian quick-service restaurants during COVID-19

      pandemic. *Journal of Hospitality and Tourism Technology*.

      https://doi.org/10.1108/JHTT-08-2021-0226

Bakı, R., Bırgören, B., & Aktepe, A. (2018). A meta-analysis of factors affecting

      perceived usefulness and perceived ease of use in the adoption of e-learning

      systems. *Turkish Online Journal of Distance Education*, 19(4), 4–42.

      https://doi.org/10.17718/tojde.471649

Blut, M., Chaney, D., Lunardo, R., Mencarelli, R., & Grewal, D. (2024). Customer

      perceived value: A comprehensive meta-analysis. *Journal of Marketing*

      Theory and Practice. https://doi.org/10.1177/10946705231222295

Bryman, A. (2021). Social research methods (6th ed.). Oxford University Press.

Buabeng-Andoh, C. (2018). Predicting students' intention to adopt mobile learning: A

      combination of theory of reasoned action and technology acceptance model.

      Journal of Research in Innovative Teaching & Learning, 11(2), 178–191.

      https://doi.org/10.1108/JRIT-03-2017-0004

Cebeci, U., Ertug, A., & Turkcan, H. (2020). Exploring the determinants of intention

to use self-checkout systems in super market chain and its application. *Management Science Letters*, 10(5), 1027–1036. https://doi.org/10.5267/J.MSL.2019.11.007

Chang, H.-L., & Yang, C.-H. (2008). Do airline self-service check-in kiosks meet the needs of passengers? *Tourism Management*, 29(5), 980–993. https://doi.org/10.1016/j.tourman.2007.12.002

Chang, Y. W., Hsu, P. Y., & Shiau, W. L. (2014). An empirical study of managers' usage intention in BI. *Cognition, Technology & Work*, 16(2), 247–258. https://doi.org/10.1007/s10111-013-0261-z

Chen, A., Lu, Y., & Wang, B. (2016). Enhancing perceived enjoyment in social games through social and gaming factors. *Information Technology & People*, 29(1), 99–119. https://doi.org/10.1108/ITP-07-2014-0156

Chen, J., & Liang, Y. (2022). Understanding the implementation of retail self-service check-out technologies: Challenges and strategic responses. *International Journal of Retail & Distribution Management*, 50(12), 1450–1465. https://doi.org/10.1108/IJRDM-06-2021-0259

Chin, W. W. (2010). How to write up and report PLS analyses. In V. Esposito Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods and applications* (pp. 655–690). Springer. https://doi.org/10.1007/978-3-540-32827-8_29

Cho, H., & Fiorito, S. S. (2010). Self-service technology in retailing: The case of retail kiosks. *Symphonya. Emerging Issues in Management*, (1), 43–56. https://doi.org/10.4468/2010.1.05cho.fiorito

Chong, Y.-L., Lui, T.-K., & Go, Y.-H. (2022). Exploring the mediating effect of perceived ease of use and perceived usefulness on actual adoption of mobile

wallis in Malaysia. *Malaysian Journal of Business and Economics*, 11(1), 1–19. https://doi.org/10.51200/mjbe.v11i1.5290

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

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology*, 22(14), 1111–1132.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method.*

Falahati, S., Dubey, A., & Alweshahi, F. (2025). An AI-powered public health automated kiosk system for personalized care delivery and information dissemination [Preprint]. arXiv. https://arxiv.org/abs/2402.03174

Falahati, S., Alizadeh, M., Safahi, Z., Khaledian, N., Meybodi, Mohsen Alambardar, & Salmanpour, M. R. (2025). *An AI-powered Public Health Automated Kiosk System for Personalized Care: An Experimental Pilot Study*. ArXiv.org. https://arxiv.org/abs/2504.13880

Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5th ed.). SAGE Publications.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Addison-Wesley.

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39–50. https://doi.org/10.1177/002224378101800104

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

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

Gumbo, L. C., Halimani, D., & Diza, M. (2017). Perceived usefulness (PU) and perceived ease of use (PEOU) as key drivers of mobile banking adoption: A case of Zimbabwe. *Journal of Corporate Governance, Insurance, and Risk Management*, 4(1), 87–105. https://doi.org/10.56578/jcgirm040106

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2019). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage Publications.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling* (3rd ed.). Sage Publications.

Hamid, A. A., Zaidi, F., Abu Bakar, A., & Abdullah, W. S. (2016). The effects of perceived usefulness and perceived ease of use on continuance intention to use e-government. *Procedia Economics and Finance*, 35, 644–649. https://doi.org/10.1016/S2212-5671(16)00079-4

Hamid, I., & Mohamed, M. (2024). Perceived ease of use, perceived usefulness and social influence as determinants of customers intention to use e-commerce platform during COVID-19 pandemic. *Jurnal Pengguna Malaysia*, 38(2), 154–167. https://doi.org/10.22452/jpm.vol38no2.68

Jasin, M. (2022). The effect of perceived ease of use on behavior intention through

perceived enjoyment as an intervening variable on digital payment in the digital era. *Journal of Industrial Engineering & Management Research*, 3(5), 127–133. https://doi.org/10.7777/jiemar.v3i5.414

Jo, H., & Park, D. (2023). Affordance, usefulness, enjoyment, and aesthetics in sustaining virtual reality engagement. *Scientific Reports*, 13, Article 15097. https://doi.org/10.1038/s41598-023-42113-1

Jumbri, I. A., Ahmad, M., & Salim, A. (2024). Customer acceptance for self-service technologies in Malaysian fast-food restaurants: An empirical study. *Advances in Social Sciences Research Journal*, 11(9), Article 17577. https://doi.org/10.14738/assrj.119.17577

Kim, J., Christodoulidou, N., & Choo, Y. (2013). Factors influencing customer acceptance of kiosks at quick service restaurants. *Journal of Hospitality and Tourism Technology*, 4(1), 40–62. https://doi.org/10.1108/17579881311302329

Kim, S. S., & Malhotra, N. K. (2005). A longitudinal model of continued IS use: An integrative view of four mechanisms underlying post-adoption phenomena. *Management Science*, 51(5), 741–755. https://doi.org/10.1287/mnsc.1040.0326

Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30(3), 607–610. https://doi.org/10.1177/001316447003000308

Ku, E. C. S., & Chen, C.-D. (2013). Fitting facilities to self-service technology usage: Evidence from kiosks in Taiwan airport. *Journal of Air Transport Management*, 32, 87–94. https://doi.org/10.1016/j.jairtraman.2013.07.001

Lee, J., & Park, S. (2024). Examining customers' continuous intention to use self-

service kiosks. *Information Technology & People*, 37(2), 456–472.

https://doi.org/10.1177/14673584251324745

Leung, X. Y., Torres, B., & Fan, A. (2021). Do kiosks outperform cashiers? An S-O-

R framework of restaurant ordering experiences. *Journal of Hospitality and

Tourism Technology*, 12(4), 559–576. https://doi.org/10.1108/JHTT-03-2020-

0065

Lin, T.-H. (2017). Service innovation, perceived values, and post-purchase behavior.

Turkish Economic Review, 4(3), 364–372.

https://doi.org/10.1453/ter.v4i3.1419

Liu, C., Marchewka, J. T., Lu, J., & Yu, C. S. (2005). Beyond concern—A privacy-

trust-behavioral intention model of electronic commerce. *Information &

Management*, 42(2), 289–304. https://doi.org/10.1016/j.im.2003.12.010

Luo, B., Li, L., & Sun, Y. (2022). Understanding the influence of consumers'

perceived value on energy-saving products purchase intention. *Frontiers in

Psychology*, 12, 640376. https://doi.org/10.3389/fpsyg.2021.640376

Marangunić, N., & Granić, A. (2015). Technology acceptance model: A literature

review from 1986 to 2013. *Universal Access in the Information Society*, 14(1),

81–95. [https://doi.org/10.1007/s10209-014-0348-1

Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*.

The MIT Press.

Mujiyati, M., & Achyari, D. (2008). The role of perceived enjoyment on motivating

the Internet use. *Benefit: Jurnal Manajemen dan Bisnis*, 12(1), 127–144.

https://doi.org/10.23917/benefit.v12i1.1274

Na, T. K., Yang, J. Y., & Lee, S. H. (2021). Determinants of Behavioral Intention of

the Use of Self-Order Kiosks in Fast-Food Restaurants: Focus on the

Moderating Effect of Difference Age. *SAGE Open*, 11(3),

21582440211031907. https://doi.org/10.1177/21582440211031907

Nasution, M. D. T. P., & Azmin, A. A. (2018). Consumer acceptance of trustworthy

e-commerce: An extension of technology acceptance model. *Academy of

Strategic Management Journal*, 17(6), 1–10.

https://doi.org/10.2139/ssrn.3177446

Ng, S. I., Ho, J. A., Lim, X. J., Chong, K. L., & Latiff, K. (2021). Mirror, mirror on

the wall, are we ready for Gen-Z in marketplace? A study of smart retailing

technology in Malaysia. *Young Consumers*, 22(1), 68–89.

https://doi.org/10.1108/YC-06-2019-1006

Nguyen, H. T. T. (2022). Determinants of students' perceived enjoyment towards

online learning. *International Journal of Information and Learning

Technology*, 39(4), 423–435. https://doi.org/10.1108/IJILT-02-2022-0025

Onywoki, Benson M, & Opiyo, E. T. (2016). A Framework for the Adoption of

Biometric ATM Authentication in the Kenyan Banks. *ArXiv (Cornell

University)*. https://doi.org/10.48550/arxiv.1602.04620

Pallant, J. (2020). *SPSS Survival Manual: A step by step guide to data analysis using

IBM SPSS* (7th ed.). Routledge. https://doi.org/10.4324/9781003117452

Park, J., Rauschnabel, P. A., & Dacko-Pikiewicz, Z. (2022). The role of perceived

enjoyment and perceived informativeness in assessing the acceptance of AR

wearables. *Journal of Retailing and Consumer Services*, 65, 102259.

https://doi.org/10.1016/j.jretconser.2020.102259

Park, S., & Zhang, J. (2021). Examining consumers' responses to self-service kiosks:

A study of contactless dining during COVID-19. *International Journal of

Contemporary Hospitality Management*, 33(7), 2421–2442.

https://doi.org/10.1108/IJCHM-07-2020-0688

Park, S., Lee, J., Kim, H., & Choi, K. (2025). Kiosk accessibility challenges faced by people with disabilities: An analysis of domestic and international accessibility laws/guidelines and user focus group interviews. *Universal Access in the Information Society*. https://doi.org/10.1007/s10209-023-01028-4

Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce*, 7(3), 101–134. https://doi.org/10.1080/10864415.2003.11044275

Perumal, S., Qing, Y. R., & Jaganathan, M. (2022). Factors influencing attitudes and intentions towards smart retail technology. *International Journal of Data and Network Science*, 6(2), 595–602. https://doi.org/10.5267/j.ijdns.2021.11.005

Ramli, N. N., Badrulhisham, N. S., Bibit, N. S., Ismail, A., & Mohamed Apandi, S. R. (2024). Exploring customer satisfaction with self-service kiosk in fast food: A study among UiTM Permatang Pauh students. *Journal of Tourism, Hospitality & Culinary Arts*, 16(2), 30–47. https://fhtm.uitm.edu.my/images/jthca/Vol16Issue2/Chap_3.pdf

Rastegar, N., Morad, M. R., & Azizi, S. (2021). The adoption of self-service kiosks in quick-service restaurants. *European Journal of Tourism Research*, 27, 2139. https://doi.org/10.54055/ejtr.v27i.2139

Roscoe, J. T. (1975). *Fundamental research statistics for the behavioural sciences* (2nd ed.). Holt Rinehart & Winston.

Rowley, J., & Slack, F. (2007). Information kiosks: a taxonomy. *Journal of Documentation*, 63(6), 879–897. https://doi.org/10.1108/00220410710836402

106

Saidon, J., Hisham, N. A., Atory, N. A., Hashim, H., & Johari, M. H. (2022). From

    gaming elements to purchase intentions: The influence of perceived enjoyment

    and promotion focus in online travel bookings. *Information Management &*

    Business Review, 16(3S(I)), 1–14.

    https://doi.org/10.22610/imbr.v16i3S(I)a.4224

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business*

    students (8th ed.). Pearson Education Limited.

Schmitz, E., & Wren, R. (2015). Customer perceived value—Conceptualization and

    avenues for future research. *Cogent Business & Management*, 2(1), 1061782.

    https://doi.org/10.1080/23311908.2015.1061782

Seo, K. H. (2020). A study on the application of kiosk service as the workplace

    flexibility strategy in fast-food industry. *Sustainability*, 12(21), 8790.

    https://doi.org/10.3390/su12218790

Shukry, S., Mazlan, S., Latip, M., Mohamad, M., & Azeman, A. (2023). Self-service

    kiosks in fast food restaurants: A study on customers' usage

    intentions. *Journal of Tourism, Hospitality & Culinary Arts*, 15(1), 40–59.

    https://ir.uitm.edu.my/id/eprint/87655/1/87655.pdf

Siagian, H., Tarigan, Z., Basana, S., & 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.2021.9.003

Sweeney, J. C., & Soutar, G. N. (2001). Consumer perceived value: The development

    of a multiple item scale. *Journal of Retailing*, 77(2), 203–220.

    https://doi.org/10.1016/S0022-4359(01)00041-0

Taib, M., Mohamed, R., & Sulaiman, M. (2023). Digital shift in Malaysian food services post-COVID: Generational insights. *Malaysian Journal of Consumer Studies*, 31(2), 45–62. https://doi.org/10.32890/mjcs2023.31.2.3

Taylor, S., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research*, 6(2), 144–176. https://doi.org/10.1287/isre.6.2.144

Teo, T., & Noyes, J. (2011). An assessment of the influence of perceived enjoyment and attitude on the intention to use technology among pre-service teachers: A structural equation modeling approach. *Computers & Education*, 57(2), 1645–1653. https://doi.org/10.1016/j.compedu.2011.03.002

Touati, A., & Baek, Y. (2018). What leads to player's enjoyment and achievement in a mobile learning game? *Educational Technology Research and Development*, 66, 1235–1255. https://doi.org/10.1007/s11423-018-9602-9

Tu, J.-C., Hsu, C.-F., & Creativani, K. (2022). A study on the effects of consumers' perception and purchasing behavior for second-hand luxury goods by perceived value. *Sustainability*, 14(16), 10397. https://doi.org/10.3390/su141610397

Vakulenko, Y., Hellström, D., & Oghazi, P. (2018). Customer value in self-service kiosks: A systematic literature review. *International Journal of Retail & Distribution Management*, 46(8), 753–772. https://doi.org/10.1108/IJRDM-04-2017-0084

Van der Heijden, H. (2004). User acceptance of hedonic information systems. *MIS Quarterly*, 28(4), 695–704. [https://doi.org/10.2307/25148660

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*,

46(2), 186–204. https://doi.org/10.1287/mnsc.46.2.186.11926

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance

of information technology: Toward a unified view. *MIS Quarterly*, 27(3),

425–478. https://www.jstor.org/stable/30036540

Verma, H. V., Kainth, J., & Gupta, P. (2012). Consumer perceived value and brand

loyalty: A study of retail banking. *International Journal of Customer

Relationship Marketing and Management*, 3(4), 1–15.

https://doi.org/10.4018/jcrmm.2012100101

Wang, Y. S., Wu, M. C., & Wang, H. Y. (2009). Investigating the determinants and

age and gender differences in the acceptance of mobile learning. *British

Journal of Educational Technology*, 40(1), 92–118.

https://doi.org/10.1111/j.1467-8535.2007.00809.x

Yang, Q., Goodsir, W., & Poulston, J. (2019). Automation of the fast-food industry:

Gen Z perspectives of self-service kiosks versus employee service. *Hospitality

Insights*, 3(2), 10–15. https://doi.org/10.24135/hi.v3i2.66

Ye, Q., Kang, W., Luo, Y., & Ma, X. (2018). An empirical study on the consumer

perceived value of online financial products based on grounded theory. In

Proceedings of ICITME 2018 (pp. 29–33). Atlantis Press.

https://doi.org/10.2991/icitme-18.2018.7

Zhang, K., Zhao, K., & Xu, H. (2021). Consumer perceived value and impulse buying

behavior on mobile commerce: The moderating effect of social influence.

Journal of Retailing and Consumer Services, 63, 102683.

https://doi.org/10.1016/j.jretconser.2021.102683

APPENDICES

Questionnaire：Survey on Smart Kiosk Usage among Young Consumers

Thank you for participating in this survey. The purpose of this questionnaire is to explore young consumers' attitudes and intentions toward using self-service kiosks in fast-food restaurants (e.g., McDonald's, KFC). All responses are confidential and will be used strictly for academic research purposes.

1.What is your gender ?

○Male

○Female

○Prefer not to say

2.What is your age?

○18 – 21years old

○22 – 25 years old

○26 – 29 years old

○Above 29

3.Have you ever used a self-service kiosk in a fast-food restaurant (e.g.,McDonald's, KFC)?

○yes

○no

Please indicate your level of agreement with the following statements based on your experience using self-service kiosks in fast-food restaurants. (1 = Strongly Disagree, 5 = Strongly Agree)

4.I find the self-service kiosk easy to use.

	1	2	3	4	5	
Strongly disagree						Strongly agree

5.Learning to operate the self-service kiosk is easy for me

	1	2	3	4	5	
Strongly disagree						Strongly agree

6.It is easy for me to become skillful at using the self-service kiosk.

	1	2	3	4	5	
Strongly disagree						Strongly agree

7.I find the self-service kiosk to be flexible to interact with.

	1	2	3	4	5	
Strongly disagree						Strongly agree

8.Using the self-service kiosk provides good value for the money."

	1	2	3	4	5	
Strongly disagree						Strongly agree

9.The self-service kiosk offers benefits that are worth its cost."

	1	2	3	4	5	
Strongly disagree						Strongly agree

10.Overall, the self-service kiosk provides good value."

	1	2	3	4	5	
Strongly disagree						Strongly agree

11.I find using the self-service kiosk to be enjoyable.

	1	2	3	4	5	
Strongly disagree						Strongly agree

12.The process of using the self-service kiosk is pleasant.

	1	2	3	4	5	
Strongly disagree						Strongly agree

13．I have fun using the self-service kiosk.

	1	2	3	4	5	
Strongly disagree						Strongly agree

14．Using the self-service kiosk is a good idea."

	1	2	3	4	5	
Strongly disagree						Strongly agree

15.I like the idea of using the self-service kiosk.

	1	2	3	4	5	
Strongly disagree						Strongly agree

16.Using the self-service kiosk is pleasant."

	1	2	3	4	5	
Strongly disagree						Strongly agree

17.I intend to use self-service kiosks when ordering at fast-food restaurants."

	1	2	3	4	5	
Strongly disagree						Strongly agree

18.I will recommend using self-service kiosks to others."

	1	2	3	4	5	
Strongly disagree						Strongly agree

19.I plan to use self-service kiosks regularly in the future."

	1	2	3	4	5	
Strongly disagree						Strongly agree