Asia Pacific Journal of Management and Education (APJME)
Vol. 9 No. 2, pp.288-303, July, 2026
E-ISSN: 2655-2035 P-ISSN: 2685-8835
https://www.ejournal.aibpm.org/index.php/APJME

The Impact of e-Service Quality on Customer e-Satisfaction, e-Loyalty, and Brand Equity: A Study on McDonald's Mobile Application

Louis Yong Yu Lee[1], Kai Sheng Yap[1], Wen Zhuo Yap[1], Mei Ting Yap[1], Ai Se Yeoh[1], Neha G[2], Abhishek M[3], Daisy Mui Hung Kee[1]
[1]Universiti Sains Malaysia, Jalan Sg Dua, 11800 Minden, Pulau Pinang, Malaysia
[2]IMS Ghaziabad - Business School, Ghaziabad, Uttar Pradesh 201015, India
[3]Presidency University, Kolkata, West Bengal 700073, India
Corresponding Email: yapkaisheng@student.usm.my
ORCID ID: 0009-0004-8872-5619

ARTICLE INFORMATION

Publication information

Research article

HOW TO CITE
Lee, L. Y. Y., Yap, K. S., Yap W. Z., Yap, M. T., Yeoh, A. S., Neha. G., Abhishek. M., & Kee, D. M. H. (2026). The Impact of e-Service Quality on Customer e-Satisfaction, e-Loyalty, and Brand Equity: A Study on McDonald's Application. *Asia Pacific Journal of Management and Education*, *9*(2), 288-303.

DOI:
https://doi.org/10.32535/apjme.v9i2.4747

Received: 14 May 2026
Accepted: 17 June 2026
Published: 20 July 2026

ABSTRACT

This study examines how e-service quality influences customer e-satisfaction, e-loyalty, and brand equity in Malaysia, using the McDonald's mobile application as the research context. Grounded in the Service Quality–Loyalty framework and Expectation-Confirmation Theory, the study distinguishes between e-service delivery quality, which reflects how effectively the application delivers services, and e-service outcome quality, which captures the value users obtain from using the app. Data were collected via an online survey of 157 Malaysian users with prior app usage experience. Using regression analysis in IBM SPSS, the findings indicate that both e-service delivery quality and e-service outcome quality play important roles in enhancing customer e-satisfaction and e-loyalty. However, loyalty is driven more strongly by the perceived quality of service outcomes than by satisfaction alone, suggesting that customers continue using the application primarily due to its reliability, convenience, and functional value. Customer e-loyalty also emerged as a key mechanism through which digital service experiences translate into stronger brand equity.

Keywords: E-Service Quality; E-Satisfaction; E-Loyalty; Brand Equity; Mcdonald's; Mobile Application.

INTRODUCTION

The swift growth of digital technologies has changed the way consumers interact with service-based companies, and notably with food and beverage brands (Daradkeh et al., 2023). Mobile applications have become a popular delivery method for brands to enhance convenience, customization, and smooth service delivery experiences to the consumer, particularly in digital platform–based services where customer satisfaction is shaped by app usability, convenience, and perceived service performance (Xia et al., 2025a). For globally established fast-food brands, digital platforms have become an extension of their core service model, as consumers increasingly expect consistent, efficient, and value-driven interactions across both physical and digital touchpoints. McDonald's is one of the top fast-food chains in the world and has committed significant resources to develop its mobile application to facilitate service delivery, improve customer relationships, and boost brand performance overall (McDonald's Corporation, n.d.). As a brand that serves millions of customers daily and operates at a global scale, McDonald's has long been associated with standardized service quality and convenience, making it a particularly relevant context for examining technology-enabled service experiences (Lee et al., 2024). Although this technology is widespread, there is a need to understand the relationships between e-service quality, customer e-satisfaction, e-loyalty, and brand equity in the context of a mobile application, especially in Malaysia, where digital consumer markets are growing rapidly. This research aims to fulfil this need, in addition to investigating the relationship between McDonald's mobile application service quality and key customer outcomes.

Service quality has always been a key factor influencing customer satisfaction. Previous studies on the retail environment in Malaysia have shown that service quality dimensions have a positive impact on consumers' evaluations of their service experience (Lee et al., 2025). For example, according to Singh et al. (2021), service quality dimensions can predict customer satisfaction at Tesco supermarkets because customers expect reliable and satisfactory service standards. A similar study by Pérez-Morón et al. (2022) at a coffee shop in Malaysia also highlighted the important role of service quality and customer satisfaction in shaping Starbucks customer loyalty. Service quality in the retail or service industry is increasingly valued for its influence on consumer reviews.

Customer satisfaction is another key mediating factor linking service quality and customer loyalty. Kee et al. (2021a) explained that customer satisfaction significantly influences customer loyalty to the Dutch Lady brand because loyalty is influenced by functional, emotional, and experiential factors. Furthermore, according to Kee et al. (2021b), a case study of Nestlé, demonstrated that customer satisfaction plays a crucial role in enhancing brand loyalty across different consumer groups. Consistent with these findings, empirical evidence from Malaysia shows that customer satisfaction functions as a key mechanism through which service-related attributes and experiential factors translate into favorable behavioral outcomes, including repeat patronage and loyalty, across fast-service food and beverage contexts (Xia et al., 2025b). While customer loyalty depends on customer satisfaction, it can also be improved through various marketing initiatives and brand activities.

In addition, research on fast-food service delivery has highlighted the importance of service-related factors in enhancing customer loyalty. Ganatra et al. (2021) highlighted numerous factors influencing KFC customer loyalty, particularly those related to service quality and customer experience. Together, the studies from several service contexts in Malaysia showed that the traditional service quality characteristics will have a similar effect within digital environments, where e-service quality is likely to play an analogous role with regard to customer satisfaction, customer loyalty, and brand perceptions.

While previous studies have contributed significantly to research on service quality in physical service environments, there has yet to be any indication of whether e-service quality through mobile applications influences e-satisfaction, e-loyalty, and brand equity, especially in fast-food environments in Malaysia. The main novel contribution of this study is in terms of providing customer-centric constructs in relation to and within McDonald's mobile application, a topic that has received limited empirical attention. Accordingly, the research contributes to better understanding of consumer experiences related to e-service quality and other brand-related outcomes, improving knowledge of customer behaviour in mobile app environments.

In conclusion, the aim of this research is to examine how e-service quality affects customer e-satisfaction, e-loyalty, and brand equity in the context of the McDonald's mobile application. It is expected that the results of this study will support a better understanding of how customer behaviour is influenced by digital service delivery, strengthen literature in the mobile service quality domain, and expand implications for improving digital strategies in the fast-food industry.

LITERATURE REVIEW

e-Service Delivery Quality

Service quality refers to customers' overall evaluation of service performance based on their perceptions of reliability, responsiveness, and assurance (Parasuraman et al., 1988). In digital contexts, this concept extends to e-service delivery quality, which reflects customers' perceptions of how effectively a digital platform delivers services through features such as app attractiveness, information quality, ease of use, and technical functionality (Kao & Lin, 2016). Empirical evidence suggests that higher levels of e-service delivery quality—particularly in terms of efficiency, availability, privacy, and fulfilment—are positively associated with customer satisfaction and can further promote customer loyalty (Nguyen et al., 2023). This relationship is consistent with the Service Quality–Loyalty Model, which posits that superior service quality enhances customer satisfaction, which subsequently leads to stronger loyalty intentions (Parasuraman et al., 1988; Cronin & Taylor, 1992). Furthermore, Expectation-Confirmation Theory (ECT) explains that customer satisfaction and continued usage intentions arise when customers perceive that their expectations of digital service performance are met or exceeded (Oliver, 1980; Bhattacherjee, 2001). From a branding perspective, Keller's (1993) Customer-Based Brand Equity (CBBE) model suggests that satisfied and loyal customers contribute to brand equity through repeated usage, positive engagement, and brand advocacy. Accordingly, customers who perceive McDonald's mobile application as responsive, accurate, and easy to use are more likely to experience higher levels of e-satisfaction, develop stronger e-loyalty, and contribute positively to McDonald's brand equity. Based on these arguments, we propose that:

H1. e-Service delivery quality is positively associated with customer e-satisfaction.
H2. e-Service delivery quality is positively associated with customer e-loyalty.

e-Service Outcome Quality

While e-service delivery quality focuses on how digital services are provided, e-service outcome quality refers to the perceived excellence of the results customers obtain from using a digital service, including functional benefits, reliability, efficiency, and emotional value (Kao & Lin, 2016). These outcomes represent the final value customers derive from interacting with digital platforms. Drawing from the Service Quality–Loyalty Chain, prior research indicates that high-quality service outcomes enhance customer satisfaction, which subsequently strengthens loyalty intentions (Parasuraman et al., 1988; Cronin & Taylor, 1992). In the context of digital and mobile-based services, outcome quality reflects whether the service delivers practical utility, convenience, and positive emotional experiences to users. Recent studies in quick-service restaurants and online food delivery platforms have shown that when customers perceive digital services as efficient, secure, and trustworthy, higher levels of both delivery quality and outcome quality significantly enhance customer satisfaction and loyalty Rita et al. (2019). Consistent with earlier findings, Zeithaml et al. (2002) also reported that superior e-service quality increases customer satisfaction and strengthens intentions to continue using digital platforms. In the context of McDonald's mobile application, these findings support a sequential relationship in which e-service outcome quality enhances customer e-satisfaction and subsequently promotes e-loyalty. Building on these, we hypothesized:

H3. e-Service outcome quality is positively associated with customer e-satisfaction.
H4. e-Service outcome quality is positively associated with customer e-loyalty.

Customer e-Satisfaction

Customer e-satisfaction represents customers' overall emotional and cognitive responses resulting from a comparison between their prior expectations and the actual performance of a digital service (Oliver, 1980). In digital service environments, this evaluation reflects how well the perceived service experience meets or exceeds customer expectations in terms of functionality, usability, and reliability (Kao & Lin, 2016). Empirical evidence suggests that higher levels of perceived quality and value in digital platforms significantly enhance customer satisfaction, which subsequently strengthens customer loyalty. For instance, Abu-Alhaija et al. (2020) emphasized that customer satisfaction plays a pivotal role in fostering customer loyalty, particularly when customers consistently perceive value and reliability in service performance. Their review highlights that satisfied customers are more likely to maintain long-term relationships with service providers, suggesting that satisfaction functions as a critical mechanism linking perceived service quality to sustained loyalty and favorable behavioral outcomes. In e-service contexts, factors such as ease of use, transaction speed, information accuracy, and system security play a central role in shaping customer satisfaction. When these elements align with user expectations, customers are more likely to develop positive emotional responses and continue using the service (Swaid & Wigand, 2009). Prior studies consistently demonstrate that perceived e-service quality has a significant positive effect on customer e-satisfaction in mobile application environments. In the context of the McDonald's mobile application, features such as efficient app performance, user-friendly interface design, and reliable service delivery are therefore expected to enhance customer e-satisfaction. Satisfied users are more likely to demonstrate continued usage intentions, develop loyalty toward the brand, and contribute positively to brand equity through repeat purchases and favorable word-of-mouth. Hence, we posit that:

H5. Customer e-satisfaction is positively associated with customer e-loyalty.
H6. Customer e-satisfaction is positively associated with brand equity.

Customer e-Loyalty

Customer e-loyalty refers to the attitudinal and behavioral tendency to repeatedly purchase from the same digital platform, recommend it to others, and resist switching to alternatives (Anderson & Srinivasan, 2003). Customer e-loyalty means how much customers like to keep using a brand's mobile app or website. In the case of the McDonald's mobile application, e-loyalty happens when customers enjoy using the app and feel that it works well for them. When the McDonald's app is easy to use, loads quickly, shows the menu clearly, keeps payments safe, and gives correct orders, customers feel happy with the service. This happiness turns into satisfaction, and satisfied customers usually keep using the same app again. Many studies say that good e-service quality is one of the main reasons people stay loyal to an app. If the McDonald's app gives fast responses, smooth navigation, safe payments, and on-time delivery, customers are more likely to order again (Kuska et al., 2023; Putri & Lestari, 2024). According to the ECT, customers feel satisfied when the service meets or goes beyond what they expect (Oliver, 1980; Bhattacherjee, 2001). For example, if the McDonald's app gives quick delivery, correct food items, or live order tracking, customers feel their expectations are met. This satisfaction makes them use the app repeatedly. Trust is also very important. The Commitment–Trust Theory states that long-term relationships are built on trust and commitment, which are essential for sustaining customer loyalty (Morgan & Hunt, 1994). If users believe the McDonald's app protects their data, processes payments safely, and delivers orders correctly, they will trust it more. Good reviews and ratings from other users also help build this loyalty. Therefore, when the McDonald's app provides a smooth, safe, and easy experience, customers feel satisfied, and satisfied customers become loyal users over time. Therefore, the following hypotheses are proposed:

H7. Customer e-loyalty is positively associated with brand equity.

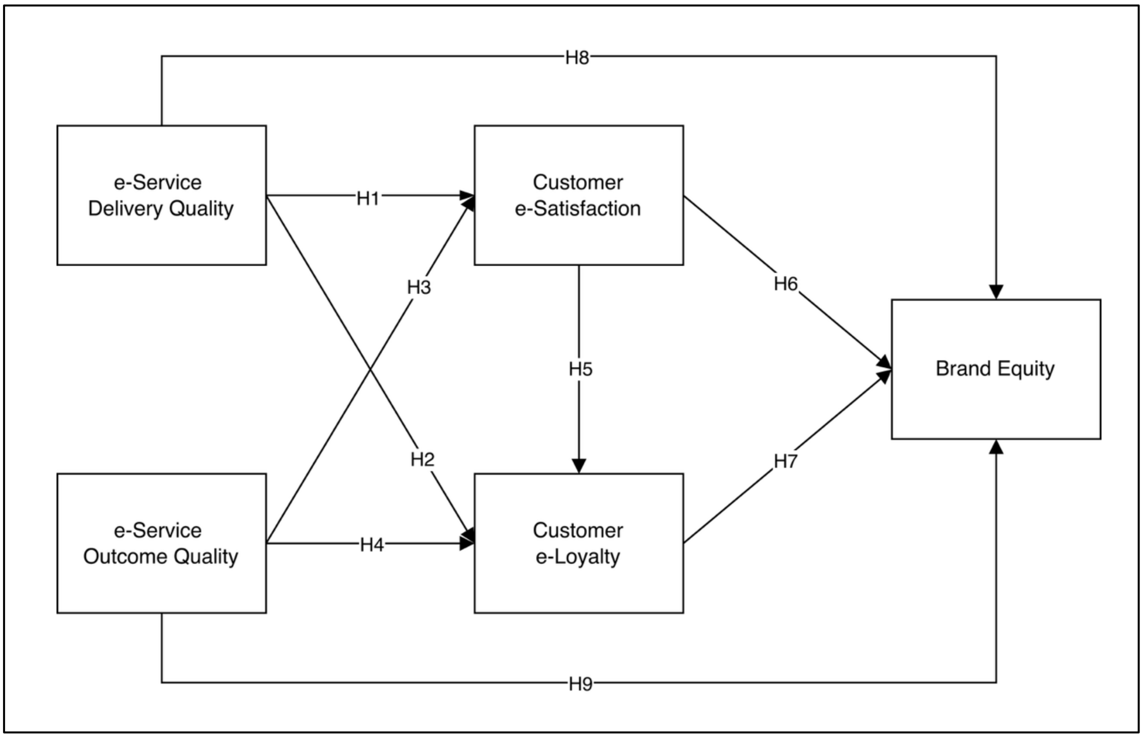
Brand Equity

Brand equity refers to the overall value of a brand as perceived by customers and is reflected in their awareness of the brand, the strength of brand associations, perceived quality, and brand loyalty (Aaker, 1991; Keller, 1993). It represents how familiar customers are with a brand, how positively they evaluate it, and the level of trust they place in it. When a brand possesses strong equity, customers are more likely to prefer it over competitors and demonstrate repeated purchase behaviour. According to Aaker (1991), brand equity is formed through four key dimensions: brand awareness, positive brand associations, perceived quality, and customer loyalty. In the context of digital services, the McDonald's mobile application plays a crucial role in reinforcing each of these elements. Frequent use of the application enhances brand awareness, while its convenience and usability foster favorable brand associations. At the same time, consistent and reliable digital ordering experiences strengthen customers' perceptions of quality. Keller's (1993) CBBE model further explains that brand equity develops when customers accumulate repeated positive experiences with a brand. The McDonald's app facilitates this process through smooth ordering procedures, personalized offers, and quick service delivery, all of which contribute to memorable and satisfying brand interactions. In digital environments, service quality is particularly influential in shaping brand equity, as customers increasingly evaluate brands based on their online and mobile experiences. When users encounter a reliable, secure, and user-friendly application such as fast checkouts, accurate order tracking, and secure payment systems their trust in the brand is reinforced. Over time, these positive digital interactions strengthen customers' emotional connection with McDonald's and enhance their overall brand perception. Empirical studies also indicate that effective digital communication and online engagement significantly contribute to the development of brand equity (Krupka & Vlašić, 2022). McDonald's leverages its mobile application to communicate promotions, loyalty rewards, and personalized messages, thereby fostering stronger customer–brand relationships. Furthermore, transparent digital practices, including clear pricing information and accessible nutritional details, further enhance brand image and customer trust (Pratama, 2021). Based on these considerations, the following hypotheses are proposed:

H8. e-Service delivery quality is positively associated with brand equity.
H9. e-Service outcome quality is positively associated with brand equity.

Conceptual Framework
The study framework model is depicted in Figure 1.

Figure 1. Research Framework



RESEARCH METHOD

Sample and Procedures
In this study, data were collected using a survey-based approach targeting users of the McDonald's mobile application. A purposive sampling technique was employed, whereby respondents were required to have prior experience using the McDonald's app for ordering or related services. The questionnaire was developed and administered through Google Forms, and the survey link was distributed online to facilitate data collection. A total of 157 valid responses were obtained for analysis. The collected data were subsequently analyzed using IBM SPSS Statistics to examine the relationships between e-service quality, customer e-satisfaction, e-loyalty, and brand equity, as well as to test the proposed hypotheses.

Measures
All survey items in this study were assessed using a five-point Likert scale, where responses ranged from 1 ("strongly disagree") to 5 ("strongly agree"). The complete list of measurement items is provided in the Appendix.

e-Service Delivery Quality
To measure how users perceived the service delivery performance of McDonald's mobile application in terms of functionality, clarity, and ease of use, twelve items were adapted from Kao & Lin (2016). An example item is: "The application of McDonald's provides all the information necessary."

e-Service Outcome Quality
Six items adapted from Kao and Lin (2016) were used to assess users' perceptions of the overall quality of outcomes delivered through the McDonald's mobile application, including reliability, functional benefits, and emotional benefits. A sample item is: "The service performance of the McDonald's application is absolutely reliable."

Customer e-Satisfaction
To measure users' affective evaluations of their overall experience with the McDonald's mobile application, three items were adapted from Kao and Lin (2016). These items assess the extent to which the application's service performance meets or exceeds users' expectations, reflecting emotional responses such as happiness and contentment. An example item is: "In general, I am happy with the service experience of the McDonald's application."

Customer e-Loyalty
Customer e-loyalty was measured using three items adapted from Kao and Lin (2016). These items capture users' attitudinal and behavioral intentions to continue using the McDonald's mobile application, including repeat usage, preference for the application over alternatives, and resistance to switching to other platforms. A sample item is: "I consider myself loyal to the McDonald's application when purchasing fast food."

Brand Equity
Brand equity was measured using three items adapted from Kao and Lin (2016). These items assess users' perceptions of the overall value, reputation, and credibility of the McDonald's mobile application as a brand. Specifically, they capture the extent to which the brand fosters trust and influences users' preferences over alternative brands. The items also reflect how strongly the McDonald's brand contributes to users' positive evaluations and decision-making when using the application. An example item is: "I believe that the McDonald's brand is trustworthy and adds strong value to my experience with the application."

RESULTS

Table 1. Summary of Respondent's Demographic Profile (N=157)

	Frequency	Percentage (%)
Gender		
Male	90	57.32
Female	67	42.68
Age Group		
Below 18 years old	4	2.55
18-24 years old	72	45.86
25-34 years old	39	24.84
35-44 years old	34	21.66
45 years old and above	8	5.10
Race		
Malay	38	24.20
Chinese	81	51.59
Indian	38	24.20
Education level		
Secondary school	15	9.55
High school diploma or equivalents	19	12.10
Bachelor's degree	96	61.15
Master's degree	23	14.65
Doctorate degree	4	2.55

Employment Status		
Student	82	52.23
Self-employed	26	16.56
Part-time	7	4.46
Full-time	42	26.75
Monthly income level		
B40 (below RM5,249)	102	64.97
M40 (between RM5,250 and RM11,819)	41	26.11
T20 (above RM11,820)	14	8.92

According to the data in Table 1, the demographic profile of the respondents (N=157) shows that majority of respondents (N=90, 57.32%) are male, while females make up a smaller proportion (N=67, 42.68%). For age, most were between 18 and 24 years old (N=72, 45.86%), while the smallest proportion fell under the age group of less than 18 years old (N=4, 2.55%). Concerning ethnicity, most were Chinese (N=81, 51.59%), followed by Indian and Malay (N=38, 24.20%). For educational, most had a bachelor's degree (N=96, 61.15%), followed by those with a high school diploma or its equivalent (N=19, 12.10%). On the classification of occupation, the biggest group was students (N=82, 52.23%), followed by full-time employees at N=42 (26.75%), self-employed individuals at N=26 (16.56%), and part-time workers at N=7 (4.46%). Similarly, monthly income data aligned with occupational trends, with the majority (N=102, 64.97%) belonging to the B40 group earning RM5,249 or less monthly.

Table 2. Descriptive statistics, Cronbach's Alpha Reliability Coefficients, and Zero-order Correlations for All Study Variables

Variables	1	2	3	4	5
e-Service Delivery Quality	**0.922**				
e-Service Outcome Quality	0.849**	**0.871**			
Customer e-Satisfaction	0.723**	0.745**	**0.880**		
Customer e-Loyalty	0.699**	0.728**	0.623**	**0.870**	
Brand Equity	0.667**	0.709**	0.611**	0.806**	**0.909**
Number of Items	12	6	3	3	4
Mean	4.4682	4.4183	4.3779	4.3121	4.3121
Standard Deviation	0.50835	0.52928	0.57251	0.72371	0.72205

N = 157; $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$. The diagonal entries represent Cronbach's Coefficient Alpha.

Table 2 presents the descriptive statistics, Cronbach's alpha reliability coefficients, and zero-order correlations for the study variables. The results indicate significant positive correlations for all the variables that were examined in this study. e-Service Delivery Quality had shown a strong positive correlation with e-Service Outcome Quality (r= 0.849, p < 0.01), Customer e-Satisfaction (r = 0.723, p < 0.01), Customer e-Loyalty (r = 0.699, p < 0.01), and Brand Equity (r = 0.667, p < 0.01). Similarly, e-Service Outcome Quality is substantially connected with customer e-Satisfaction (r = 0.745, p < 0.01), Customer e-Loyalty (r = 0.728, p < 0.01), and Brand Equity (r = 0.709, p < 0.01), showing its influential role in establishing favorable consumer attitudes. Next, Customer e-Satisfaction is also substantially associated with Customer e-Loyalty (r = 0.623, p < 0.01) and Brand Equity (r = 0.611, p < 0.01). Additionally, there is a substantial positive association between Consumer e-Loyalty and Brand Equity (r = 0.806, p < 0.01), suggesting that loyal customers typically make a greater contribution to a company's brand value. All measuring scales applied in the study are reliable and consistent, according to these reliability values with Cronbach's alpha coefficients ranging from 0.870 to 0.922, which exceed the required threshold of 0.70.

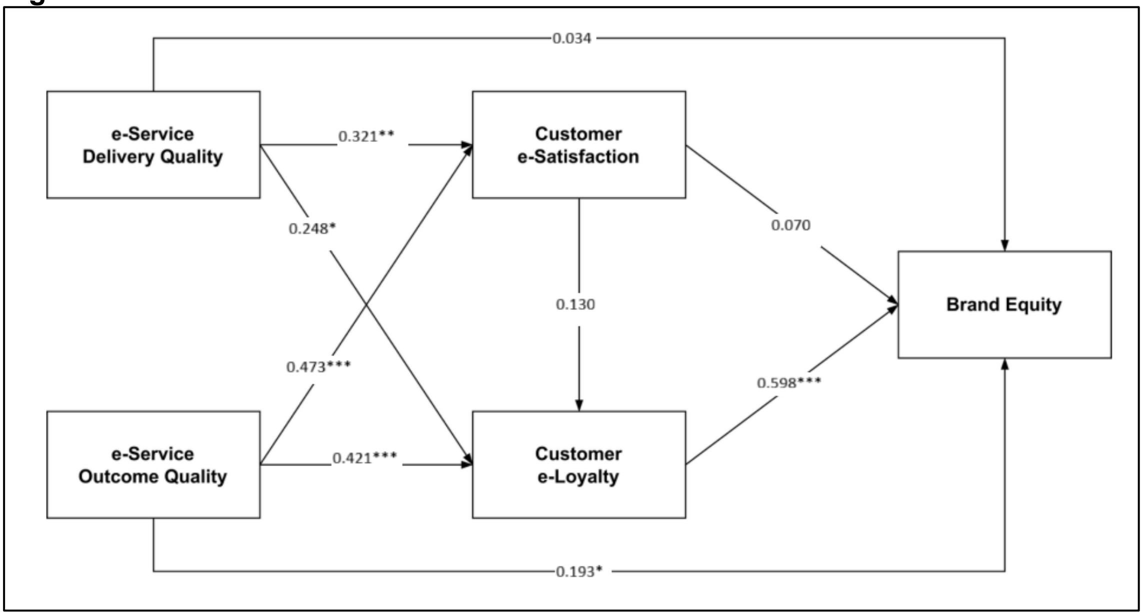
Table 3. Regression analysis

Variables	Customer e-Satisfaction	Customer e-Loyalty	Brand Equity
e-Service Delivery Quality	0.321**	0.248*	0.034
e-Service Outcome Quality	0.473***	0.421***	0.193*
Customer e-Satisfaction		0.130	0.070
Customer e-Loyalty			0.598***
R^2	0.585	0.561	0.684
F value	108.377	65.056	82.430
Durbin Waston Statistic	1.914	2.071	2.076

Note: N=157; *p < .05, **p < .01, ***p < .001.

Table 3 summarizes the regression findings for this study. First, e-service delivery quality (β = 0.321, p < 0.01) and e-service outcome quality (β = 0.473, p < 0.001) has significantly improve customer e-satisfaction. This means that the users tend to feel more satisfied when the McDonald's mobile app performs reliably and provides a smooth service experience and the model explains 58.5% of the variance in e-satisfaction, and the Durbin–Watson value (1.914) indicates that the results are statistically sound. In the second model, e-service delivery quality (β = 0.248, p < 0.05) and e-service outcome quality (β = 0.421, p < 0.001) also positively influence customer e-loyalty. However, customer e-satisfaction does not significantly predict e-loyalty (β = 0.130, p > 0.05), suggesting that users may be loyal mainly because of the system's performance and convenience rather than satisfaction alone. This model explains 56.1% of the variance in loyalty, with no autocorrelation concerns (Durbin–Watson = 2.071). For brand equity, only e-service outcome quality (β = 0.193, p < 0.05) and customer e-loyalty (β = 0.598, p < 0.001) show significant positive effects. This highlights that loyal users contribute the most to strengthening McDonald's brand image. Neither e-service delivery quality nor e-satisfaction shows a significant impact in this final model. The model explains 68.4% of the variance in brand equity. Overall, the results show that e-service outcome quality and customer e-loyalty play the most important roles in enhancing satisfaction and brand value within McDonald's mobile application.

Figure 2. Overview Result



DISCUSSION

This study delves into how e-service quality impacts customer e-satisfaction, e-loyalty, and brand equity within the context of the McDonald's mobile application. This section discusses the research findings in conjunction with the research hypotheses and existing literature.

e-Service Delivery Quality and Its Impact

The results show that e-service delivery quality significantly and positively affects customer e-satisfaction (H1). This aligns with earlier findings by Parasuraman et al. (1988) and Cronin and Taylor (1992), which demonstrated that responsive, reliable, and efficient service processes enhance consumer perceptions of service delivery. McDonald's app is a fast, accurate, and seamless ordering tool with extremely high user satisfaction. The app achieves this optimal user satisfaction because it reinforces Oliver's (1980) expectation confirmation theory, which states that user satisfaction increases when the performance of a product or service meets or exceeds user expectations. Furthermore, e-service delivery quality was found to significantly influence customer e-loyalty (H2). According to a study by (Nguyen et al., 2023) efficient digital service delivery increases the likelihood of users reusing applications that are stable and easy to navigate. Therefore, when mobile applications like McDonald's consistently deliver optimal performance and are perceived as trustworthy, users are more likely to reuse them. However, e-service delivery quality does not have a significant direct effect on brand equity (H8). While delivery quality metrics showed a positive correlation, it was not statistically significant. Therefore, brand value enhancement cannot solely depend on a company's delivery performance. When assessing brand value, customers appear to value overall satisfaction and/or loyalty experiences more than operational performance.

e-Service Outcome Quality and Its Importance

The findings also indicate that e-service outcome quality significantly enhances customer e-satisfaction (H3). Zeithaml et al. (2002) pointed out that customer satisfaction is influenced by a variety of factors, including positive outcomes from service delivery. Positive service outcomes can lead to positive customer experiences, encompassing various aspects of customer satisfaction, such as accurate food orders, providing functional value to customers through the app by allowing customers to customize their beverage and meal orders, and providing emotional support by assuring customers that the app is a reliable way to order from McDonald’s. Similarly, e-service outcome quality has a significant positive relationship with e-loyalty (H4). The findings are consistent with those of Rita et al. (2019), both concerning consumers’ continued purchases of food from fast-food restaurants via the app. Consumers are more likely to continue using the app when they can consistently trust it to fulfill its promises, such as providing accurate orders, timely updates, and valuable offers. Furthermore, previous research has shown that the e-service outcome quality has a significant direct impact on brand equity (H9), supporting Aaker's (1991) brand equity theory, which explains how perceived quality influences brand equity. The better the digital service output meets customer needs and expectations, the stronger the customer’s perception of the brand’s strength.

Customer e-Loyalty and Its Importance

The study further reinforces the strong positive relationship between customer e-loyalty and brand equity (H7). According to this research, consumers who use McDonald's mobile application frequently and grow devoted to the platform are more likely to think the brand is worthwhile, reliable, and better than rivals. Through favorable word-of-mouth and sustained engagement, loyal customers not only keep using the app but also enhance its overall brand image. This result is consistent with recent studies indicating that customer loyalty plays a critical role in building brand equity in digital and mobile service contexts. For example, Dwivedi et al. (2021) emphasized that loyal customers enhance brand equity by increasing brand awareness, brand associations, and perceived quality in digital platforms. Similarly, Liu et al. (2023) found that in mobile service applications, customer loyalty significantly contributes to stronger brand equity by reinforcing customers' emotional attachment and trust toward the brand. Strengthening customer loyalty through reliable and high-quality digital services is therefore essential for McDonald's to maintain competitiveness and sustain its brand equity in the increasingly digital fast-food industry.

Customer e-Satisfaction and Its Importance

The results obtained through this research suggest that customer e-satisfaction is an important factor influencing how customers behave within the digital service environment. Based on these findings, it was confirmed that customer e-satisfaction has a statistically significant positive influence on customer e-loyalty (H5). Therefore, customers who are satisfied with their experiences while using the McDonald's Mobile Application will have a greater likelihood of continuing to use that application and recommending it to others. In addition, users who experience positive experiences such as having smooth Application performance, reliability with service outcomes, and convenience with ordering create a greater level of e-satisfaction, which subsequently creates greater levels of e-loyalty. In fact, the finding supports previous literature stating that customer e-satisfaction is a key precursor to customer e-loyalty in mobile and digital service environments. Further, it is demonstrated that customers who are satisfied with their experiences on a platform tend to become more attractive to the platform, thus enabling them to build stronger, longer-lasting relationships with the brand. Additionally, satisfied users are less likely to switch to a competitor's application, and will likely continue to engage with the McDonald's mobile application over time. Thus, effective management of customer e-satisfaction is critical to building and maintaining customer e-loyalty and continued use of applications across a variety of digital fast-food competitors.

Brand Equity and Its Importance

Customer e-satisfaction has a direct correlation with brand equity (H6) of the McDonald's mobile app. Customers who have a positive experience with the McDonald's mobile app are more likely to view McDonald's as being a trustworthy brand, worth their money, and above its competitors in terms of quality. When customers have a positive experience with the McDonald's mobile app, it further increases their overall impression of McDonald's, thus improving brand awareness, brand credibility, and perceived quality. This finding further validates past research indicating that customer satisfaction and brand equity are closely related in the digital service environment. In addition, when customers are satisfied with their experiences with the McDonald's mobile app, they tend to have a closer emotional connection and level of trust with the brand, which increases brand equity. With more and more customers associating McDonald's with a positive experience while using the McDonald's mobile app, the overall value of McDonald's continues to be reinforced in their minds. For this reason, maintaining high levels of customer e-satisfaction is critical for McDonald's as it strives to build its brand equity and remain competitive in the ever-increasingly digitized fast-food industry.

Practical Implications

This study offers actionable insights for fast-food delivery companies, especially McDonald's, on how the effective management of e-service quality in mobile applications can enhance customer satisfaction, customer loyalty, and brand equity. To ensure smooth and reliable user experiences, e-service delivery quality is essential. This goal can be achieved by enhancing app stability, reducing loading time, and minimizing errors to ensure customers can place orders without any disruptions. e-Service outcome quality also plays a crucial role in increasing customer e-satisfaction. McDonalds's must focus on the accuracy of order, timely updates and consistent service performance. Some features such as real-time order tracking, order customizations and payment process can improve customer's overall emotional experiences and lead to higher satisfaction levels. Loyalty programs such as reward points, personalized promotions and exclusive offers can encourage continued usage and long-term engagement. When customers perceive consistent value and reliability from the application, they are more likely to remain loyal to the brand. In an increasingly competitive digital fast-food market, McDonald's can improve customer satisfaction, foster greater loyalty, and maintain its brand equity by placing a high priority on high-quality e-service delivery and results.

CONCLUSION

In this research paper, we have explored how e-service quality affects customer e-satisfaction, e-loyalty, and brand equity in the McDonald's mobile application. The findings show that both e-service delivery quality and e-service outcome quality play an important role in shaping customers' experiences when using the app. Features such as easy navigation, fast performance, reliable service, and accurate order fulfillment help improve customer satisfaction and encourage users to continue using the application.

The results of 157 responses also indicate that good e-service quality increases customer loyalty, and loyal customers strongly contribute to building brand equity. While customer satisfaction is important, customer loyalty was found to be the most influential factor in strengthening McDonald's brand value. This means that customers who regularly use the app and trust its performance are more likely to view the brand positively and prefer it over competitors. In conclusion, this research highlights the importance of maintaining high quality digital services in mobile applications. By improving app reliability, service accuracy, and overall user experience, McDonald's can increase customer satisfaction, build long-term loyalty, and strengthen its brand image. The study also adds value to existing research on e-service quality by focusing on mobile applications in the fast-food industry and provides useful insights for future studies and practical improvements.

LIMITATION

This study generates critical insight into the impact of e-service quality on customer e-satisfaction, e-loyalty, and brand equity in the context of McDonald's mobile application. However, some limitations must be taken into consideration when evaluating the findings. First, sample characteristics of this study may limit the ability to generalize the results based on demographic features. While a sample size of 157 responses is sufficient for this study, the respondents were primarily concentrated in younger age group of 18-34, who are generally more familiar with and accustomed to using mobile applications, which may have resulted in underrepresentation of older consumers, professionals, and groups with varying levels of digital literacy. Consequently, each of these demographic differences may have had a significant impact on how the users evaluated e-service quality, particularly in the areas of usability, convenience, and reliability.

In addition, this study was conducted among users of McDonald's mobile application who live in a particular geographic area. Customer expectations and experiences of mobile applications tend to vary by geographical area. Various local factors affect a customer's experience with the application, such as the local speed of service and how well the digital ecosystem has matured, cultural beliefs about technology, and competition within the fast-food sector. Because service quality and brand interaction can vary significantly from region to region, these results may not apply to McDonald’s customers in other states or other countries.

Another limitation of this study is the nature of the data collected through self-reported surveys. It is possible for some of the respondents to give answers that are socially acceptable or desirable, to indicate a greater level of satisfaction than they actually possess, or to have a faulty memory regarding their previous experiences with the McDonald's mobile application. As such, these factors may impact the accuracy of the identified constructs (e-service quality, e-satisfaction, e-loyalty, brand equity) that have been discussed within this study.

Due to this paper employing a cross-sectional research method and the data is from only a single time period, the analysis is limited to a snapshot of user perception. The results cannot reveal how user perception evolves over time with the implementation of factors such as increased mobile application functionality, user interface improvements, or seasonal promotions. A longitudinal research design is necessary to comprehensively examine the long-term effects of continuous improvements in e-service quality on customer e-satisfaction, e-loyalty, and brand equity.

The study is also limited in that while it examines e-service quality; it does not examine other factors such as promotional strategy, reward program, delivery experience, customer complaint handling, and integration with third-party platforms that would likely have an impact on customer satisfaction and loyalty. Thus, excluding these variables creates a gap in the model developed for the study.

Understanding these limitations creates a proper context for interpreting the findings from this study and also gives insight into areas for future research focusing on specifically on customer e-satisfaction, loyalty and brand equity in a mobile app ecosystem.

ACKNOWLEDGMENT
The authors gratefully acknowledge the contributions of informants, colleagues, and all individuals who supported this research through their insights and engagement. Their involvement greatly enriched the quality and depth of this study.

DECLARATION OF CONFLICTING INTERESTS
The authors have declared no potential conflicts of interest concerning the study, authorship, and/or publication of this article.

REFERENCES

Aaker, D. A. (1991). Managing Brand Equity. Free Press. https://doi.org/10.1016/0148-2963(94)90009-4

Abu-Alhaija, A. S., Shanak, H. S. H., & Abu Allan, A. (2020). Relationship between customer satisfaction and customer loyalty: A review and future direction of its nature and approaches. *Eurasian Journal of Social Sciences*, *7*(4), 28–39.https://doi.org/10.15604/ejss.2019.07.04.003

Anderson, R. E., & Srinivasan, S. S. (2003). E-Satisfaction and E-Loyalty: A Contingency Framework. *Psychology & Marketing*, *20*(2), 123-138. https://doi.org/10.1002/mar.10063

Bhattacherjee, A. (2001). Understanding Information Systems Continuance: An Expectation-Confirmation Model. *MIS Quarterly*, *25*(3), 351–370. https://doi.org/10.2307/3250921

Cronin, J. J., & Taylor, S. A. (1992). Measuring Service Quality: A Reexamination and Extension. *Journal of Marketing*, *56*(3), 55-68. https://doi.org/10.1177/002224299205600304

Daradkeh, F. M., Hassan, T. H., Palei, T., Helal, M. Y., Mabrouk, S., Saleh, M. I., ... & Elshawarbi, N. N. (2023). Enhancing Digital Presence for Maximizing Customer Value in Fast-Food Restaurants. *Sustainability*, *15*(7), 5690. https://doi.org/10.3390/su15075690

Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., … Wang, Y. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, *59*, 102168. https://doi.org/10.1016/j.ijinfomgt.2020.102168

Ganatra, V., Teoh, K. B., Sapian, N. B., Kee, D. M. H., Ud, N. A. M., Zulkepli, N. D., … Jaiswar, K. (2021). *Contributing factors to customer loyalty in fast-food restaurants: A study of KFC*. *Advances in Global Economics and Business Journal, 2*(2), 33–45. https://doi.org/10.51748/agebj.v2i2.33

Kao, T., & Lin, W. T. (2016). The relationship between perceived e-service quality and brand equity: A simultaneous equations system approach. *Computers in Human Behavior*, *57*, 208–218. https://doi.org/10.1016/j.chb.2015.12.006

Kee, D. M. H., Gan, Z. W., Chan, Y. Q., Lee, H. T., Tan, X. Y., & Lee, S. W. (2021b). Customer satisfaction and brand loyalty: A case study of Nestlé. *Advances in Global Economics and Business Journal*, *2*(1), 13-26. https://doi.org/10.51748/agebj.v2i1.24

Kee, D. M. H., Murthy, R., Ganasen, R., Lingam, R. R., & Chandran, R. (2021a). *The impact of marketing on customer loyalty: A study of Dutch Lady in Malaysia*. *International Journal of Accounting & Finance in Asia Pacific, 4*(3), 31–41. https://doi.org/10.32535/ijafap.v4i3.1203

Keller, K. L. (1993). Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing*, *57*(1), 1-22. https://doi.org/10.1177/002224299305700101

Krupka, Z., & Vlašić, G. (2022). Brand equity in the digital age. *Economic Research*, *35*(1), 277–302. https://doi.org/10.17818/EMIP/2022/1.13

Kuska, D. A. R., Wijayanto, H., & Santoso, A. (2023). Improving the e-satisfaction and e-loyalty based on e-trust and e-service quality on Shopee customers. *Journal of Consumer Sciences*, *9*(1), 22–39. https://doi.org/10.29244/jcs.9.1.22-39

Lee, Y. Y., Kee, D. M. H., Ang, V. W. N., Lee, L. X., Lee, S. M., & Ardel, M. R. (2024). Golden Arches Going Green: The Impact of McDonald's Sustainability Achievements on Public Image. *Advances in Global Economics and Business Journal*, *5*(1), 27-43. https://doi.org/10.51748/agebj.v5i1.89

Lee, Y. Y., Xia, K. P., Lee, S. Y., Lee, C. Y., Lee, H. S., Lee., W. Y., Lee, Y. L., Varun Kumaran, B., Ali, A. J. & Kee, D. M. H. (2025). Beauty beyond products: exploring the drivers of customer satisfaction in Malaysia's health and beauty retail sector. *International Journal of Accounting and Finance in Asia Pacific*, *8*(3), 402-419. https://doi.org/10.32535/ijafap.v8i3.4213

McDonald's Corporation. (n.d.). *McDonald's announces new targets to accelerate the growth of its loyalty membership through cloud technology*. https://corporate.mcdonalds.com/corpmcd/our-stories/article/mcd-announces-targets-development-loyalty-membership-cloud-tech.html

Morgan, R. M., & Hunt, S. D. (1994). The Commitment-Trust Theory of Relationship Marketing. *Journal of Marketing*, *58*(3), 20-38. https://doi.org/10.2307/1252308

Nguyen, T. D., Banh, U. U. T., Nguyen, T. M., & Nguyen, T. T. (2023). E-service quality: A literature review and research trends. In Intelligent Sustainable Systems: Selected Papers of WorldS4 2022 (pp. 47–62). Springer Nature Singapore. https://doi.org/10.1007/978-981-19-7660-5_5

Oliver, R. L. (1980). A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research*, *17*(4), 460-469. https://doi.org/10.1177/002224378001700405

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, *64*(1), 12–40. https://www.researchgate.net/publication/200827786_SERVQUAL_A_Multiple-item_Scale_for_Measuring_Consumer_Perceptions_of_Service_Quality

Pérez-Morón, J., Madan, S., Cheu, J. Y., Kee, D. M. H., Cheong, L. C., Chin, R., … García, A. P. M. (2022). *Effect of service quality and customer satisfaction on customer loyalty: A case study of Starbucks in Malaysia*. *International Journal of Tourism and Hospitality in Asia Pasific,* *5*(1), 62–74. https://doi.org/10.32535/ijthap.v5i1.1402

Pratama, N. H. (2021). The influence of digital marketing on brand equity mediating by brand awareness. *Diponegoro Journal of Management*, *10*(5). https://ejournal3.undip.ac.id/index.php/djom/article/view/32401

Putri, E., & Lestari, U. D. (2024). The effect of e-service quality on e-loyalty through e-satisfaction and e-trust. *International Journal of Economics, Finance and Management Sciences*. https://doi.org/10.55227/ijhess.v3i6.1047

Rita, P., Oliveira, T., & Farisa, A. (2019). The impact of e-service quality and customer satisfaction on customer behavior in online shopping. *Heliyon*, *5*(10), e02690. https://doi.org/10.1016/j.heliyon.2019.e02690

Singh, P., Ranjith, P. V., Fathihah, N., Kee, D. M. H., Nuralina, N., Nurdiyanah, N., & Nursyahirah, N. (2021). *Service quality dimension and customers' satisfaction: An empirical study of Tesco hypermarket in Malaysia*. *International Journal of Applied Business and International Management,* *6*(3), 102–114. https://doi.org/10.32535/ijabim.v6i3.1333

Swaid, S. I., & Wigand, R. T. (2009). Measuring the quality of e-service: Scale development and initial validation. *Journal of Electronic Commerce Research*, *10*(1), 13–28. https://www.researchgate.net/publication/228623561_Measuring_the_quality_of_E-service_Scale_development_and_initial_validation

Xia, J. K. P., Lee, L. Y. Y., Aryani, D. N., Cheah, Y. X., Chee, Y. X., Cheang, W. H., Chen, Y., Lunsa, V. A., Poddar, S. & Kee, D. M. H. (2025a). Determinants of customer experience and satisfaction among users of digital e-hailing service. *Asia Pacific Journal of Management and Education*, *8*(3), 373-389. https://doi.org/10.32535/apjme.v8i3.4259

Xia, J. K. P., Lee, L. Y. Y., Baliyan, M., Chong, Y. T., Chen, Z., Chong, C. L. C., Chin, Z. H., Aminullah, A., Kumar, S. & Kee, D. M. H. (2025b). Taste beyond the trend: How service quality drives customer loyalty in Malaysia's fast-service F&B Sector. *International Journal of Tourism and Hospitality in Asia Pacific*, *8*(3), 424–440. https://doi.org/10.32535/ijthap.v8i3.4206

Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science*, *30*(4), 362–375. https://doi.org/10.1177/009207002236911

Asia Pacific Journal of Management and Education (APJME)
Vol. 9 No. 2, pp.288-303, July, 2026
E-ISSN: 2655-2035 P-ISSN: 2685-8835
https://www.ejournal.aibpm.org/index.php/APJME

ABOUT THE AUTHOR(S)

1st Author
Louis Yong Yu Lee, a postgraduate student at the School of Management, Universiti Sains Malaysia. Alongside his curricular pursuits, he is actively involved in research activities as a research assistant. His areas of academic interest span corporate social responsibility, financial analysis, organizational behavior, human resource management, and corporate governance. His works have been published in leading journals, including *Corporate Social Responsibility and Environment Management* and *Energy Policy*. In addition to his research work, Mr. Louis is affiliated with the Association of International Business & Professional Management (AIBPM) and serves as its guest reviewer. ORCID ID: https://orcid.org/0009-0007-9183-6709

2nd Author
Yap Kai Sheng is currently an undergraduate student at Universiti Sains Malaysia. ORCID ID : https://orcid.org/0009-0004-8872-5619

3rd Author
Yap Wen Zhuo is currently an undergraduate student at Universiti Sains Malaysia.

4th Author
Yap Mei Ting is currently an undergraduate student at Universiti Sains Malaysia.

5th Author
Yeoh Ai Se is currently an undergraduate student at Universiti Sains Malaysia.

6th Author
Neha Gautam is currently an undergraduate student at IMS Ghaziabad - Business School.

7th Author
Abishek M is currently an undergraduate student at Presidency University

8th Author
Daisy Mui Hung Kee is an Associate Professor at the School of Management, Universiti Sains Malaysia. Her areas of interest are in Human Resource Management, Organizational Behavior, Work Values, Leadership, Entrepreneurship, and Psychosocial safety climate. Her current program of research focuses on Leadership and Psychosocial safety climate. She holds a PhD in Business and Management from the International Graduate School of Business, University of South Australia. She was the secretary of the Management Case Study Journal, Australia (2004-2006). She was the recipient of the Merdeka Award 2006 from the Australia Malaysia Business Council of South Australia (AMBCSA) by former South Australia Governor Sir Eric Neal (2006). The award recognizes the Most Outstanding Malaysian University students in South Australia. She earned her MBA from the School of Management, Universiti Sains Malaysia. She was awarded to the Dean's List for being one of the top MBA students (2003). Presently, she is an active academic and researcher supervising a number of MBA, MA, and PhD candidates with working experience across diverse industries. She has published a good number of journal papers during the course of her career. She has conducted a series of training sessions related to motivation and research at USM under the Professional and Personal Development (PPD) workshop. Email: daisy@usm.my. ORCID ID: https://orcid.org/0000-0002-7748-8230