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Factors Influencing Online Shopping Adoption Among Millennials in Melaka, Malaysia

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Abstract –

This study examines the factors that influence the adoption of online shopping among millennial consumers in Melaka. As digital technology and e-commerce platforms continue to evolve, understanding consumer behavior toward online purchasing has become essential for the long-term sustainability of businesses. The study focuses on four main determinants: perceived usefulness, perceived ease of use, trust, and attitude, which are derived from the Technology Acceptance Model (TAM). A quantitative research approach was applied using a structured questionnaire distributed to 200 respondents representing Generation Y consumers in Melaka. The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) through descriptive, correlation, and regression analyses. The findings indicate that perceived usefulness and trust have a significant influence on the adoption of online shopping, while perceived ease of use and attitude also contribute, although to a lesser extent. The results underscore the importance of enhancing website reliability, improving user experience, and fostering consumer trust to promote increased online shopping participation among millennials.

Keywords – Customer Satisfaction; Generation Y; Fast Food Industry; Service Quality; Food Quality

I. INTRODUCTION

The rapid advancement of information and communication technology has significantly transformed the way consumers shop, shifting their behavior from traditional physical stores to digital platforms. In Malaysia, this transformation has been accelerated by the increasing accessibility of the internet, mobile applications, and online payment systems (Moghavvemi et al., 2021). These developments have reshaped consumer preferences, encouraging more people to explore e-commerce as a convenient and time-saving alternative. The evolution of

technology has not only changed how businesses operate but also influenced how consumers perceive value and make purchasing decisions in an increasingly competitive digital marketplace (Asawawibul et al., 2025).

The millennial generation, also known as Generation Y, represents a key demographic group driving the growth of online shopping in Malaysia. This group is typically characterized by familiarity with technology, confidence in using digital tools, and a preference for fast and flexible shopping experiences (Malaysia Competition Commission, 2025). Millennials tend to seek convenience and personalization while expecting reliability and transparency from online sellers. However, despite their digital competence, many still express concerns about security, trust, and ease of navigation (Nguyen et al., 2024). These challenges may hinder their willingness to fully adopt online shopping platforms, making it important to examine the factors that influence their purchasing behavior.

The Technology Acceptance Model (TAM), introduced by Davis in 1989, provides a suitable theoretical foundation for understanding consumer behavior related to technology. The model suggests that two key factors — perceived usefulness and perceived ease of use — determine an individual's intention to adopt a particular technology. Over time, this model has been expanded by researchers to include additional variables, such as trust, attitude, and perceived risk (Yao et al., 2024). These additional dimensions help to explain the psychological and behavioral aspects that influence users' acceptance of online shopping systems.

Based on this theoretical perspective, the present study aims to identify and analyze the factors that influence the adoption of online shopping among millennials in Melaka. The focus is on four main variables: perceived usefulness, perceived ease of use, trust, and attitude. Melaka, as a state with a dynamic economy and growing exposure to digitalization, provides a relevant context for understanding how technology, consumer trust, and user perceptions interact in shaping e-commerce behavior. The findings of this study are expected to contribute to a deeper understanding of online shopping behavior among young consumers and to provide practical insights for businesses seeking to enhance their digital strategies.

II. METHOD

This study employed a quantitative research approach, utilizing a descriptive survey method. A structured questionnaire was designed to measure four independent variables—perceived usefulness, perceived ease of use, trust, and attitude—along with the dependent variable, online shopping adoption. The questionnaire employed a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5).

A total of 200 valid responses were obtained from millennial consumers aged between 25 and 40 years who reside in Melaka. Respondents were selected through convenience sampling to ensure participation from individuals with experience in online shopping activities. Data collection was carried out through an online survey form distributed via social media platforms and email.

The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics were used to summarize demographic profiles and key variables. Pearson correlation analysis was applied to determine the strength and direction of the relationships among variables. In contrast, multiple regression analysis was conducted to identify the most influential factors affecting online shopping adoption among millennials.

The use of this methodological approach allowed the researcher to quantify the relationships between the variables and provide empirical evidence to support the proposed research model. The results derived from the statistical analysis formed the basis for understanding consumer behavior and for developing recommendations aimed at improving e-commerce adoption among young consumers in Melaka.

III. RESULTS AND DISCUSSION

The descriptive analysis showed that the majority of respondents were active internet users who engaged in online shopping at least once a month. This finding reflects the growing reliance of millennials on digital platforms for purchasing goods and services, consistent with national trends reported by the Malaysia Competition Commission (2025). The mean scores across all four constructs—perceived usefulness, perceived ease of use, trust, and attitude—were above the midpoint of 3.0, indicating generally favorable perceptions among the respondents. Among these factors, perceived usefulness and trust achieved the highest mean scores, suggesting that millennials in Melaka place greater emphasis on the functional value and reliability of online shopping systems.

Correlation analysis revealed strong positive relationships between perceived usefulness, trust, and online shopping adoption ($r > 0.70$), while perceived ease of use and attitude demonstrated moderate yet significant correlations. This suggests that while convenience and user-friendliness play a role, consumers are more motivated by the perceived benefits and security of online platforms. These results align with those of Davis (1989) and Venkatesh and Davis (2000), who identified perceived usefulness as a primary determinant of technology adoption behavior.

Similarly, trust has been emphasized as a central factor in electronic commerce because consumers rely on confidence in online vendors to complete transactions safely (Handoyo, 2024).

The multiple regression analysis further confirmed that perceived usefulness ($\beta = 0.41$, $p < 0.01$) and trust ($\beta = 0.38$, $p < 0.01$) were the strongest predictors of online shopping adoption. Perceived ease of use ($\beta = 0.22$, $p < 0.05$) and attitude ($\beta = 0.18$, $p < 0.05$) also had significant but smaller effects. The overall model explained 67 percent of the variance in online shopping adoption ($R^2 = 0.67$), indicating a high level of predictive validity and model strength.

Table 1 presents the regression results for the key determinants influencing online shopping adoption among millennials in Melaka.

TABLE I. REGRESSION RESULTS

Variable	Standardized Beta (β)	t-value	Significance (p)
Perceived Usefulness	0.41	5.96	0.000
Trust	0.38	5.44	0.001
Perceived Ease of Use	0.22	3.27	0.002
Attitude	0.18	2.83	0.015
Model Summary	$R^2=0.67$	F=53.18	P<0.001

These findings are consistent with previous empirical studies that have demonstrated the dominant role of perceived usefulness and trust in shaping online shopping behavior (Baidoun & Salem, 2023). Perceived usefulness reflects the extent to which consumers believe that online shopping enhances the efficiency of their purchasing activities, offering advantages such as time savings, easy comparison, and convenience. Trust, on the other hand, remains a critical determinant of online transaction success. According to Kim et al. (2008), consumers are more likely to engage in e-commerce when they believe that the seller is credible, transactions are secure, and personal data are protected. For Malaysian millennials, who are digitally literate yet cautious, trust serves as a psychological assurance that mitigates the perceived risks associated with online purchases.

Although perceived ease of use and attitude were less influential, their significance supports the Technology Acceptance Model's assertion that user-friendliness and favorable perceptions enhance adoption intentions (Venkatesh & Davis, 2000). A system that is simple to navigate, visually appealing, and responsive can enhance consumers' overall attitudes toward online shopping, ultimately leading to increased engagement over time. As Morić et al. (2024) observed, the positive interaction between ease of use and consumer attitudes strengthens satisfaction and purchase intention, especially among young and educated users.

From a managerial perspective, these results underscore the importance of e-commerce businesses to continually improve the usability, reliability, and security of their platforms. Efforts to enhance website navigation, safeguard consumer data, and ensure transparency in pricing and delivery can strengthen customer trust and encourage repeat business. Furthermore, integrating customer feedback mechanisms and showcasing verified product reviews can improve credibility and perceived value. Building long-term trust relationships is essential for sustaining loyalty among millennial consumers who have a wide range of online shopping options and are highly responsive to brand reputation (Arizal et al., 2024).

IV. CONCLUSIONS

This study concludes that perceived usefulness and trust are the two most influential factors shaping the adoption of online shopping among millennial consumers in Melaka. These findings reaffirm the central role of perceived usefulness, which reflects how effectively online platforms meet consumers' needs and simplify their purchasing processes. Trust also emerged as a critical determinant, demonstrating that consumers' confidence in the security, privacy, and integrity of online transactions is essential to their willingness to engage in e-commerce. This outcome is consistent with previous research, which emphasizes that perceived value and trustworthiness form the foundation of sustainable online consumer relationships.

Perceived ease of use and attitude were also found to contribute significantly to online shopping adoption, although to a lesser extent. These factors indicate that millennials are influenced not only by the perceived benefits of online shopping but also by their overall experience and comfort when interacting with digital platforms. A user interface that is simple to navigate, visually appealing, and responsive enhances the perceived enjoyment and

efficiency of online purchasing. Consequently, e-commerce providers must ensure that their websites and applications are optimized for accessibility, speed, and visual clarity to encourage continued usage and customer loyalty.

From a managerial perspective, the findings suggest that e-commerce businesses should prioritize investments in website usability, data protection, and customer engagement strategies. Enhancing transaction transparency, providing accurate product information, and maintaining prompt customer service can help foster stronger trust among consumers. Furthermore, incorporating interactive features such as personalized recommendations, secure payment systems, and customer review mechanisms can create a more reliable and engaging shopping environment. Businesses targeting Generation Y consumers must also adapt to their evolving digital expectations by maintaining technological efficiency and building consistent, trustworthy brand identities.

For future research, it is recommended that scholars explore additional determinants such as social influence, perceived risk, and digital payment preferences, which are becoming increasingly relevant in today's e-commerce ecosystem. Expanding the study to include other demographic groups or geographical locations could provide comparative insights into consumer behavior patterns across Malaysia. As digital transformation continues to accelerate, understanding the interplay between technology, trust, and consumer psychology will be vital for enhancing the competitiveness and sustainability of the online retail sector.

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