

Customer Perception Of Online Marketplace Competitiveness In Malaysia: The Moderating Effect Of Trialability

Maria Selvi Dass¹, Md Gapar Md Johar²

¹Graduate School of Management, Management
and Science University, Malaysia.

E-mail: jonastraining@gmail.com

²Software Engineering and Digital Innovation Centre,
Management and Science University, Malaysia

E-mail: mdgapar@msu.edu.my

ABSTRACT

The phenomenon of online purchasing is rapidly gaining momentum. Observing the exponential growth of businesses in this trade indicates that there is still a vast untapped potential for online marketplace to thrive. The primary objective of this study was to investigate the influence of low complexity, security and privacy on online marketplace competitiveness, considering the moderating role of trialability. The advent of the internet has transformed the nature of trade, making online purchasing critical and directly associated with consumers. Data was collected from four hundred respondents via online social media groups who had experience using online marketplaces. The data analysis was conducted using SPSS and Smart PLS to evaluate the hypotheses. The research approach was deductive, and the study focused on quantitative methods. The results indicate that low complexity and security and privacy have a significant positive impact on, while trialability positively influences the relationship between low complexity and online marketplace competitiveness. Online marketplaces have revolutionized our lives, providing a seamless and optimal solution for our busy lifestyles. Moreover, this study contributes to knowledge and enhances our understanding of this topic. Although the study was conducted with earnest effort, it has certain limitations, mainly concentrating on online customers and overlooking conventional customers.

Key words: Online Marketplace Competitiveness, Low Complexity, Security and Privacy, Trialability, Customer Perception

INTRODUCTION

The proliferation of information and communication technologies has led to a tremendous surge in the population of internet users. This has revolutionized business practices, enabling online purchasing to emerge as an alternative option for consumers to perform purchases. Ecommerce sales is projected to reach \$5 trillion in the USA and will also reach \$ 27.33 trillion worldwide by the end of 2022 (M. Yuen 2022). However, the rapid recovery of in-store retail will cause a slowdown in the growth of ecommerce retail in the coming years. Consumers will resume visiting physical stores and expect retailers to provide tools that bridge the gap between digital and in-person shopping experiences (Kim, Libaque-Saenz and Park 2019).

Online marketplaces face a continuous challenge of attracting new online customers and retaining existing ones to accelerate sales growth. This paper specifically highlights the importance of being competitive with regards to existing online customers to achieve sales growth. This perspective aligns with the understanding that for internet-based businesses to thrive, regardless of their geographical location, retailers must find ways to reduce customer acquisition costs (Bowen and Morris 2019, Hoffman and Novak 2000).

Moreover, the process of acquiring new customers is costly, with expenses ranging up to five times higher compared to retaining existing customers (Kumar 2022). Additionally, repeat customers tend to spend approximately 67 percent more than new customers on average (Henry 2020). As a result, researchers have increasingly focused on the topic of online customer retention, recognizing it as a crucial factor for achieving competitive advantages (Antwi 2021, Beheraa, et al. 2020, Costa and Castro 2021) and a key determinant of success for online stores (Meilatinova 2021).

Online marketplace platform hosts need to explore ways to

enhance customer retention. It is beneficial to gain insights into customers' intentions to continue purchasing using online marketplace platforms to be competitive. However, it appears that the aspect of being competitive with regards to in-person shopping has received less attention in research studies despite the abundance of research on online shopping (Chetioui, Lebdaoui and Chetioui 2021, Jaller and Pahwa 2020, Melović, et al. 2021, Rita, Oliveira and Farisa 2019, Wai, et al. 2019). With the extensive potential in the realm of online purchasing, this study specifically examines the intention of consumers to continue using online marketplace for their purchases. We aim to develop and prove an integrated model of online shopping intention by exploring customer characteristics, insights after online purchases, the overall online purchasing experience, and the intention to continue shopping online. In the realm of consumer behavior and shopping, it is important to consider customer perceptions and experiences (Kaufmann and Vallade 2022), as well as psychographics that encompass aspects such as personality, and perceptions (Liu, et al. 2019). These factors play a crucial role in influencing consumer behavior. The importance of shopping, particularly in physical stores, has always attracted the interest of researchers. However, with the extensive acceptance of the internet, it becomes critical to investigate its prospective relevance in the circumstances of continued online marketplace adoption. While previous studies have examined the intention of users to adopt a technology (Chau, et al. 2019, Chiu and Cho 2021, Darmansyah, et al. 2020, Hu, et al. 2019, Leong, et al. 2021, Rahi, Khan and Alghizzawi 2021, Samar and Mazuri 2019, Saprikis, Avlogiaris and Katarachia 2020, Wang 2020), there remains a shortage of research focusing on the role of customer perception. This paper provides empirical findings that serve as a catalyst for further research in this field and contribute to advancing our understanding of continued online marketplace adoption.

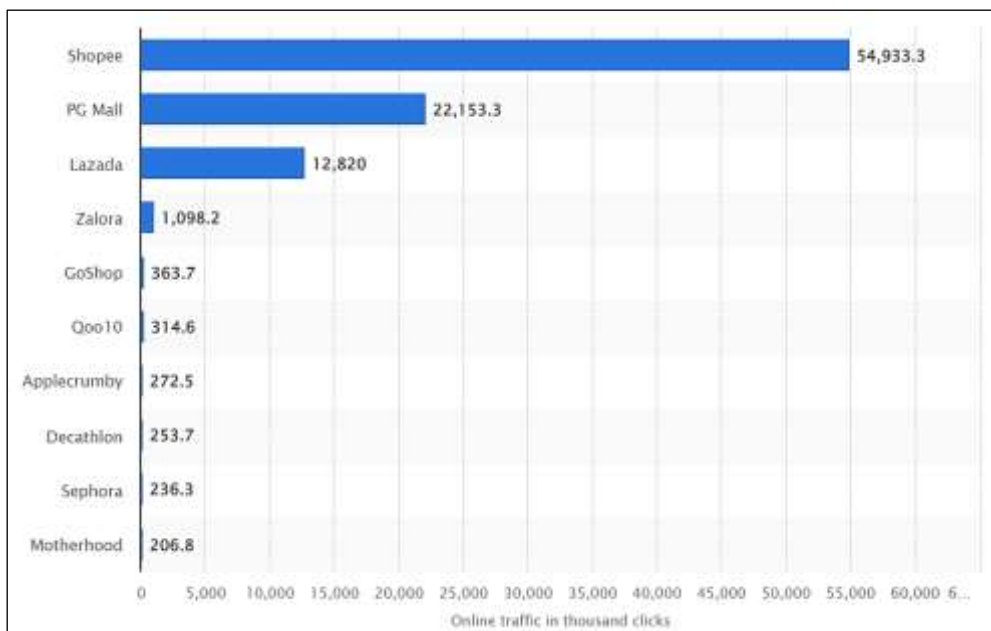
We aim to investigate customers' perception which includes online marketplaces' complexities and security and privacy features, and trialability features and online shopping experiences. Therefore, the research question we seek to address is "what are the relationships between low complexity, compatibility, trialability, and online marketplace competitiveness?"

LITERATURE REVIEW

Online Marketplace (OM)

In Malaysia, despite not having their headquarters located there, two major companies, namely Shopee and Lazada, dominate the online marketplace. According to Figure 1 from (Statista 2022), Shopee and Lazada hold the first and second positions, respectively. Additionally, several local companies have achieved positions in the top 10 categories. Shopee has become the leading online marketplace in Malaysia due to its ability to attract over two million reliable Made-in-Malaysia sellers (Yee 2022). On the other hand, Lazada's marketing initiatives have successfully resulted in a doubling of online marketplace merchants with local sellers (Lazada 2022). With the increasing accessibility of digital technologies for small and medium enterprises (SMEs), their user-friendly nature and cost efficiency bring about advantages such as reducing overall costs in complex management processes. Moreover, these technologies foster collaboration and synergy among customers, suppliers, and businesses (Berends, et al. 2014, Walsh, Przychodzen and Przychodzen 2017).

Figure 1: Top e-commerce Sites in Malaysia



Source: Statista (2022).

The foundation of this study is rooted in the principles of Diffusion of Innovations (DOI) theory. Diffusion pertains to the acceptance and integration of an innovation (such as a new technology, concept, or other novel idea) by individuals and groups (Lund, et al. 2020). Rogers characterizes the process of diffusion of innovations as an "information-seeking and information-processing endeavor," wherein individuals utilize information to assess whether they will embrace and implement the said innovation (Rogers 2003). DOI is widely regarded as one of the most influential social theories of the 20th and 21st centuries, and it may be considered the most influential based on the number of citations to DOI works. Despite being proposed over fifty years ago, the DOI theory remains relevant and is still widely used today, transcending both time and disciplinary boundaries (Lund, et al. 2020). DOI is chosen due to its ability in predicting individual's perception (technology complexity, security, and privacy) through its relative advantage of use when performing online shopping and the effect of trialability towards online shopping. As technology progresses, the use DOI has indicated its applicability in online learning (Taghizadeh, et al. 2022), purchasing sustainable products (Li, et al. 2021) (Li and Liu, 2014) and augmented reality use in mobile (Hung, Chang and Ma 2021); although these studies have combined DOI with additional theories. Due to the similarity between the two main components of Diffusion of Innovations (DOI), namely relative advantage and complexity, and the crucial components of TAM (Technology Acceptance Model) and TAM2 (extended Technology Acceptance Model) known as perceived usefulness and perceived ease of use, respectively (Kaur, et al. 2020), this empirical study aims to expand upon the DOI theory by investigating the influence of customer perceptions, specifically towards technology complexity, security, and privacy. Our research primarily focuses on examining the significance of customer insights, perceptions, and online shopping experiences with emphasis on online marketplaces' relative advantage towards competitiveness.

Customer Perception

Customer perception which pertains to the customer's perceived value of online marketplace incorporates the elements of low complexity, compatibility and trialability using the DOI framework. The two kinds of online shopping

perceived value are the utilitarian value and experiential value (Lee and Overby 2004). Rational and goal-oriented shopping behaviors can be achieved through intentional and efficient product acquisition, also known as the utilitarian value (Mohd Satar, Dastane and Ma'arif 2019). This study uses the complexity and compatibility attributes to investigate the utilitarian value of customer perception, linked to online shopping experience. Meanwhile, experiential value encompasses the combined advantages and trade-offs derived from the online shopping process, encompassing aspects like entertainment, escapism, interactivity, and visual appeal. These elements contribute to enhancing the overall shopping experience for customers (Mir 2021). This study uses the trialability attribute to investigate the experiential value of customer perception, linked to online shopping experience.

Relative Advantage

Pertains to the added advantage of the innovation, product, or service being evaluated is in comparison to its predecessors. For instance, it may offer greater cost-effectiveness, improved efficiency, or a higher level of prestige (Kaur, et al. 2020). Scholars have asserted that relative advantage, which aligns with the widely used measure of perceived usefulness in TAM (Longyara and Van 2015), exhibits a strong positive correlation of relative advantage in DOI with intentions to use various products and services (Kaur, et al. 2020). Using these definitions, this research examines the competitiveness of online shopping by referring to it as an individual's inclination or intention to engage in future online shopping, specifically focusing on individuals who have previously made purchases via online marketplace platforms.

OM Competitiveness

Enhancing customer repurchase intention is considered a valuable strategy for gaining a competitive edge, as it demands less effort and time to retain existing customers compared to acquiring new ones (Widodo 2021). This study considers the elements of customer perception towards OM competitiveness. Since the growing presence of business players has intensified the competition among online marketplace companies and online sellers (Shi, et al. 2018), OM competitiveness can be influenced by repurchase intention factors pertaining to customer perception such as

complexity, security and privacy and trialability (Trivedi and Yadav 2020).

Complexity

Complexity is, "the degree to which the technology is perceived to be difficult to understand and use" (Rogers 2003, p. 16). Complexity pertains to the utilization of internal characteristics, such as innovativeness, to enhance the knowledge of technology adoption (Min, So and Jeong 2019). The adoption rate tends to be slower for products that are more complicated in terms of understanding and usage (Shirowzhan, et al. 2020). As product complexity grows, there is a rise in consumer loyalty since many perceive that the trust established is a result of the assistance provided by the intricate nature of the product (Panigrahi, Azizan and Shamsi 2021). However, as technologies become more convoluted, the likelihood of customers rejecting the product also increases (Rogers 2003). Complexity in the online marketplace platform is perceived as needing additional time to understand the functionalities by the customers. This approach may reduce the platform's usage and customer satisfaction.

H₁: Low complexity will have a positive significant effect towards online marketplace competitiveness.

Compatibility

Compatibility refers to, "the degree to which using innovation is perceived as consistent with the existing socio-cultural values and beliefs, past and present experience, and needs for potential adopters" (Rogers 2003, p. 240). Numerous previous studies have reported a significant impact of compatibility on user technology acceptance (Al-Rahmi, et al. 2019, Ali, et al. 2019, Yuen, et al. 2021).

Security and Privacy

The relationship between compatibility pertaining to security and privacy aspects remains unexplored. Hence, this research aims to showcase a comprehensive perception of compatibility, specifically in relation to technology acceptance among online marketplace customers. The compatibility of online marketplace platforms aligns effectively with customers' "past values and beliefs."

H₂: Security and privacy will have a positive significant effect towards online marketplace competitiveness.

Trialability

Trialability is defined as, “the degree to which an innovation may be tested on a limited basis”(Rogers 2003, p. 257). The rate of diffusion increases as the degree of trialability increases. This is because customers can try out the online marketplace service, evaluate its value, and further decide to accept or reject it. By enabling consumers to try the services, evaluate it, and then make a purchase commitment based on their assessment (Masri, et al. 2021), trials contribute to the ease of product or service diffusion. Cheaper fees can be implemented to encourage trials that lead to purchases. Additionally, trialability further contributes to customer comfort, leading to a greater willingness to adopt the services by the consumers (Panigrahi, Azizan and Shamsi 2021). Trialability reduces the consumers' perceived risk of purchasing the service (Wulf, Westner and Strahringer 2022). A user wants to try the product before adopting it, even if many people are recommending it (Kebritchi 2010). Based on previous assertions, the trialability attribute of innovation plays an important role in predicting online marketplace competitiveness.

H₃: Trialability will have a positive significant effect towards online marketplace competitiveness.

H₄: Trialability moderates the relationship between low complexity and online marketplace competitiveness.

H₅: Trialability moderates the relationship between security and privacy and online marketplace competitiveness.

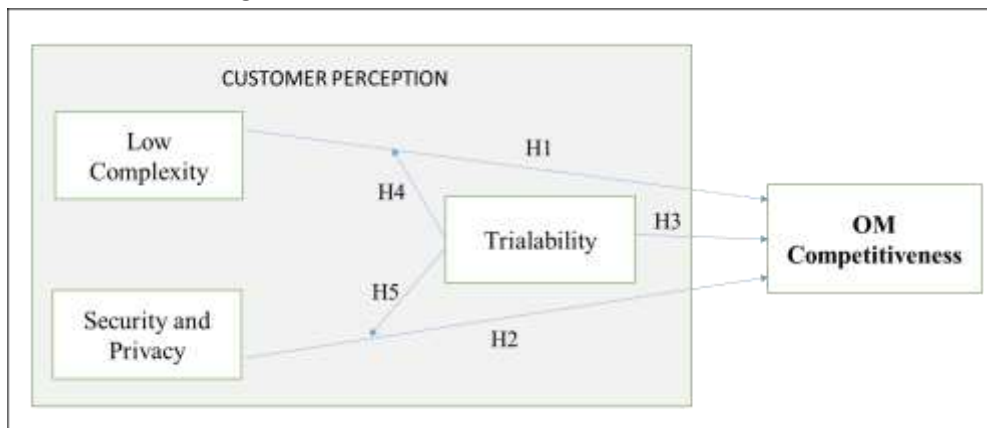
RESEARCH METHODOLOGY

Model Development

Based on DOI, complexity, security and privacy and trialability are used to explain towards the relative advantage of online marketplace competitiveness. OM competitiveness denotes the perceived superiority of online marketplace platforms over other e-commerce websites. This competitive advantage can attract more users, sellers, and customers due to its perceived superior features or services and lead to increased adoption and usage of the platform. Following DOI and considering selected variables used by (Ali, et al. 2019) with an online marketplace context,

we used selected key determinants of DOI which are complexity, security and privacy as independent variables to denote customer perception and trialability as moderating variable towards online marketplace competitiveness with the inclusion of demographics analysis of respondents as shown in Figure 2.

Figure 2: Theoretical Framework



Instrument

The questionnaire comprised of two sections. First section in the questionnaire included gender, marital status, age, highest educational level, monthly income, and mobile phone network, preferred online payment method and top 3 choices of online marketplaces for demographic data gathering. Second section comprised elements for measurement of independent, moderating, and dependent factors, with mandatory responses ranging from “Strongly disagree” to “Strongly agree” using Likert scale value of 1 to 5 adapted from survey questions framework from Atkinson (2007). The use of DOI framework for technology adoption towards OM Competitiveness is shown in Table 1 adopted from Aizstrauta, Ginters and Eroles (2015).

Table 1: Criteria for technology adoption evaluation

Construct	Elements	Criteria	Criteria description
OM Competitiveness	Relative advantage	Economic profitability	Economic profitability is an advantage of using this technology
		Low initial cost	Low initial cost is an advantage of using this technology
		Decrease in discomfort	Decrease in some kind of discomfort is an advantage of using this technology

		Social prestige	Use of this technology advances the social prestige of the user
		Savings of time/effort	Saving of time and/or effort is an advantage of using this technology
		Immediacy of the reward	The benefits of using technology are immediate and that is an advantage of using this technology
Security and Privacy	Compatibility	Social/cultural values and beliefs	The use of technology is positioned as compatible with social/cultural values and beliefs
		Previously introduced ideas	The use of technology is positioned as compatible with previously introduced ideas
		With client needs	The use of technology is positioned as compatible with client needs
Low Complexity	Complexity	Complexity of technology	The technology is positioned and should be perceived by potential users as easy
Trialability	Trialability	Trial availability	There are mechanisms (free downloads, trial versions, prototypes), that enable the users to easily try the technology

Data Collection

The study items were adapted from the literature with regards to customers with experience using online shopping services such as Shopee and Lazada who are members in Facebook Groups. These social media groups were chosen as they comprise of online marketplace customers who eagerly share products' reviews and suggest ways to use items purchased for the benefit of their members. To assess the competitiveness of online marketplaces on customer preferences, data collection via online survey forms was sent to users nationwide. This study uses a convenience sampling approach by utilizing a survey-based questionnaire. Convenience sampling has been used in earlier studies focused on online shopping (Mohamed, et al. 2014, Ramayah and Ignatius 2005), virtual banking (Liao, et al. 1999) and online channel (Lu, et al. 2011). This sampling technique has been extensively employed with primary data sets and proven to be cost-effective (Zikmund 2003). Out of the 850 questionnaires distributed among the respondents, 400 were deemed usable, resulting in a response rate of 47.06 percent. Furthermore, the adequacy of our sample

size was validated by adhering to the approach outlined by Comrey and Lee (2013).

RESULTS AND DISCUSSION

Data Analysis

In this study, SmartPLS 4 was employed to analyze the research model. Previous research has shown that SmartPLS is preferred over other tools due to its various advantages, such as the absence of normality and multicollinearity issues (Purwanto 2021, Sarstedt and Cheah 2019). Additionally, it can handle both simple and complex models effectively (K. K.-K. Wong 2019). The study utilized two models: the measurement model and the structural model.

Profile of respondents

The survey elements used for descriptive analyses to measure the frequency and range of populations are shown in Table 2. With the majority 54% of respondents being male, the highest age group logged is below between 25 to 45 years and the lowest recorded is 46 years and above. With regards to marital status, married respondents make up the majority at 51.5%. It is important to note that the majority 38% of respondents have selected degree as the highest education level while the majority 33.3% of respondents choose their monthly income of RM1,500-RM,999. 4G mobile phone usage was the most popular mobile phone feature of respondents garnering a total of 84.5% as their mobile phone network coverage. Pertaining to the preferred payment type, online banking fetched the highest percentage of respondents at 32% with credit card being a second close of 31.25%. It should be noted that Shopee, Lazada, and Zalora have made the top 3 spots on most popular online marketplace by receiving 26.4%, 24.1% and 17.4% of respondents respectively.

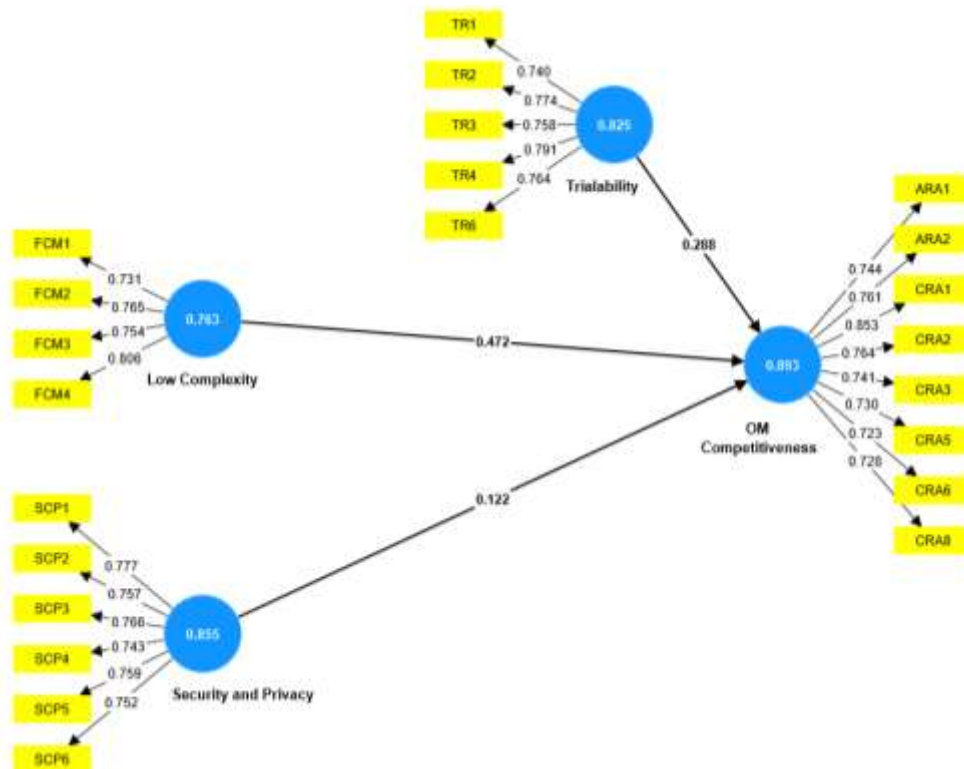
Table 2: Profile of respondents

Demographic Items	Frequency	Percentile
<i>Gender</i>		
Male	216	54.0%
Female	184	46.0%
<i>Marital status</i>		
Single	180	45.0%
Married	206	51.5%
Divorced	8	2.0%
Widowed	6	1.5%
<i>Age</i>		
Less than 25	143	35.8%
25 - 45	162	40.5%
46 and above	95	23.8%
<i>Highest education level</i>		
Secondary education	77	19.3%
College diploma	87	21.8%
University degree	152	38.0%
Masters	48	12.0%
Postgraduate cert/Diploma	29	7.3%
PhD	7	1.8%
<i>Monthly income</i>		
Less than RM1,500	76	19.0%
RM1,500-RM2,999	133	33.3%
RM3,000-RM4,599	73	18.3%
RM4,600 and above	118	29.5%
<i>Mobile phone network</i>		
3G	12	3.0%
4G	338	84.5%
5G	50	12.5%
<i>Preferred online payment method</i>		
Cash	21	5.3%
Credit card	125	31.3%
Debit card	69	17.3%
e-Wallet	56	14.0%
Online banking	128	32.0%
All listed methods	1	0.3%
<i>Top 3 choices of marketplace</i>		
Shopee	287	26.4%
Lazada	262	24.1%
Zalora	189	17.4%
GoShop	162	14.9%
Lelong.my	78	7.2%
Carousell	99	9.1%
Others	12	1.1%

Measurement Model

In the realm of measurement, the model analyzes the theoretical connections between items and a specific construct as shown in Figure 3. Within this measurement model, the outer model is employed to evaluate the robustness of the framework in terms of reliability and validity (Hair Jr, et al. 2017). The measurement model comprises three essential components which are content validity, convergent validity, and discriminant validity (Bhatti and Akram 2020). The measurement model is depicted in Figure 3 showing factors loading of all variable items and Cronbach's alpha.

Figure 3: Measurement Model



Content validity is met when the loading of a particular construct surpasses that of items belonging to other constructs within the same rows and columns (Rehman et al., 2019). Table 3 illustrates that reliability can be evaluated through composite reliability (CR), which should be greater than 0.7, and validity can be assessed using the average variance extracted (AVE), which should be at least 0.50. The table also demonstrates that both CR and AVE meet the suggested criteria (Hair Jr, et al. 2017).

Table 3: Convergent validity

Variables	Items	Factor Loading	AVE	CR	R ²
OM Competitiveness			0.572	0.895	0.555
	ARA1	0.744			
	ARA2	0.761			
	CRA1	0.853			
	CRA2	0.764			
	CRA3	0.741			
	CRA5	0.730			
	CRA6	0.723			
	CRA8	0.728			
Low Complexity			0.585	0.763	
	FCM1	0.731			
	FCM2	0.765			
	FCM3	0.754			
	FCM4	0.806			
Security and Privacy			0.576	0.864	
	SCP1	0.777			
	SCP2	0.757			
	SCP3	0.766			
	SCP4	0.743			
	SCP5	0.759			
	SCP6	0.752			
Triability			0.586	0.834	
	TR1	0.740			
	TR2	0.774			
	TR3	0.758			
	TR4	0.791			
	TR6	0.764			

The Fornell-Larcker criterion is used to ensure discriminant validity, where the square root of the average variance extracted (AVE) for each construct should exceed the correlation with any other construct within the framework (Fornell and Larcker 1981) as depicted in Table 4. Where else, the cross-loadings method is employed to establish discriminant validity in which the outer loading of each item associated with a specific construct should be higher than its loading on other constructs (Rasoolimanesh 2022) as shown in Table 5.

Table 4: Discriminant validity using Fornell-Larcker criterion

Variables	LC	OMC	SP	TR
Low Complexity (LC)	0.765			
OM Competitiveness (OMC)	0.673	0.756		
Security and Privacy (SP)	0.481	0.533	0.759	
Triability (TR)	0.494	0.599	0.638	0.766

Table 5: Discriminant validity using cross loadings method

Variables	Items	LC	OMC	SP	TR
OM	ARA1	0.579	0.744	0.378	0.416
Competitiveness (OMC)	ARA2	0.563	0.761	0.401	0.452
	CRA1	0.492	0.853	0.456	0.555
	CRA2	0.428	0.764	0.307	0.355
	CRA3	0.526	0.741	0.402	0.471
	CRA5	0.431	0.730	0.422	0.512
	CRA6	0.479	0.723	0.400	0.369
	CRA8	0.545	0.728	0.436	0.464
	Low Complexity (LC)	FCM1	0.731	0.548	0.370
FCM2		0.765	0.544	0.368	0.370
FCM3		0.754	0.468	0.298	0.319
FCM4		0.806	0.486	0.429	0.417
Security and Privacy (SP)	SCP1	0.389	0.515	0.777	0.450
	SCP2	0.370	0.304	0.757	0.522
	SCP3	0.378	0.351	0.766	0.498
	SCP4	0.370	0.371	0.743	0.482
	SCP5	0.342	0.413	0.759	0.468
	SCP6	0.340	0.410	0.752	0.507
Trialability (TR)	TR1	0.360	0.396	0.493	0.740
	TR2	0.347	0.369	0.425	0.774
	TR3	0.385	0.540	0.529	0.758
	TR4	0.344	0.396	0.486	0.791
	TR6	0.430	0.529	0.486	0.764

Structural Model

The structural model (inner model) includes the discussion of both direct and indirect hypotheses. To assess the significance of the loadings and path coefficients in the model, the authors suggest performing bootstrap analysis with 5000 subsamples (Hair Jr, et al. 2017). This method is considered effective in establishing the statistical significance of the relationships in the model. Figure 4 shows bootstrap analysis values that portray significance of relationships.

Figure 4: Structural Model without moderator

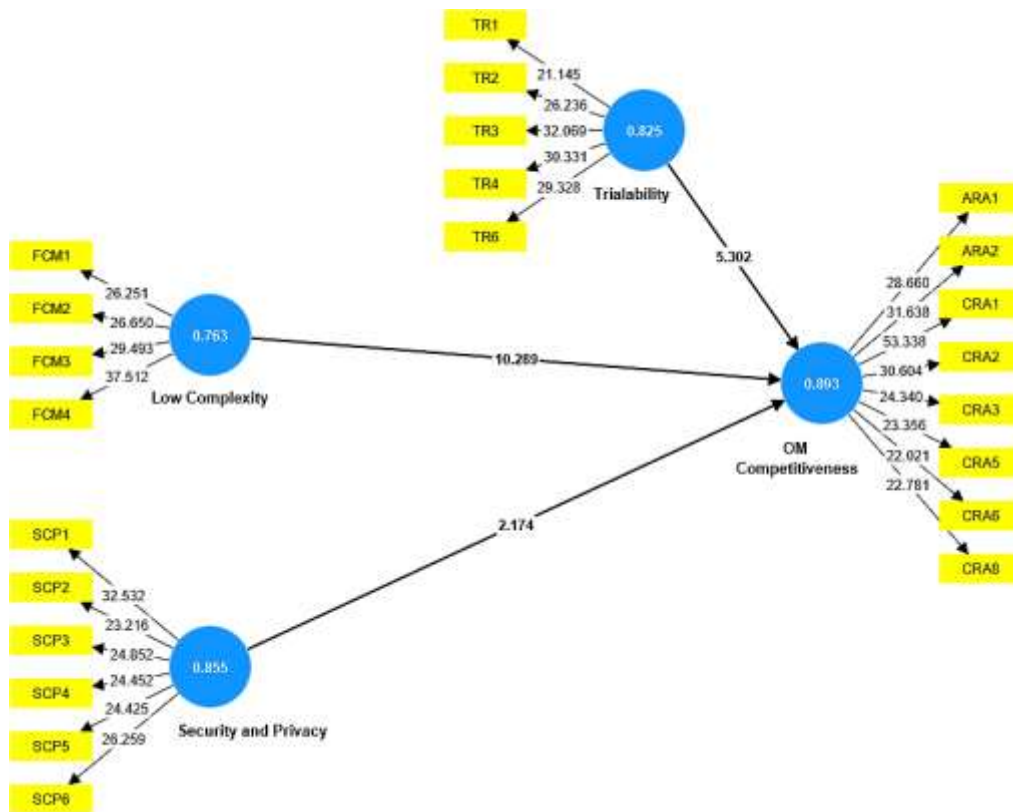


Table 6 demonstrates the three direct hypotheses between dependent and independent variables. The hypotheses tests revealed significant positive effect of low complexity on OM competitiveness (H_1 : Low Complexity \rightarrow OM Competitiveness, $\beta = 0.472$, $t = 10.289$, $p = 0.000$). This is justified with prior studies that shows the negative relationships between complexity and perceived usefulness towards Uber mobile application adoption demanding fewer complex functions (Min, So and Jeong 2019). The significant positive effect of security and Privacy on OM competitiveness (H_2 : Security and Privacy \rightarrow OM Competitiveness, $\beta = 0.122$, $t = 2.174$, $p = 0.000$) is further justified with prior study that reaffirms the positive significance of security towards mobile wallet adoption (Shaw, Eschenbrenner and Brand 2022). Furthermore, the tests also revealed significant positive effect of trialability on OM competitiveness (H_3 : Trialability \rightarrow OM Competitiveness, $\beta = 0.288$, $t = 5.302$, $p = 0.000$). Prior studies justify the significance of trialability towards adoption and continued use of technology (Panigrahi, Azizan and Shamsi 2021, Wulf, Westner and Strahringer 2022). Hence, H_1 , H_2 and H_3 are supported and accepted.

Table 6: Hypotheses testing of direct relationships

Hypotheses Paths	Beta value	Sample mean	Standard deviation	T-values	P-values	Results
H ₁ : Low Complexity -> OM Competitiveness	0.472	0.471	0.046	10.289	0.000	Significant
H ₂ : Security and Privacy -> OM Competitiveness	0.122	0.126	0.056	2.174	0.030	Significant
H ₃ : Trialability -> OM Competitiveness	0.288	0.287	0.054	5.302	0.000	Significant

There are two indirect hypotheses where the moderating effect is tested as depicted in Figure 5. Referring to Table 7, the moderating effect of trialability on the relationship between low complexity and OM competitiveness is significant (H₄: Trialability * Low Complexity ---> OM Competitiveness, $\beta = -0.101$, $t = 2.310$, $p = 0.021$) and is accepted. The simple slope analysis depicted in Figure 6 shows the significance whereby one standard deviation increase in trialability would cause $0.472 + (-0.101)$ change in relationship between low complexity and OM competitiveness. Additionally, one standard deviation decrease in trialability would cause $0.472 - (-0.101)$ change in relationship between low complexity and OM competitiveness. Hence, trialability positively moderates the relationship between low complexity and OM competitiveness. Meanwhile, the moderating effect of trialability on the relationship between security and privacy and OM competitiveness is insignificant (H₅: Security and Privacy * Low Complexity ---> OM Competitiveness, $\beta = 0.029$, $t = 0.680$, $p = 0.497$) is not accepted. Delving in the realm of trust as part of security and privacy, prior study has shown that privacy enablement does not influence the use of technology which relates to the insignificant moderation effect of trialability (Wong, et al. 2023). Additionally, this shows that OM customers are more concerned on the ease of use of the online platform related to added perks when purchasing online rather than being anxious on how their private information is available online. As shown in Table 7, H₄ is supported and accepted while H₅ is not supported and rejected.

Figure 5: Structural Model with moderator

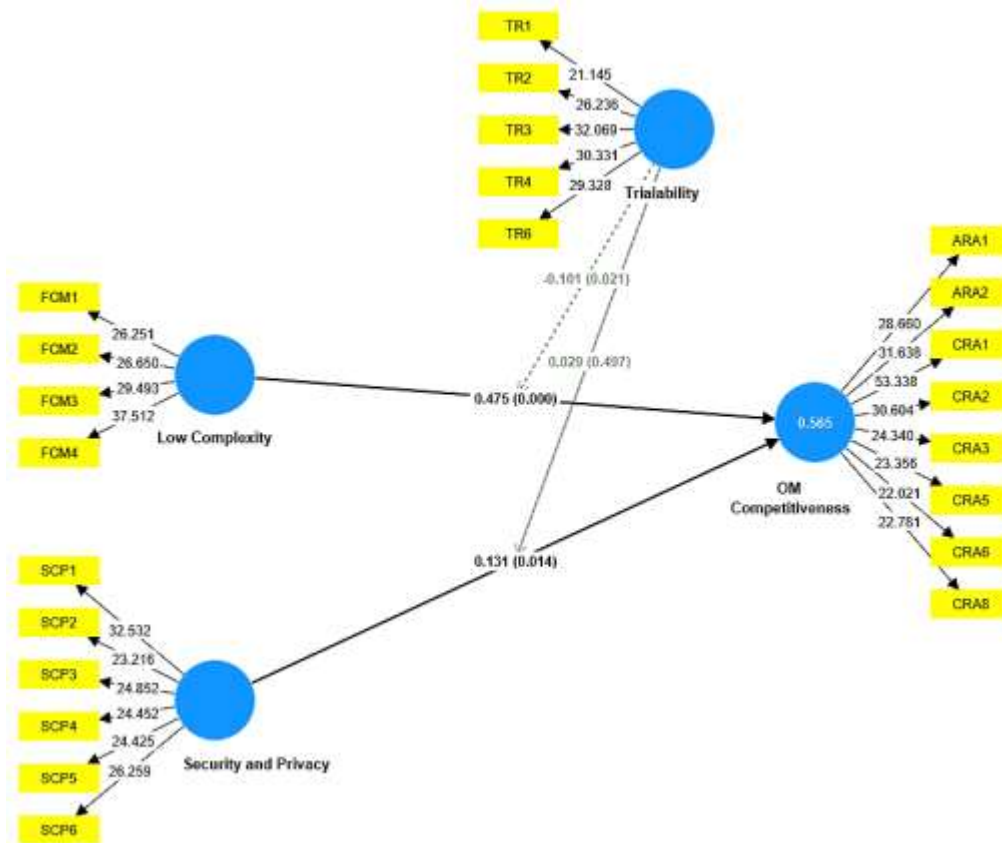
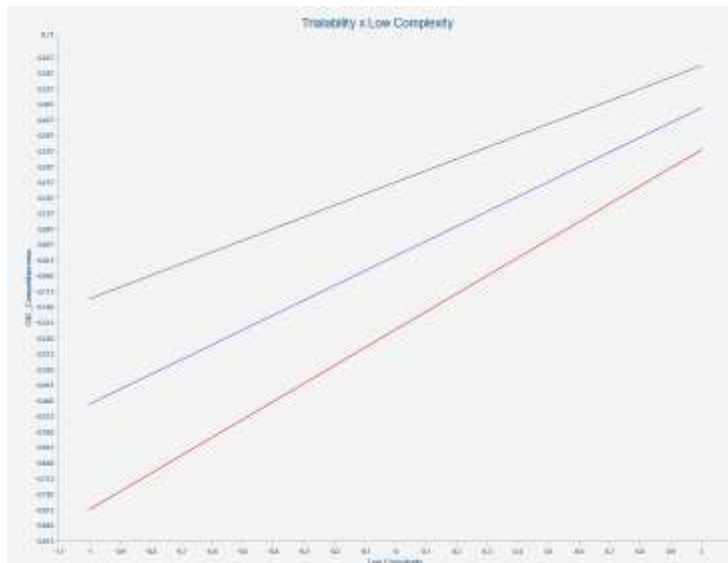


Table 7: Hypotheses testing of indirect relationships

Hypotheses Paths	Beta value	Sample mean	Standard deviation	T-values	P-values	Results
H ₄ : Trialability x Low Complexity -> OM Competitiveness	-0.101	-0.099	0.044	2.310	0.021	Significant
H ₅ : Trialability x Security and Privacy -> OM Competitiveness	0.029	0.027	0.043	0.680	0.497	Insignificant

Figure 6: Simple slope analysis: moderating effect of trialability



CONCLUSION

The method of sharing information has undergone significant transformations both at the domestic and global levels. E-commerce has revolutionized our lives and provided a seamless solution towards enhancing user experiences. Moreover, this research has contributed valuable insights to the understanding of the deductive approach and employed a quantitative methodology. The primary objective of this study was to investigate how low complexity, security and privacy impact online marketplace competitiveness while also considering the moderating role of trialability.

This study contributes to the field of OM competitiveness. However, there exist certain limitations in whereby the focused respondents were solely online marketplace customers which disregarded conventional shoppers. Future studies should consider both online and conventional customers and explore other relevant factors. Additionally, as this study utilized moderators, any upcoming research could consider further research on mediators as well.

The considerable significance of this study offers a wealth of insights that can be utilized for governmental decision-making, policy development, and guiding online marketplace merchants. By specifically addressing low complexity and trialability, it has the potential to enhance OM competitiveness. The valuable practical suggestions for upcoming OM merchants hold significant importance for platform providers and merchants seeking motivation in this domain. Low complexity, security and privacy, trialability and online marketplace competitiveness are the variables of current research and hence enables the opportunity for upcoming researchers who want to study and are further interested in this area.

REFERENCES

- Aizstrauta, Dace, Egils Ginters, and Miquel-Angel Piera Eroles. 2015. "Applying Theory of Diffusion of Innovations to Evaluate Technology Acceptance and Sustainability." *Procedia Computer Science* 43: 69 – 77 .
- Ali, Muhammad, Syed Ali Raza, Chin Hong Puah, and Hanudin Amin. 2019. "Consumer acceptance toward takaful in Pakistan: An application of diffusion of innovation

theory." *International Journal of Emerging Markets* 620-638.

Al-Rahmi, Waleed Mugahed, Noraffandy Yahaya, Ahmed A. Aldraiweesh, Mahdi M. Alamri, Nada Ali Aljarboa, Uthman Alturki, and Abdulmajeed A. Aljeraiwi. 2019. "Integrating technology acceptance model with innovation diffusion theory: An empirical investigation on students' intention to use E-learning systems." *IEEE* 26797-26809.

Ambler, Scott W. 2020. *The Criteria for Determining Whether a Team is Agile*.
<http://www.agilemodeling.com/essays/agileCriteria.htm>

Antwi, Samuel. 2021. "'I just like this e-Retailer': Understanding online consumers repurchase intention from relationship quality perspective." *Journal of Retailing and Consumer Services* 1-6.

Arbaugh, J.B. 2010. *Online and Blended Business Education for the 21st Century*. Chandos Publishing.

Atkinson, Nancy L. 2007. "Developing a Questionnaire to Measure Perceived Attributes of eHealth Innovations." *Health Behaviour* 31(6): 612-621.

Attuquayefio, Samuel NiiBoi, and Hillar Addo. 2014. "Using the UTAUT model to analyze students' ICT adoption." *International Journal of Education and Development using Information and Communication Technology* Vol10(3): pp. 75-86 .

Beheraa, Rajat Kumar, Angappa Gunasekaran, Shivam Gupta, Shampy Kamboj, and Pradip Kumar Bala. 2020. "Personalized digital marketing recommender engine." *Journal of Retailing and Consumer Services* 1-24.

Berends, Hans, Mariann Jelinek, Isabelle Reymen, and Rutger Stultiëns. 2014. "Product Innovation Processes in Small Firms: Combining Entrepreneurial Effectuation and Managerial Causation." *Journal of Product Innovation Management* 31 (3): 410-637.

Bhatti, Anam, and Hamza Akram. 2020. "The Moderating Role Of Subjective Norms Between Online Shopping Behaviour And Its Determinants." *International Journal of Social Sciences and Economic Review* 1-9.

Bowen, Robert, and Wyn Morris. 2019. "The Digital Divide: Implications for Agribusiness and Entrepreneurship. Lessons from Wales." *Journal of Rural Studies* 75-84.

- Charness, Neil, and Walter R Boot. 2016. "Technology, Gaming, and Social Networking." In *Handbook of the Psychology of Aging (Eighth Edition)*, by K. Warner Schaie and Sherry L. Willis, 389-407. Academic Press.
- Chau, Ka Yin, Michael Huen Sum Lam, Man Lai Cheung, EJoe Kar Ho Tso, Stuart W. Flint, David R. Broom, Gary Tse, and Ka Yiu Lee. 2019. "Smart technology for healthcare: Exploring the antecedents of adoption intention of healthcare wearable technology." *Health psychology research* 33-39.
- Chetioui, Youssef, Hind Lebdaoui, and Hajar Chetioui. 2021. "Factors influencing consumer attitudes toward online shopping: the mediating effect of trust." *EuroMed Journal of Business* 544-563.
- Chiu, Weisheng, and Heetae Cho. 2021. "The role of technology readiness in individuals' intention to use health and fitness applications: a comparison between users and non-users." *Asia Pacific Journal of Marketing and Logistics* 807-825.
- Clarke, Piers. 2019. Fixed vs Growth Mindset Questionnaire . <http://slideplayer.com/slide/15894078/>.
- Comrey, Andrew L., and Howard B. Lee. 2013. *A First Course in Factor Analysis*. United States: Taylor & Francis.
- Costa, Joana, and Rafael Castro. 2021. "SMEs Must Go Online—E-Commerce as an Escape Hatch for Resilience and Survivability." *Journal of Theoretical and Applied Electronic Commerce Research* 3043–62.
- Cullins, Ashley. 2022. Fixed Mindset vs. Growth Mindset Examples. Jul 9. Accessed May 23, 2023. <https://biglifejournal.com/blogs/blog/fixed-mindset-vs-growth-mindset-examples>.
- Darmansyah, Darmansyah, Bayu Arie Fianto, Achsanah Hendratmi, and Primandanu Febriyan Aziz. 2020. "Factors determining behavioral intentions to use Islamic financial technology: Three competing models." *Journal of Islamic Marketing* 794-812.
- Fornell, Claes, and David F. Larcker. 1981. "Evaluating structural equation models with unobservable variables and measurement error." *Journal of marketing research* 39-50.
- Hair Jr, Joseph F., G.Thomas M. Hult, Christian M. Ringle, and Marko, Sarstedt. 2017. *A primer on partial least squares structural equation modeling (PLS-SEM)*. California: Sage publications.

- Henry, Tabansi E. 2020. LinkedIn. June 1. Accessed June 19, 2023. <https://www.linkedin.com/pulse/6-reasons-why-repeat-customers-better-than-new-henry-tabansi>.
- Ho, Jonathan C., Chong-Guang Wu, Chung-Shing Lee, and Thanh-Thao T. Pham. 2020. "Factors affecting the behavioral intention to adopt mobile banking: An international comparison." *Technology Analysis & Strategic Management* 1-9.
- Hoffman, Donna L., and Thomas P. Novak. 2000. Harvard Business Review. June. Accessed June 19, 2023. <https://hbr.org/2000/05/how-to-acquire-customers-on-the-web>.
- Hu, Zhongqing, Shuai Ding, Shizheng Li, Luting Chen, and Shanlin Yang. 2019. "Adoption intention of fintech services for bank users: An empirical examination with an extended technology acceptance model." *Symmetry* 1-16.
- Hung, Shiu-Wan, Che-Wei Chang, and Yu-Chen Ma. 2021. "A new reality: Exploring continuance intention to use mobile augmented reality for entertainment purposes." *Technology in Society* 1-8.
- Jaller, Miguel, and Anmol Pahwa. 2020. "Evaluating the environmental impacts of online shopping: A behavioral and transportation approach." *Transportation Research Part D: Transport and Environment* 1-15.
- Kaufmann, Renee, and Jessalyn I. Vallade. 2022. "Exploring connections in the online learning environment: student perceptions of rapport, climate, and loneliness." *Interactive Learning Environments* 1794-1808.
- Kaur, Puneet, Amandeep Dhir, Rahul Bodhi, Tripti Singh, and Mohammad Almotairi. 2020. "Why do people use and recommend m-wallets?" *Journal of Retailing and Consumer Services* 102091.
- Kebritchi, Mansureh. 2010. "Factors affecting teachers' adoption of educational computer games: A case study." *British Journal of Educational Technology* 256-270.
- Kim, Eunhye, Christian Fernando Libaque-Saenz, and Myeong-Cheol Park. 2019. "Understanding Shopping Routes of Offline Purchasers: Selection of Search-Channels (Online vs. Offline) and Search-Platforms (Mobile vs. PC) Based on Product Types." *Service Business* 305–338.
- Kumar, Saravana. 2022. Forbes. December 12. Accessed June 19, 2023. <https://www.forbes.com/sites/forbesbusinesscouncil/2>

022/12/12/customer-retention-versus-customer-acquisition/?sh=158617d91c7d.

- Lazada. 2022. Lazada marks 10 epic years of supporting local entrepreneurs. April 9. Accessed May 23, 2023. <https://www.freemalaysiatoday.com/category/leisure/money/2022/04/09/lazada-marks-10-epic-years-of-supporting-local-entrepreneurs/>.
- Lee, Eun-Ju, and Jeffrey W. Overby. 2004. "Creating Value for Online Shoppers: Implications for Satisfaction and Loyalty." *The Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior* .
- Lee, Younghwa, Kenneth A. Kozar, and Kai R.T. Larsen. 2003. "The Technology Acceptance Model: Past, Present, and Future." *Communications of the Association for Information Systems* 12(50).
- Leong, Choi-Meng, Kim-Lim Tan, Chin-Hong Puah, and Shyh-Ming Chong. 2021. "Predicting mobile network operators users m-payment intention." *European Business Review* 104-126.
- Li, Lixu, Zhiqiang Wang, Yina Li, and Anni Liao. 2021. "Impacts of consumer innovativeness on the intention to purchase sustainable products." *Sustainable Production and Consumption* 774-786.
- Liao, Shaoyi, Yuan Pu Shao, Huaiqing Wang, and Ada Chen. 1999. "The adoption of virtual banking: an empirical study." *International journal of information management* 63-74.
- Liu, Hui, Yinghui Huang, Zichao Wang, Kai Liu, Xiangen Hu, and Weijun Wang. 2019. "Personality or value: A comparative study of psychographic segmentation based on an online review enhanced recommender system." *Applied Sciences* 1-28.
- Longyara, Toyyebe, and Hung Trong Van. 2015. "Diffusion of Innovation in Asian: A Study of Mobile NFC (Near Field Communication) Payment in Korea and Thailand." *International Journal of Managerial Studies and Research* 36-42.
- Lu, Yaobin, Yuzhi Cao, Bin Wang, and Shuiqing Yang. 2011. "A study on factors that affect users' behavioral intention to transfer usage from the offline to the online channel." *Computers in Human Behavior* 355-364.
- Lund, Brady D., Isaiah Omame, Solomon Tijani, and Daniel Agbaji. 2020. "Perceptions toward artificial intelligence among academic library employees and alignment with the

diffusion of innovations' adopter categories." *College & Research Libraries* 865-882.

- Masri, Ni Wayan, Jun-Jer You 3, Athapol Ruangkanjanases, and Shih-Chih Chen. 2021. "The Effects of Customer Learning and Shopping Value on Intention Purchase and Reuse in a Digital Market: The Institutional Trust–Commitment Perspective." *Sustainability* 1-25.
- Meilatinova, Nina. 2021. "Social commerce: Factors affecting customer repurchase and word-of-mouth intentions." *International Journal of Information Management* 1-12.
- Melović, Boban, Damir Šehović, Vesna Karadžić, Marina Dabić, and Dragana Ćirović. 2021. "Determinants of Millennials' behavior in online shopping–Implications on consumers' satisfaction and e-business development." *Technology in society* 1-14.
- Min, Somang, Kevin Kam Fung So, and Miyoung Jeong. 2019. "Consumer adoption of the Uber mobile application: Insights from diffusion of innovation theory and technology acceptance model." *Journal of Travel & Tourism Marketing* 770-783.
- Mir, Imran Anwar. 2021. "Self-Escapism Motivated Online Shopping Engagement: A Determinant of Users' Online Shopping Cart Use and Buying Behavior." *Internet Commerce* 40–73.
- Mohamed, Norshidah, Ramlah Hussein, Nurul Hidayah Ahmad Zamzuri, and Hanif Haghshenas. 2014. "Insights into individual's online shopping continuance intention." *Industrial Management & Data* 1453-1476.
- Mohd Satar, Nurhizam Safie, Dr Omkar Dastane, and Muhamad Yusnorizam Ma'arif. 2019. "Customer value proposition for E-Commerce: A case study approach." *International Journal of Advanced Computer Science and Applications* 454-458.
- Panigrahi, Shrikant, Noor Azlinna Binti Azizan, and Ibrahim Rashid Al Shamsi. 2021. "Product innovation, customer satisfaction, and brand loyalty of using smartphones among university students: PLS–SEM approach." *Indian Journal of Marketing* 8-25.
- Purwanto, Agus. 2021. "Education research quantitative analysis for little respondents: comparing of Lisrel, Tetrad, GSCA, Amos, SmartPLS, WarpPLS, and SPSS." *Jurnal Studi Guru Dan Pembelajaran* 335-350.
- Rahi, Samar, Mubbsher Munawar Khan, and Mahmoud Alghizzawi. 2021. "Extension of technology continuance

theory (TCT) with task technology fit (TTF) in the context of Internet banking user continuance intention."

International Journal of Quality & Reliability Management 986-1004.

- Ramayah, T., and Joshua Ignatius. 2005. "Impact of perceived usefulness, perceived ease of use and perceived enjoyment on intention to shop online." *ICFAI Journal of Systems Management* 36-51.
- Rasoolimanesh, S. Mostafa. 2022. "Discriminant validity assessment in PLS-SEM: A comprehensive composite-based approach." *Data Analysis Perspectives Journal* 1-8.
- Rehman, Shafique Ur, Anam Bhatti, Rapih Mohamed, and Hazeline Ayoup. 2019. "The moderating role of trust and commitment between consumer." *Journal of Global Entrepreneurship Research* 1-25.
- Rita, Paulo, Tiago Oliveira, and Almira Farisa. 2019. "The impact of e-service quality and customer satisfaction on customer behavior in online shopping." *Heliyon* 1-14.
- Rogers, Everett M. 2003. *Diffusion of Innovations*. New York: Free Press.
- Samar, Rahi, and Abd Ghani Mazuri. 2019. "Does gamified elements influence on user's intention to adopt internet banking with integration of UTAUT and general self-confidence?" *International Journal of Business Excellence* 394-414.
- Santoso, Dwipuspa Ramadhanti, Putu Wuri Handayani, and Fatimah Azzahro. 2022. "The Resistance to Adopting OnlineMarketplace: The Influence of Perceived Riskand Behavioral Control of Small and MediumEnterprises in Indonesia." *CommIt Journal* 16 (1): 53-68.
- Saprikis, Vaggelis, Giorgos Avlogiaris, and Androniki Katarachia. 2020. "Determinants of the intention to adopt mobile augmented reality apps in shopping malls among university students." *ournal of Theoretical and Applied Electronic Commerce Research* 491-512.
- Sarstedt, Marko, and Jun-Hwa Cheah. 2019. "Partial least squares structural equation modeling using SmartPLS: a software review." *Journal of Marketing Analytics* 196–202.
- Shaw, Norman, Brenda Eschenbrenner, and Benedikt M. Brand. 2022. "Towards a Mobile App Diffusion of Innovations model: A multinational study of mobile wallet adoption ." *Journal of Retailing and Consumer Services* 1-12.

- Shi, Si, Ren Mu, Lin Lin, Yang Chen, Gang Kou, and Xue-Jiao Chen. 2018. "The impact of perceived online service quality on swift guanxi: Implications for customer repurchase intention." *Internet Research* 432-455.
- Shirowzhan, Sara, Samad ME Sepasgozar, David J. Edwards, Heng Li, and Chen Wang. 2020. "BIM compatibility and its differentiation with interoperability challenges as an innovation factor." *Automation in Construction* 1-18.
- Statista. 2022. Malaysia: Leading e-commerce sites by monthly traffic 2022. November 23.
<https://www.statista.com/statistics/869640/malaysia-top-10-e-commerce-sites/#:~:text=Most%20visited%20e-commerce%20sites%20in%20Malaysia%20Q2%202022%2C,the%20country%2C%20followed%20by%20PG%20Mall%20and%20Lazada.>
- Taghizadeh, Seyedeh Khadijeh, Syed Abidur Rahman, Davoud Nikbin, Mirza Mohammad Didarul Alam, Lidia Alexa, Choo Ling Suan, and Shirin Taghizadeh. 2022. "Factors influencing students' continuance usage intention with online learning during the pandemic: a cross-country analysis." *Behaviour & Information Technology* 1998-2017.
- Trivedi, Shrawan Kumar, and Mohit Yadav. 2020. "Repurchase intentions in Y generation: mediation of trust and e-satisfaction." *Marketing Intelligence & Planning* 401-415.
- Wai, Kok, Dr Omkar Dastane, Zainudin Johari, and Nurlida Binti Ismail. 2019. "Perceived risk factors affecting consumers' online shopping behaviour." *The Journal of Asian Finance, Economics and Business* 246-260.
- Walsh, Grace Sheila, Justyna Przychodzen, and Wojciech Przychodzen. 2017. "Supporting the SME commercialization process: the case of 3D printing platforms." *Small Enterprise Research* 24 (3): 257-273.
- Wang, Yunwen. 2020. "Humor and camera view on mobile short-form video apps influence user experience and technology-adoption intent, an example of TikTok (DouYin)." *Computers in Human Behavior* 1-9.
- Widodo, Rintis Eko. 2021. "The roles of customer delight as mediating in building repurchase intention based on electronic service quality and system quality in online marketplace." *International Journal of Business and Management Invention* 22-28.

- Wong, Ken Kwong-Kay. 2019. Mastering partial least squares structural equation modeling (PLS-Sem) with Smartpls in 38 Hours. Bloomington: IUiverse.
- Wong, Lai-Wan, Garry Wei-Han Tan, Keng-Boon Ooi, and Yogesh Dwivedi. 2023. "The role of institutional and self in the formation of trust in artificial intelligence technologies." Internet Research.
- Wulf, Frederik, Markus Westner, and Susanne Strahringer. 2022. "We have a platform, but nobody builds on it—what influences Platform-as-a-Service post-adoption?" International Journal of Information Systems and Project Management 49-70.
- Yee, Elizabeth. 2022. 2 Million Local Sellers Drive Made-in-Malaysia Products: Shopee. March 16. Accessed May 23, 2023.
<https://www.businesstoday.com.my/2022/03/16/2-million-local-sellers-drive-made-in-malaysia-products-shopee/>.
- Yuen, Kum Fai, Lanhui Cai, Guanqiu Qi, and Xueqin Wang. 2021. "Factors influencing autonomous vehicle adoption: An application of the technology acceptance model and innovation diffusion theory." Technology Analysis & Strategic Management 505-519.
- Yuen, Meaghan. 2022. Insider Intelligence. March 14. Accessed June 19, 2023.
<https://www.insiderintelligence.com/insights/future-retail-trends-industry-forecast/#sthash.enPdF78i.dpuf>.
- Zikmund, William G. 2003. "Sample designs and sampling procedures." Business research methods 368-400.