From Gaming Elements to Purchase Intentions: The Influence of Perceived Enjoyment and Promotion Focus in Online Travel Bookings

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Abstract: This study examines the impact of gamification on purchase intentions in Malaysia's online travel booking industry. As traditional platforms like Expedia face declining bookings due to economic challenges and the rise of competitors such as Airbnb, Agoda, and Booking.com, understanding the role of gamification in user engagement becomes crucial. The research employs Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the effects of extrinsic and intrinsic gaming elements, perceived enjoyment, and promotional focus on purchase intention. A total of 141 respondents participated in the survey and the key findings reveal that extrinsic gaming elements, including points and rewards, have a significantly stronger impact on perceived enjoyment than intrinsic elements like membership levels. This heightened enjoyment, in turn, positively influences purchase intention. Additionally, the study finds that promotional focus moderates the relationship between perceived enjoyment and purchase intention, further enhancing the effect. The Importance-Performance Map Analysis (IPMA) indicates that while intrinsic gaming elements perform below average, they are less critical than other factors. Managers should prioritize improving aspects of high importance, but currently have, low performance to boost purchase intentions effectively. Overall, the research provides actionable insights for enhancing competitiveness in Malaysia's digital travel marketplace, emphasizing the need for targeted gamification strategies to align with evolving consumer preferences. The findings offer a foundation for developing strategies that can help travel platforms maintain relevance and drive engagement in a competitive landscape.

Keywords: Gamification, Online Travel Purchase Intention, Gaming Elements, Perceived Enjoyment, Promotion Focus

1. Introduction and Background

The global online travel industry, including Malaysia's tourism sector, has undeniably undergone a significant transformation. Platforms like Expedia, once seen as dominant players in the travel booking space, are now experiencing a notable decline in bookings (Chiang, 2023). This downturn is particularly evident in Malaysia, where economic challenges and the rise of alternative platforms such as Airbnb, Agoda, and Booking.com have reshaped the travel booking landscape. The rapid expansion of these competitors, combined with the evolving preferences of Malaysia's tech-savvy travelers, has significantly altered the competitive dynamics within the digital travel market.

Expedia and similar platforms have strategically employed gamification techniques to boost user engagement and cultivate customer loyalty among Malaysian consumers. Despite these efforts, they struggle to maintain their competitive edge against platforms offering more innovative and culturally tailored gamified experiences. In Malaysia, gamification elements such as interactive features, rewards systems, and social engagement tools have attracted considerable attraction, becoming key differentiators in the online travel booking sector (Rahmadhan et al, 2023).

As Malaysian consumer behavior shifts in response to gamified experiences on platforms like Airbnb, Agoda, and Booking.com, the importance of purchase intention has grown. The interplay between gamification, user experience, platform features, and strategic positioning is critical in influencing user engagement and the likelihood of making a booking on these platforms within the Malaysian market (Kosir, 2022). This study

explores how gamification (gaming elements) affects users' propensity to engage in booking behavior specifically in Malaysia. The research aims to uncover the key factors influencing Malaysian consumers' booking intentions on travel apps, providing insights into why platforms like Expedia are witnessing a decline in bookings compared to those that have successfully implemented gamification strategies.

Furthermore, this study will offer valuable insights into the role of gamification in shaping booking intentions within Malaysia's online travel environment. By examining these dynamics, the research seeks to establish a foundation for developing strategies that enhance competitiveness in Malaysia's continuously evolving digital travel marketplace. This is particularly important as Malaysia continues positioning itself as a key travel destination in Southeast Asia, where digital innovation and consumer engagement are pivotal to capturing market share.

2. Literature Review

Purchase Intention: The concept of purchase intention in online travel bookings has garnered significant attention in recent years, particularly as the travel industry has increasingly shifted towards digital platforms. Purchase intention, defined as the likelihood that a consumer will buy a product or service, is critical to the success of online travel agencies (OTAs) and booking platforms. Numerous studies have examined the factors influencing purchase intention, with trust, perceived value, and ease of use emerging as key determinants. According to Hamdan and Yuliantini (2021), trust in an online platform significantly impacts consumers' willingness to complete a booking, reducing perceived risk and enhancing confidence in the transaction. Platforms that effectively communicate value propositions, such as exclusive deals, comprehensive travel packages, and flexible cancellation policies, are more likely to convert browsing into bookings.

In addition to trust and perceived value, user experience and website design have been highlighted as influential factors in online travel booking. Research by Yeo et. al. (2020) found that an intuitive and user-friendly interface positively affects purchase intention by facilitating more straightforward navigation and reducing the effort required to complete a booking.

Extrinsic Gaming Elements: Extrinsic gaming components such as achievements, points, rewards, badges, and prizes are frequently used in gamified platforms to enhance user engagement. In online travel booking platforms, points are one of the most commonly utilized elements (Salim & Kim, 2023). Points typically represent a quantifiable reward for completing specific actions or tasks within a platform. For instance, on travel booking platforms, users might earn points by booking flights or accommodations, writing reviews after their trips, or simply logging in regularly. Similar to how Shopee awards "Shopee Coins" for various activities, these points can be accumulated and redeemed for discounts or perks on future bookings.

According to Wu and Santana (2022), extrinsic gaming elements like points and badges positively impact users' perceived enjoyment. Travelers earn points by achieving particular goals or participating in specific challenges on gamified travel platforms. These points and badges serve as rewards and encourage users to reassess their booking decisions, often leading to increased commitment to the platform. Badges, in particular, motivate users to engage in a variety of travel-related activities, enhancing their overall involvement. The research by Feng et al. (2020) supports this, suggesting that customers are more likely to make bookings on platforms that incorporate engaging and entertaining features like gamification.

Mucollari and Samokhin (2017) proposed that extrinsic motivation is crucial in increasing users' engagement on gamified platforms. These features can stimulate the users' enjoyment, leading to greater engagement with the travel booking platform. This heightened engagement often results in customers making additional bookings and remaining loyal to the platform for extended periods. The desire to accumulate and redeem points or badges drives users to stay active on the platform, encouraging them to book more frequently and explore new travel opportunities. Therefore, it is hypothesized that;

H1: Extrinsic gaming elements have a significant positive influence on perceived enjoyment.

Intrinsic Gaming Elements: Wu and Santana (2022) found that intrinsic factors, such as membership levels and rewards, positively impact perceived enjoyment, driving higher sales and reinforcing brand loyalty. For

online travel booking platforms, membership tiers can play a crucial role through appealing benefits and exclusive features. Members are encouraged to explore and book through the platform with access to special discounts, promotions, and early access to deals.

On top of that, Xu et al. (2020) also found that individuals are more intrinsically motivated and experience greater satisfaction when their needs are met. This increased motivation leads to higher engagement and influences consumer booking behavior. Users feel more engaged and rewarded on travel booking platforms when their preferences and needs are acknowledged and addressed through gamification features. By integrating these elements, platforms can create a positive and rewarding booking experience, enhancing user satisfaction and influencing customer perceived enjoyment. Therefore, it is hypothesized that; **H2**: Intrinsic gaming elements have a significant positive influence on perceived enjoyment.

Perceived Enjoyment: Hasan et al. (2021) noted that customers are more likely to adopt new technologies and methods when they offer inherent benefits like entertainment and enjoyment. Their research suggests that perceived enjoyment positively affects online booking intentions, with factors such as excitement and fun playing a substantial role. Furthermore, the quality of a travel booking app's interface also impacts perceived enjoyment, which in turn has a modest but positive effect on users' booking intentions (Patel et al., 2020).

Kamis et al. (2021) also recognized this and demonstrated a positive link between perceived enjoyment and booking intention. It was found that when users experience enjoyment during the booking process, it enhances their overall satisfaction and happiness, leading to increased booking intentions. Therefore, it is hypothesized that;

H3: Perceived enjoyment has a significant positive influence on the intention to purchase.

Promotion Focus: Maharani and Ali (2019) found that promotional efforts have a significant positive impact on consumers' intentions to book travel online. Their research highlights those sales promotions, in particular, are closely associated with increased brand recognition and can strongly influence booking intentions. The study underscores the importance of well-designed promotions, noting that when travelers perceive them positively, they are more likely to proceed with bookings. In essence, the research emphasizes that strategically planned promotional activities, especially those offering discounts and deals, play a vital role in shaping travelers' perceptions of a travel booking platform, thus enhancing their likelihood to book.

Similarly, Hongdiyanto et al. (2020) found that promotions on online travel booking platforms have a significant and positive effect on customers' booking intentions. Their analysis revealed a robust statistical link between promotional activities and the likelihood of making a booking, supporting their initial hypothesis. The study confirms that effective promotional efforts, such as special offers and exclusive deals, have a tangible and beneficial impact on encouraging travelers to make bookings, validating the anticipated connection outlined in their research. Therefore, it is hypothesized that;

H4: Promotional Focus moderates the relationship between Perceived Enjoyment and the Intention to Purchase.

3. Research Methodology

Purposive sampling was employed for the study. A filter question was added to ensure that only those with experience making an online travel purchase are eligible to participate in the survey. A total of 141 usable and valid cases were utilized for the analysis. Since the study's objective was to predict key target constructs or identify main driver constructs, partial least squares structural equation modeling (PLS-SEM) with the PLS software package was employed for data analysis (Hair et al., 2022). The analysis focused on both the measurement model and the structural model to achieve the study's goals.

4. Results and Discussion

Profile of Respondents: Table 1 provides a detailed breakdown of the gender distribution among the participants in the survey. The table shows that the sample consisted of 79 females and 62 males. This distribution reflects the gender composition of the survey respondents, highlighting a total of 141 individuals

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who took part in the study. The data indicates a slightly higher number of female participants compared to male participants. This demographic information is crucial for understanding the composition of the sample and can provide context for analyzing the results of the study. By presenting this information, Table 1 helps to clarify the gender distribution of the respondents and offers insights into the demographic characteristics of the study population. Table 1 tabulates the gender frequency of 79 females and 62 males who participated in the survey for the study.

Gender	Frequency	Percent
Female	79	56
Male	62	44
Total	141	100

Table 1: Frequency of Demographic Gender

Measurement Model Analysis: To perform regression analysis effectively, the data used must be both valid and reliable. Validity in this context was assessed using two key criteria: convergent validity and discriminant validity. Convergent validity evaluates factor loadings, average variance extracted (AVE), and composite reliability (CR), as displayed in Table 2.

Factor loadings exceeded the recommended threshold of 0.708 (Hair et al., 2022). The AVE results, which reflect the proportion of variance captured by the construct relative to the variance due to measurement error, showed that all variables had AVE values greater than the threshold of 0.5. This suggests a minimal level of measurement error. Among the variables, Purchase Intention had the highest AVE value of 0.784, demonstrating the strongest convergence. Perceived Enjoyment followed with an AVE of 0.701, while Extrinsic Gaming Elements had the lowest AVE at 0.581. Additionally, the composite reliability values for all constructs were also above the acceptable cut-off of 0.5, further supporting the reliability of the measures used in this study (Hair et al., 2022). Thus, the data meets the required standards for validity and reliability, ensuring robust regression analysis.

Items Factor Composite **Average Variance R-square** Loadings **Reliability (CR) Extracted (AVE)** Construct Extrinsic GE EG1 0.709 0.874 0.581 EG3 0.791 EG4 0.821 EG7 0.733 EG8 0.753 Intrinsic GE IG1 0.773 0.873 0.633 IG2 0.811 0.849 IG3 IG8 0.747 0.437 **Perceived Enjoyment** 0.809 0.921 0.701 PE1 PE2 0.814 PE6 0.849 PE7 0.841 PE8 0.871 **Promotional Focus** PF1 0.837 0.893 0.626 PF2 0.799 PF3 0.810

Table 2: Convergent Validity (Factor Loadings, CR and AVE)

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	PF4	0.775			
	PF6	0.729			
Purchase Intention	PI3	0.869	0.956	0.784	0.573
	PI4	0.924			
	PI5	0.873			
	PI6	0.891			
	PI7	0.898			
	PI8	0.856			

Discriminant validity, an essential aspect of ensuring that different constructs are distinct from one another, was evaluated using the Heterotrait-Monotrait Ratio (HTMT), as detailed in Table 3. The HTMT ratio measures the degree to which indicators of different constructs are correlated, with lower values indicating better discriminant validity.

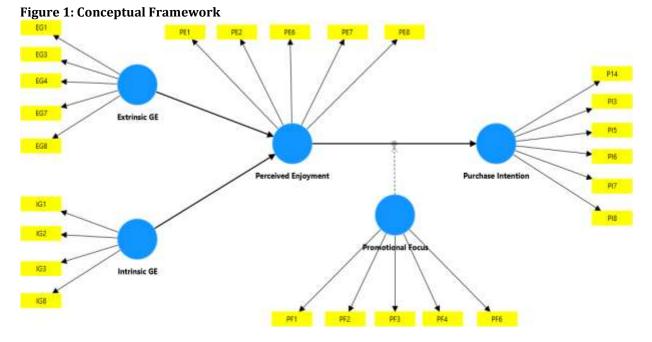
Table 3 presents the HTMT analysis results, revealing that all the HTMT ratios are below the threshold of 0.90. This threshold is a commonly accepted standard for demonstrating that constructs are sufficiently distinct from each other. Values below this threshold suggest that the constructs measured are not excessively overlapping and that each construct captures unique aspects of the data.

The fact that all HTMT values in this study are below the 0.90 cut-off indicates that the constructs in the survey exhibit strong discriminant validity. This implies that the variables measured are indeed distinct and that the analysis is robust in terms of separating different dimensions of the constructs being studied. As a result, the study can confidently assert that the variables are reliable and valid, in line with the standards set by Hair et al. (2022). This rigorous validation process helps ensure the accuracy and credibility of the findings derived from the regression analysis.

	1	2	3	4	5
Extrinsic GE (1)					
Intrinsic GE (2)	0.471				
Perceived Enjoyment (3)	0.727	0.425			
Promotional Focus (4)	0.635	0.395	0.657		
Purchase Intention (5)	0.657	0.466	0.764	0.653	

Table 3: Discriminant Validity: Heterotrait-Monotrait ratio (HTMT)

Structural Model Analysis: The evaluation of the inner model path estimates for this study was permitted due to the outer model estimation of this study which is reliable and valid (Henseler et al., 2015). Once the construct measures were confirmed as being reliable and valid, the next step is to assess the relationships among constructs incorporated in the hypothesized conceptual framework as depicted in Figure 1 below.



The structural model analysis was conducted to verify whether the results of the structural model support the conceptual model as hypothesized. Table 4 summarizes the findings of all the relationship assessments.

Table 4: Hypotheses Testing

	Hypotheses	Beta	f-value	t-value	p-values
H1	Extrinsic GE -> Perceived Enjoyment	0.551	0.52	7.790	0.00
H2	Intrinsic GE -> Perceived Enjoyment	0.272	0.04	3.796	0.00
H3	H3 Perceived Enjoyment -> Purchase Intention		0.31	4.201	0.00
	Promotional Focus x Perceived Enjoyment ->				
H4	Purchase Intention	0.119	0.06	2.161	0.03
(*n<(05)				

(*p<0.05)

From the Table 4 above, the structural measurement results indicated the following values; H1: Extrinsic GE \rightarrow Perceived Enjoyment (t-value = 7.790, f-value = 0.52, p-value<0.05), H2: Intrinsic GE \rightarrow Perceived Enjoyment (t-value = 3.796, f-value = 0.04, p-value<0.05), H3: Perceived Enjoyment \rightarrow Purchased Intention (t-value = 4.201, f-value = 0.31, p-value<0.05), H4: Promotional Focus x Perceived Enjoyment \rightarrow Purchased Intention (t-value = 2.161, f-value = 0.06, p-value<0.05). The results indicate that all four hypotheses are supported.

Extrinsic gaming elements were found to have a significantly stronger impact on perceived enjoyment compared to intrinsic gaming elements, with a t-value of 7.790 for extrinsic elements versus 3.796 for intrinsic elements. The effect size of extrinsic gaming elements on perceived enjoyment is substantial, with an f-value of 0.52, which exceeds the threshold of 0.35 for large effects. In contrast, the effect size of intrinsic gaming elements is smaller, with a f-value of 0.04, which is only slightly above the minimal range of 0.02 to 0.14 for small effects. Additionally, the results show that promotional focus positively moderates the relationship between perceived enjoyment and purchase intention, with a strength of 2.161. These findings are in line with the previous researcher (Almaudina, et al., 2023; Chang & Yu, 2023; Halim et al, 2022; Haziri et al, 2019; Kusumawardani et al, 2023

5. Managerial Implications and Recommendations

The Importance-Performance Map Analysis (IPMA), is a valuable method for uncovering additional insights and drawing meaningful conclusions. By evaluating both the importance and performance dimensions, the IPMA helps prioritize constructs that need improvement to enhance specific target outcomes. Table 5 displays

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the findings. As illustrated in Figure 2, intrinsic gaming elements show a relatively low performance score of 63.9, indicating that, compared to other constructs, it is slightly below average. Furthermore, intrinsic gaming elements are considered a low-importance construct. A one-unit increase in the performance of intrinsic gaming elements from 63.96 to 64.96 would result in a marginal improvement in Purchase Intention, rising by just 0.11 points from 75.35 to 75.46. Therefore, when aiming to increase the performance of a target construct, managers should prioritize enhancing the performance of aspects captured by a construct with the highest (above average) importance, but a relatively low (below average) performance. This approach ensures that improvements are made in areas that will have the most significant impact on the target outcomes.

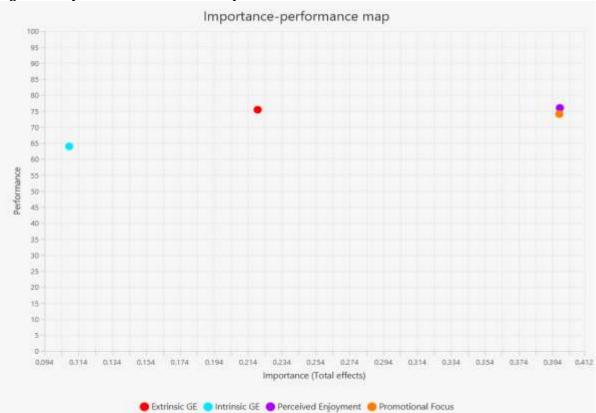


Figure 2: Importance-Performance Map

Table 5: Importance-Performance Map Analysis

	Importance→Purchase Intention	Performance
Extrinsic GE	0.22	75.41
Intrinsic GE	0.11	63.96
Perceived Enjoyment	0.40	75.98
Promotional Focus	0.40	74.05
Purchase Intention		75.35
Mean Value	0.28	72.35

Conclusion

This study provides a comprehensive analysis of the evolving dynamics in Malaysia's online travel booking industry, particularly focusing on the role of gamification in influencing purchase intentions. As traditional platforms like Expedia face declining bookings, this research highlights how emerging competitors such as Airbnb, Agoda, and Booking.com have effectively leveraged gamification to capture and retain customer

interest.

The study's findings reveal that extrinsic gaming elements have a significantly greater impact on perceived enjoyment compared to intrinsic gaming elements, with a t-value of 7.790 versus 3.796, respectively. This indicates that features such as points, rewards, and badges are more effective in enhancing user satisfaction and engagement than membership levels or internal rewards. Furthermore, the effect size of extrinsic elements, with a f-value of 0.52, underscores their substantial influence on perceived enjoyment, while intrinsic elements show a smaller effect size of 0.04. This suggests that while both types of gamification elements contribute to perceived enjoyment, extrinsic elements have a more pronounced effect.

The study also confirms that perceived enjoyment significantly affects purchase intention, with a t-value of 4.201, supporting the hypothesis that enjoyable experiences lead to higher booking intentions. Additionally, promotional focus was found to positively moderate this relationship, enhancing the effect of perceived enjoyment on purchase intentions.

The Importance-Performance Map Analysis (IPMA) further provides actionable insights by highlighting areas where improvements can be most impactful. Intrinsic gaming elements, despite their lower performance score, are identified as less critical compared to other factors. Enhancing constructs with higher importance but currently lower performance is recommended to achieve substantial improvements in purchase intentions.

In conclusion, the study underscores the importance of incorporating effective gamification strategies to enhance user engagement and booking behaviors. For managers in the online travel sector, prioritizing extrinsic gaming elements and focusing on high-impact areas identified through IPMA can lead to improved competitiveness and better alignment with evolving consumer preferences. As Malaysia continues to be a key player in Southeast Asia's travel market, leveraging these insights will be crucial for platforms aiming to capture and retain market share amidst growing competition.

References

- Almaudina, M., Ramdan, A. M., Jhoansyah, D., & Deli, M. M. (2023). The effectiveness of perceived enjoyment and brand engagement in correlating gamification marketing with online repurchase intention in Shopee game users. *International Journal of Economics Development Research (IJEDR*), 4(1), 222–235.
- Chang, S. E., & Yu, C. (2023). Exploring gamification for live streaming shopping influence of reward, competition, presence and immersion on purchase intention. *IEEE*. https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=10146275
- Chiang, S. (2023). TikTok Shop is a rising threat to Shopee and Lazada in Southeast Asia. *CNBC*. https://www.cnbc.com/2023/05/26/tiktok-shop-a-rising-threat-to-shopee-and-lazada-in-southeast-asia.html
- Feng, X., Li, Y., Lin, X., and Ning, Y. (2020). Mobile targeting in industrial marketing: Connecting with the right businesses. *Industrial Marketing Management*, 86, 65–76.
- Halim, E., Sandra, D., Hartono, H., Sukmaningsih, D. W., & Hebrard, M. (2022). Impact of gamification element towards continuance intention in Indonesia marketplace. *IEEE Xplore*. https://doi.org/10.1109/icimtech55957.2022.9915071
- Hair, J. F., Hult, G. T. M., Ringle, C. M. & Sarstedt, M. (2022). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). 3rd Ed., Sage: Thousand Oaks.
- Haziri, Fortesa & Shabani, Lulzim & Chovancová, Miloslava. (2019). Customer game experience impacts gamification and online purchasing. 10.3846/cibmee.2019.078
- Hamdan, H. and Yuliantini, T. (2021). Purchase behavior: Online tour package. *Dinasti International Journal of Management Science*, 2(3), 420-434.
- Hasan, A.A.T, Shah, M. S., Islam, M. T., & Hossain, M. S. (2021). Factors influencing online shopping intentions: The mediating role of perceived enjoyment. *Turkish Journal of Marketing*, 6(3), 239-253.
- Henseler, J., Ringle, C.M. and Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variancebased structural equation modeling, *Journal of the Academy of Marketing Science*, 43(1), 115-135.
- Hongdiyanto, C., Hartono, W., Ongkowijoyo, G., & Saputra, V. (2020). The effect of discount and promotion towards customer purchase intention in online shop.

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http://dx.doi.org/10.13106/jwmap.2020.Vol3.no3.21

- Kamis, F. F., Ramlee, S. I. F., & Zulkiffli, W. F. W. (2021). Does the theory of planned behavior and perceived enjoyment have a big impact on online purchase intention among Gen-Y in East Coast Malaysia? *Proceedings of 8th International Conference on Advanced Materials Engineering & Technology* (ICAMET 2020). https://sci-hub.se/https://doi.org/10.1063/5.0055763
- Kusumawardani, K. A., Widyanto, H. A., & Tambunan, J. E. G. (2023). The role of gamification, social, hedonic and utilitarian values on e-commerce adoption. *Spanish Journal of Marketing ESIC*, 27(2), 158–177.
- Kosir, A. (2022). Impact of intrinsic and extrinsic gaming elements on online purchase intention. *NCBI*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9220799/
- Maharani, U. & Hapzi, A. (2019). Model of purchase intention: Product and promotion analysis to increase brand awareness. *Saudi Journal of Humanities and Social Sciences*. www.saudijournals.com/media/articles/SJHSS-45-316-325-c.pdf
- Mucollari, L., & Samokhin, V. (2017). Gamification-The influence of gamification on the consumer purchase intention. http://www.diva-portal.org/smash/get/diva2:1134934/FULLTEXT01.pdf
- Patel, V., Das, K., Chatterjee, R., & Shukla, Y. (2020). Does the interface quality of mobile shopping apps affect purchase intention? An empirical study. *Australian Marketing Journal (AMJ)*, 28(4).
- Rahmadhan, M., Adhytia W. P. & Sensuse, D. & Suryono, R. & Kautsarina, K. (2023). Trends and applications of gamification in e-commerce: A systematic literature review. Vol 9. 28-37. 10.20473/jisebi.9.1.28-37.
- Salim, F., & Kim, S. (2023). Understanding gamification behavior in Indonesian's e-commerce applications: A qualitative study of university students. Asian HCI Symposium (Asian HCI'23). https://doi.org/10.1145/3604571.3604581
- Willis, R., & Tjhin, V. U. (2021). Effect of interaction with gamification feature on purchase intention: The mediation role of brand engagement. *Journal of Management Information and Decision Sciences*, 24(S4), 1-12.
- Wu, X., & Santana, S. (2022). Impact of Intrinsic and Extrinsic Gaming Elements on Online Purchase Intention. *Frontiers in Psychology*, 13, 885619.
- Xu, F., Buhalis, D., & Weber, J. (2017). Serious games and the gamification of tourism. *Tourism Management*, 60, 244–256.
- Yeo, S., Tan, C., Lim, K., & Wan, J. (2020). To buy or not to buy: Factors that influence consumers' intention to purchase groceries online. *Management and Accounting Review*, 19(3), 1-23
- Zhou, R., & Tong, L. (2022). A Study on the Influencing Factors of Consumers' Purchase Intention during Livestreaming e-Commerce: The Mediating Effect of Emotion. *Frontiers in Psychology*, 13.