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Research Article

A Framework of Post-Pandemic Customers' Online Impulsive Buying Behaviour in Saudi Arabia

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ABSTRACT

Having strong knowledge of customer behaviour is very important for companies in many respects, such as analysing marketing trends, predicting return on investment, and developing appropriate plans and strategies. This research aims to investigates the influential factors of customers' Online Impulsive Buying Behaviour (OIBB) that arose after the COVID-19 pandemic in Saudi Arabia, using statistical analysis. A survey was conducted with 657 responses targeted who used e-commerce platforms and lived in Saudi Arabia. A conceptual framework and hypotheses were developed by applying Stimulus-Response (SR) theory. The findings support that sales activation, celebrity endorsement, social status, self-confidence, materialism, trust and loyalty, and hedonic browsing-produced value had a significant impact on OIBB in Saudi Arabia. These insights could be valuable for e-commerce platforms aiming to tailor their strategies to enhance or mitigate impulsive purchases specifically to a culturally relevant context and predicting OIBB in Saudi Arabia.

Keywords: Impulsive Buying; Saudi Arabia; Online; Customer; Post-pandemic; Statistical Analysis.

INTRODUCTION

The power of e-commerce to get profits of billions of dollars within hours has forced companies to focus on understanding customers' behaviour and enhancing customer experience [1]. Despite the prevalence of impulsive buying in e-commerce, companies cannot accurately predict the phenomenon and its influencing factors [2]. Having strong knowledge of customer behaviour is very important for companies in many respects, such as analysing marketing trends, predicting return on investment, and developing appropriate plans and strategies. Hence, an appropriate prediction framework can reduce serious business losses caused by poor decision making, where decision makers rely on insufficient information [3].

On the other hand, impulsive consumption in the online context raises serious issues and environmental concerns due to consuming more than needed and increasing unnecessary waste. Hence, such an issue should be considered, predicted, and planned to produce effective sustainable practices among customers [4]. Currently, several studies have built a conceptual framework for the influence factors for such a phenomenon [5]. Moreover, the influencing factors of customers' impulsive buying behaviour have altered due to the COVID-19 pandemic. Indeed, there is a lack of studies that have proposed a prediction framework that considers post-pandemic influential factors as inputs [6]. Furthermore, there is a shortage of studies that designed a framework specifically for recent e-commerce and Online Impulsive Buying Behaviour (OIBB) in Saudi Arabia, which implies that the results of the previous studies may not be valid in this region [6]. Therefore, the main goal of this study is to to identify possible significant influential factors of customers' OIBB that arose after the pandemic in Saudi Arabia, using statistical analysis.

RELATED WORK

This section defines the theoretical framework foundation of OIBB, the factors that influence customers' OIBB, identify relationships between variables and thus support the proposed research conceptual framework. Subsequently, the research hypotheses are formalized.

Research Theoretical Framework Foundation

A systematic literature review synthesized 183 papers published between 1950 and 2021 in 70 academic journals, emphasizing that due to the transition from a traditional retail environment into different online channels, research into impulsive buying behaviour is fragmented and still developing [7]. The literature review synthesized the theories and models used in impulsive buying behaviour research according to their theoretical perspectives, showing that a large proportion of impulsive buying articles adopted the Stimulus-Organism-Response (SOR) framework and associated theories that are frequently used in the context of impulsive buying [7]. Moreover, various recent studies have employed the SOR theory successfully in information systems research to investigate the impact of several factors on customers' behavioral intentions [8].

Returning to the original of the SOR theory, Stimulus-Response (SR) theory is the original form which assumes that behaviour is a simple action-reaction process. In the SR theory, the organism is seen as an input-output system. SR theory explains that the response which appears is a reaction to a certain stimulus.

This study aims to provide a general visualization of OIBB in Saudi Arabia. Since the SR theoretical framework foundation can be considered a basic theory when studying customer behaviour, and it has been previously validated in the context of online customer impulsive buying behaviour, this study will apply the SR theoretical framework to classify the variables and examine the relationships between stimuli and behavioral responses. Thus, this approach provides a general visualization of the way how triggers (stimuli) ultimately lead to the customer's reaction and to OIBB (Response) [8].

Formulation of Research Hypotheses

Online impulsive buying stimuli can produce direct or indirect effects on the OIBB response through customer reactions. All the factors that directly or indirectly affect the customer's purchasing decision become stimuli. The stimuli may be external or internal. Thus, an external stimulus refers to a stimulus that is received from the external environment, while an internal stimulus occurs within the customer and directly affects the online impulsive buying response [9]. Therefore, the next sub-sections describe the external stimulus and internal stimulus to develop the research hypotheses.

External Stimulus

The main stimuli of OIBB come from exposure to external stimuli. External stimuli are those factors that are not under the control of the customer.

One of the main dimensions of external stimuli is the website stimulus dimension, which derives from the characteristics of the website that prompts customers to purchase [10]. According to previous studies, website stimuli involve the visual presentation of the user interface, ease of website use (navigation), and the website's quality and informativeness, interactivity, and privacy [9-12]. Website stimuli are a critical factor in attracting customers to purchase goods, and are related to customers' emotional states [13].Thus, the following hypotheses are formed:

Hypothesis 1 (H_1). *Interactivity has an effect on OIBB*

Hypothesis 2 (H_2). *Informativeness has an effect on OIBB*

Hypothesis 3 (H_3). *Visual Engagement has an effect on OIBB*

Hypothesis 4 (H_4). *Navigation has an effect on OIBB*

Hypothesis 5 (H_5). *Privacy has an effect on OIBB*

Furthermore, marketing stimuli are considered as external factors orchestrated by marketers to influence people's consumption choices. Marketing stimuli include advertisements, promotions, and bonuses offered to attract customers [14, 15]. Price discount can be considered as an initial factor to tempt buying behaviour [10]. SMM and celebrities also play an important role in the success of companies' marketing strategies, as they will effectively offer products or services in a way that attracts customers [16]. Based on the literature reviewed, the following hypotheses are formed:

Hypothesis 6 (H_6). *Sales Activation has an effect on OIBB*

Hypothesis 7 (H_7). *Advertisements has an effect on OIBB*

Hypothesis 8 (H_8). *Celebrity Endorsement has an effect on OIBB*

Moreover, demographics are an essential factor as a tool for identifying market segments and better understanding the characteristics of a particular population. Demographics are statistics that describe groups of people and their characteristics, such as age, income, gender, education and social status, which have been shown to make a major difference in decisions about purchasing impulsively [14]. Therefore, the following hypotheses are formed:

Hypothesis 9 (H_9). *Age has an effect on OIBB*

Hypothesis 10 (H_{10}). *Income has an effect on OIBB*

Hypothesis 11 (H_{11}). *Education has an effect on OIBB*

Hypothesis 12 (H_{12}). *Gender has an effect on OIBB*

Hypothesis 13 (H_{13}). *Social Status has an effect on OIBB*

In addition, the availability of resources such as money or time are considered an external stimulus towards impulsive buying behaviour [17].Thus, the following hypotheses are formed:

Hypothesis 14 (H_{14}). *Time Availability has an effect on OIBB*

Hypothesis 15 (H_{15}). Money Availability has an effect on OIBB

Internal Stimulus

In addition to external stimuli, internal stimuli have a significant impact on customers' impulsive buying behaviour.

Internal stimuli are factors within the individual's control, such as personality traits, emotions, feelings, interests, and cognitive processes, which vary from person to person and influence how the customer will process inputs to make a decision.

Psychological traits such as materialism, customer loyalty, and self-confidence are the major internal stimuli that directly impact the online impulsive buying decision [2, 9, 11, 18]. For instance, self-confidence in an individual is an essential identity attribute to predict the reaction to a specific circumstance [2]. Thus, studies focus on investigating the impact of customers' self-confidence on the purchasing decision-making process [2, 9, 11, 18]. Indeed, it has been found that self-confidence is a moderator variable that directly affects the intention of purchasing impulsively. The higher the level of self-confidence, the lower the level of impulsive purchase intention and versa [2]. Thus, based on the above literature, self-confidence and impulsive buying have a negative relationship. Similarly, Indrawati (2022) demonstrated that impulsive buying is a compensatory process to prevent negative feelings [18]. Consequently, self-confidence variables are frequently utilized to analyse customer behaviour. Thus, considering the customer psychological dimension, the following hypotheses are formed:

Hypothesis 16 (H_{16}). *Self-Confidence has an effect on OIBB*

Hypothesis 17 (H_{17}). *Materialism has an effect on OIBB*

Hypothesis 18 (H_{18}). *Trust and Loyalty have an effect on OIBB*

Moreover, internal individual status can significantly affect the OIBB. In particular, internal individual status can be divided into affective reactions and cognitive reactions related to the division of the purpose of browsing into two categories: (1) browsing in search of information (utilitarian browsing) and (2) browsing in search of pleasure, entertainment, and fun (hedonic browsing) [9].

The affective reaction refers to individuals' emotions, like satisfaction, which produce hedonic browsing value. Conversely, the cognitive reaction is the process of dealing with external information, which reflects the value produced by utilitarian browsing (UBPV). Thus, UBPV and hedonic browsing-produced value (HBPV) are complementary and there is a significant relationship between them [9]. Both utilitarian browsing and hedonic browsing have been shown to have an effect on OIBB [9]. Moreover, it is proposed that perceived usefulness has a positive influence on perceived enjoyment and hedonic value in the online context [19]. Previous research has also shown that there is a direct relationship between utilitarian and hedonic browsing, and online impulsive buying, as a psychological organism directly seeks a response and this indicates the customer's impulsive buying tendency [12, 18, 20]. Therefore, the following hypotheses are formed:

Hypothesis 19 (H_{19}). *UBPV has an effect on OIBB*

Hypothesis 20 (H_{20}). *HBPV has an effect on OIBB*

Furthermore, recent studies have shown that COVID-19 and its consequences led to public worries and fears. Thus, fears become one of the important internal factors impacting individuals decision making towards purchasing during the crisis [21].The theory of fear appeal has been utilized in previous studies as a theoretical foundation for selecting variables contributing to purchasing behaviours after the start of the pandemic [22-24]. Regarding fears for health, COVID-19 had significant effects on all shopping modes. Due to the uncertainty of their health status, individuals may have a very high perception of risk and seem more careful with in-store shopping. This will increase their likelihood of shopping online [22-24], while fear of financial conditions represents fear of the economic situation in society and the fear of job loss [22-24]. Another factor that persuades a customer to purchase impulsively during a global crisis is fear of the scarcity of products [3], where previous studies showed that impulsive buying increased in the early stages of the COVID-19 outbreak since the customer's feared being unable to meet their needs, due especially to the shortage of goods and the scarcity of medical protective equipment [3, 21, 25]. The following research hypotheses were developed based on the literature above related to the Fear Appeal theory:

Hypothesis 21 (H_{21}). *Health Fear has an effect on OIBB*

Hypothesis 22 (H_{22}). *Financial Condition Fear has an effect on OIBB*

Hypothesis 23 (H_{23}). *Scarcity of Products Fear has an effect on OIBB*

Development of the Conceptual Framework

Following the review of the previous literature, the proposed model was constructed on the basis of the SR theoretical framework, which is a theory for analysing the influence of internal and external stimuluses on customer OIBB. Figure 1 illustrates the detailed OIBB conceptual framework. The conceptual framework also illustrates the influencing factors related to each category and the impact of these influencing factors on OIBB is tested according to the formulated hypotheses.

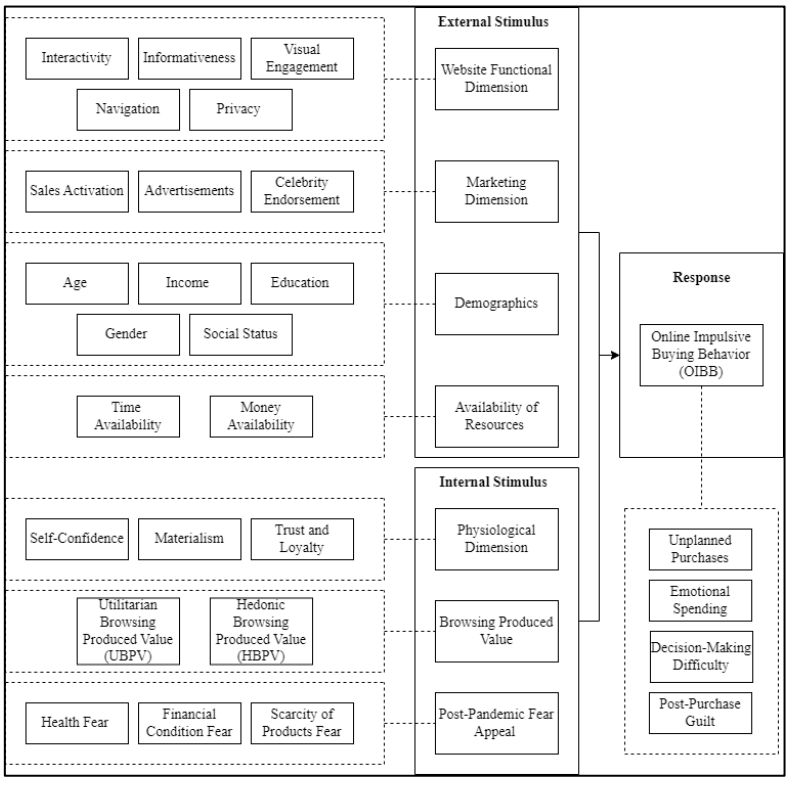

Figure 1. The detailed conceptual framework of OIBB

METHODS

To test our hypotheses, a quantitative research method was used based on data collection through closed-ended questionnaire and statistical analysis using SPSS statistical software, applying Univariate Comparison analysis. In this section we examine aspects of the research method in more detail.

Data Collection

Microsoft Forms was used to conduct the questionnaire as the data collection instrument. The online survey was distributed to the public via various social media platforms over two months, from 20 Dec to 20 Feb 2024. A total of 704 completed responses were collected. However, 47 responses that did not adhere to the study's criteria were excluded from the analysis.

This study target population were users who used e-commerce platforms and who lived in Saudi Arabia. Therefore, questions about living in Saudi Arabia, and the average rate of online purchasing per month were included as filter questions in the first section.

The questionnaire in this study was divided into two sections. The first section consisted of nine questions to obtain demographic data of the participants, consisting of gender, age, education level, monthly income, and social status. Furthermore, to decide which respondents fulfilled the study's criteria, questions about living in Saudi Arabia, and the average rate of online purchasing per month were included as filter questions in the first section. A question on user e-commerce platform preference was also included.

In the second section, a five-point Likert scale was applied to measure the level of agreement with a statement regarding online shopping behaviour. The statements represent Time Availability, Money Availability, Interactivity, Informativeness, Visual engagement, Navigation, Privacy, Sales Activation, Advertisements, Celebrity Endorsement, Self-confidence, Materialism, Trust & Loyalty, Health Fear, Financial Condition Fear, Scarcity of Products Fear, Utilitarian Browsing Produced Value (UBPV), Hedonic Browsing Produced Value (HBPV), Online Impulsive Buying Behaviour (OIBB). Moreover, OIBB is assessed through multiple-item scales. OIBB measured through multiple items considering different aspects, which are urgency, lack of perseverance, sensation- seeking, lack of premeditation as an impulsiveness domains [26].

Data Analysis and Hypothesis Testing

In this study data analysis and hypothesis testing were conducted using SPSS statistical software, applying Univariate Comparison analysis.

To analyse descriptive statistics, the measurement instrument's reliability was examined using Cronbach's alpha values to check the internal consistency of the items in each construct, with an acceptable consistency coefficient value being at least 0.70 [27]. A correlation coefficient analysis of the data was used to explore the relationship between variables. Lastly, an evaluation of the theoretical framework model was conducted to determine how well it fits the data, followed by testing the proposed hypotheses using multiple regression analysis. OIBB was defined as the dependent variable. The following were included as independent variables.

The regression results included the coefficients, standard errors, t-values, and p-values for each variable in the model. If the p- value is more than 0.05, it fails to reject the null hypothesis, meaning the alternative hypothesis rejected. On the other hand, if the p- value is less than 0.05, the null hypothesis can be rejected and the alternative hypothesis can be accepted, indicating that the impact of the interaction is statistically significant for that category [27].

RESULTS AND DISCUSSION

This section provides a detailed analysis and interpretation of the findings in relation to the literature and theoretical framework.

Descriptive Statistics of Constructs

In this study, the 19 constructs were measured based on the mean and standard deviation (SD) by averaging the scores of the items that measured them on the Likert scale. The mean scores of most constructs are above the midpoint of the scale (three), except for Materialism, Financial Condition Fear, and Scarcity of Products Fear, with mean scores less than the midpoint, indicating that the respondents generally had positive attitudes toward the variables.

The SD measures the variability or dispersion of the scores in relation to the mean, indicating how wide the spread of observations of a dataset is from the mean. The lowest SD is for Self-Confidence (0.89588), indicating that the scores were less spread out than for the other constructs and more consistent. The highest SD is for Financial Condition Fear (1.395), indicating that the scores were less consistent and more diverse than for the other constructs. The SDs of other constructs are similar, ranging from 1.02545 to 1.386.

Reliability Analysis

In this study, we used Cronbach's alpha to measure the internal consistency of three constructs: Informativeness, Self-confidence, and OIBB. To evaluate each construct, multiple items on a Likert scale were employed. The result shows high Cronbach's alpha coefficients for all three constructs, indicating consistent and reliable measurements across the board. Notably, the highest Cronbach's alpha coefficient was for Informativeness (0.819), followed by OIBB (0.774), and Self-confidence (0.708). Consequently, our findings indicate that the employed measures and scales in this study are consistent and reliable in assessing the targeted constructs. High reliability suggests that the items are effectively measuring distinct constructs through calculating the Mean of multiple Likert scale items to summarize the overall response for a given construct.

Hypothesis Testing

In this study, it was hypothesized that the OIBB will be affected by the following variables: Time Availability, Money Availability, Gender, Age, Monthly Income Level, Educational Level, Social Status, Interactivity, Visual Engagement, Navigation, Informativeness, Privacy, Celebrity Endorsement, Advertisements, Sales Activation, UBPV, HBPV, Trust and Loyalty, Self-Confidence, Materialism, Financial Condition Fear, Health Fear, and Scarcity of Products Fear.

To test this hypothesis, multiple regression analysis was used. To evaluate the model and determine how well it fits the data, results showed that the coefficient of determination (R square) = 0.479, which indicates that the model explains 47,9% of the OIBB can be accounted for by the 23 predictors, collectively, F (23,633) = 27.232, p<.001, which indicates that the 23 predictors under the study have a significant impact on the OIBB. Looking at the unique individual contributions of the predictors, with the 5% significance level, Table 1 summarizes the results of the regression analysis and hypothesis testing.

Table 1. Hypothesis testing from H1 to H23

H No.	Paths	Std Err	Unstandardized Coefficients (β)	t-Value	p-Value	Result
H_1	Interactivity>OIBB	.027	-.044	-1.619	.106	Not Supported
H_2	Informativeness>OIBB	.045	.004	.089	.929	Not Supported
H_3	Visual Engagement>OIBB	.036	-.060	-1.632	.103	Not Supported
H_4	Navigation>OIBB	.041	.063	1.546	.123	Not Supported
H_5	Privacy>OIBB	.037	.012	.328	.743	Not Supported
H_6	Sales Activation>OIBB	.034	.094	2.769	.006*	**Supported**
H_7	Advertisements>OIBB	.030	.052	1.729	.084	Not Supported
H_8	Celebrity Endorsement>OIBB	.029	.110	3.784	<.001*	**Supported**
H_9	Age>OIBB	.033	-.023	-.706	.480	Not Supported
H_{10}	Income>OIBB	.024	.018	.744	.457	Not Supported
H_{11}	Education>OIBB	.047	-.020	-.431	.667	Not Supported
H_{12}	Gender>OIBB	.063	.025	.388	.698	Not Supported
H_{13}	Social Status>OIBB	.039	.105	2.667	.008*	**Supported**
H_{14}	Time Availability>OIBB	.028	.035	1.257	.209	Not Supported
H_{15}	Money Availability>OIBB	.031	.035	1.115	.265	Not Supported
H_{16}	Self-Confidence>OIBB	.035	-.128	-3.625	<.001*	**Supported**
H_{17}	Materialism>OIBB	.030	.204	6.760	<.001*	**Supported**
H_{18}	Trust and Loyalty>OIBB	.031	.086	2.797	.005*	**Supported**
H_{19}	UBPV>OIBB	.031	.054	1.768	.077	Not Supported
H_{20}	HBPV>OIBB	.031	.211	6.818	<.001*	**Supported**
H_{21}	Health Fear>OIBB	.027	-.004	-.155	.877	Not Supported
H_{22}	Financial Condition Fear>OIBB	.026	.050	1.919	.055	Not Supported
H_{23}	Scarcity of Products Fear >OIBB	.030	-.039	-1.298	.195	Not Supported

H No.	Paths	Std Err	Unstandardized Coefficients (β)	t-Value	p-Value	Result
R square → 0.479 F(23,633) → 27.232 P < 0.001						

CHALLENGES AND LIMITATIONS

The results of this study offer important insights into the factors that influence OIBB in Saudi Arabia. However, it is important to consider the limitations of this study when interpreting the results. Despite this study's implications, the results should be interpreted considering the study's limitations. Firstly, the participants were limited relatively small sample size, and to improve the generalizability of the findings a larger sample would be better and help validate the model across different cultural contexts. Second, the OIBB theoretical framework was developed based on specific variables, and the results may need to be tested with more variables and characteristics that might impact OIBB. Third, a closed-ended questions limited the depth of the respondents' answers. Therefore, it would be better to add open-ended questions to add respondents' ideas and perspectives.

Another limitation is the proposed OIBB theoretical framework supported by SR theory evaluating direct influence of the factors on OIBB. Future research could further explore indirect effects on OIBB by applying SOR theory as a theoretical foundation. Moreover, future research can address these limitations to provide further insights into this topic and explored influencing factors over time to gain a more comprehensive understanding of their influence.

CONCLUSION

A comprehensive literature was conducted to provide valuable insights into the factors influencing customer online impulsive buying behaviour (OIBB) in Saudi Arabia. It focused on post-pandemic shifts in customer behaviour and changes in buying patterns and investigated cultural and social factors specific to Saudi Arabia that could influence impulsive buying behaviour. The study highlighted several possible significant drivers of post-pandemic OIBB in Saudi Arabia and a new dataset was collected for OIBB, targeting customers living in Saudi Arabia. A conceptual framework was built, and hypotheses were developed and evaluated.

The key findings were that certain factors significantly impacted online impulsive buying behaviour, while others did not. Supported hypotheses illustrate that factors like materialism, self-confidence, celebrity endorsement, and sales activation had a strong influence, indicating that these elements are crucial for understanding and predicting impulsive buying in online contexts in Saudi Arabia. The significant influence of factors like materialism and self-confidence suggests that personality traits and attitudes play a crucial role in shaping impulsive buying behaviour. These insights could be valuable for e-commerce platforms aiming to tailor their strategies to enhance or mitigate impulsive purchases. On the other hand, the lack of significant findings for hypotheses related to post-pandemic fears (health fear, financial condition fear, and scarcity of products fear) suggests that these factors may have a limited direct influence on online impulsive buying behaviour in the post-pandemic context. Customers' adaptation to health and economic changes, along with effective responses from e-commerce platforms, likely contributed to these results.

REFRENCES

[1] P.-S. Lo, Y. K. Dwivedi, G. Wei-Han Tan, K.-B. Ooi, E. Cheng-Xi Aw, and B. Metri, "Why do consumers buy impulsively during live streaming? A deep learning-based dual-stage SEM-ANN analysis," (in en), Journal of Business Research, vol. 147, pp. 325-337, 08/2022 2022.

[2] V. D. Tran, "Consumer impulse buying behavior: the role of confidence as moderating effect," Heliyon, vol. 8, no. 6, p. e09672, Jun 2022.

[3] S. H. S. Ahmad Musadik, "A REVIEW: SCARCITY AND IMPULSE BUYING BEHAVIOR AMID COVID-19 PANDEMIC," International Journal of Business and Economy, no. 4, pp. 180-189%V 3, 2021 2021.

[4] L.-P. Dana, A. Salamzadeh, M. Hadizadeh, G. Heydari, and S. Shamsoddin, "Urban entrepreneurship and sustainable businesses in smart cities: Exploring the role of digital technologies," Sustainable Technology and Entrepreneurship, vol. 1, no. 2, 2022.

[5] A. Hussain, Z. Ali, M. Ullah, and F. Rasool, "A STRUCTURED LITERATURE REVIEW ON IMPULSE BUYING: ONLINE JITTERS AND OFFLINE JEEPERS," (in en), Humanities & Social Sciences Reviews, vol. 9, no. 3, pp. 37-49, 2021-05-01 2021.

[6] S. S. Al Hamli and A. E. E. Sobaih, "Factors Influencing Consumer Behavior towards Online Shopping in Saudi Arabia Amid COVID-19: Implications for E-Businesses Post Pandemic," Journal of Risk and Financial Management, vol. 16, no. 1, 2023.
[7] A. Redine, S. Deshpande, C. Jebarajakirthy, and J. Surachartkumtonkun, "Impulse buying: A systematic literature review and future research directions," International Journal of Consumer Studies, vol. 47, no. 1, pp. 3-41, 2023.
[8] Y. Liu, L. Cai, F. Ma, and X. Wang, "Revenge buying after the lockdown: Based on the SOR framework and TPB model," Journal of Retailing and Consumer Services, vol. 72, p. 103263, 2023/05/01/ 2023.
[9] S. Kimiagari and N. S. Asadi Malafe, "The role of cognitive and affective responses in the relationship between internal and external stimuli on online impulse buying behavior," (in en), Journal of Retailing and Consumer Services, vol. 61, p. 102567, 07/2021 2021.
[10] M. W. Karim, M. A. M. Chowdhury, M. A. A. Masud, and M. Arifuzzaman, "Analysis of Factors Influencing Impulse Buying Behavior towards e-Tailing Sites," Contemporary Management Research, vol. 17, no. 2, pp. 97-126, 2021.
[11] M. B. Gulfraz, M. Sufyan, M. Mustak, J. Salminen, and D. K. Srivastava, "Understanding the impact of online customers' shopping experience on online impulsive buying: A study on two leading E-commerce platforms," (in en), Journal of Retailing and Consumer Services, vol. 68, p. 103000, 09/2022 2022.
[12] W. Alkarney, R. Almakki, and F. Scioscia, "Factors Affecting the Intention to Use Virtual Stores: Perspectives of Consumers in Saudi Arabia," Mobile Information Systems, vol. 2022, pp. 1-24, 2022.
[13] R. S. Alotaibi, " Understanding Customer Loyalty of M-Commerce Applications in Saudi Arabia," International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies, 2021.
[14] I. M. Arrafi and F. M. Ghabban, "Impulse Buying Model for Business-to-Consumer E-Commerce in Saudi Arabia," iBusiness, vol. 13, no. 02, pp. 81-102, 2021.
[15] m. elshanawany, " The role of emotional appeals in motivating reminder and suggestive buying behavior During Corona pandemic (Applied to Mall customers in Egypt) " https://csj.journals.ekb.eg, 2021.
[16] H. Mabkhot, N. M. Isa, and A. Mabkhot, "The Influence of the Credibility of Social Media Influencers SMIs on the Consumers' Purchase Intentions: Evidence from Saudi Arabia," Sustainability, vol. 14, no. 19, 2022.
[17] I. Febrilia and A. Warokka, "Consumer traits and situational factors: Exploring the consumer's online impulse buying in the pandemic time," Social Sciences & Humanities Open, vol. 4, no. 1, 2021.
[18] I. Indrawati, G. Ramantoko, T. Widarmanti, I. A. Aziz, and F. U. Khan, "Utilitarian, hedonic, and self-esteem motives in online shopping," Spanish Journal of Marketing - ESIC, vol. 26, no. 2, pp. 231-246, 2022.
[19] C.-H. Lee and C.-W. Chen, "Impulse Buying Behaviors in Live Streaming Commerce Based on the Stimulus-Organism-Response Framework," Information, vol. 12, no. 6, 2021.
[20] N. Yu and Y.-T. Huang, "Why do people play games on mobile commerce platforms? An empirical study on the influence of gamification on purchase intention," Computers in Human Behavior, vol. 126, 2022.
[21] R. R. Ahmed, D. Streimikiene, J.-A. Rolle, and P. A. Duc, "The COVID-19 Pandemic and the Antecedants for the Impulse Buying Behavior of US Citizens," Journal of Competitiveness, vol. 12, no. 3, pp. 5-27, 2020.
[22] L. Eger, L. Komárková, D. Egerová, and M. Mičík, "The effect of COVID-19 on consumer shopping behaviour: Generational cohort perspective," Journal of Retailing and Consumer Services, vol. 61, 2021.
[23] T. Maryati, "Consumer Behavior Changes Post Pandemic Covid-19," International Journal of Halal Research, vol. 2, pp. 84-89, 12/21 2020.
[24] D. Truong and M. D. Truong, "How do customers change their purchasing behaviors during the COVID-19 pandemic?," (in en), Journal of Retailing and Consumer Services, vol. 67, p. 102963, 07/2022 2022.
[25] J. Zhang, N. Jiang, J. J. Turner, and S. Pahlevan-Sharif, "The Impact of Scarcity on Consumers' Impulse Buying Based on the S-O-R Theory," Front Psychol, vol. 13, p. 792419, 2022.
[26] M. Moghaddasi, J. Marín-Morales, J. Khatri, J. Guixeres, I. A. Chicchi Giglioli, and M. Alcañiz, "Recognition of Customers' Impulsivity from Behavioral Patterns in Virtual Reality," Applied Sciences, vol. 11, no. 10, p. 4399, 2021.
[27] T. Mai, T. Nguyen, L. Vũ, V. Bui, T. Nguyen, and D. Do, "A study on behaviors of purchasing life insurance in Vietnam," Management Science Letters, vol. 10, pp. 1693-1700, 01/01 2020.