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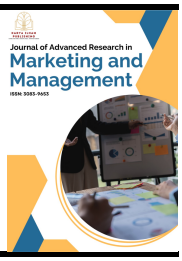

The Influence of Web Design, Trust, Hedonic Shopping Motivation and Positive Emotions on Online Impulsive Buying Behavior among Private University Students in Klang Valley

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ABSTRACT

The rapid expansion of digital technologies and e-commerce platforms has significantly transformed consumer purchasing behavior, particularly among Generation Z students who are highly engaged in online environments. Continuous exposure to online shopping platforms, social media, and mobile applications has contributed to the rise of online impulsive buying behavior, characterized by spontaneous and unplanned purchase decisions. Understanding the drivers of such behavior is crucial, as university students represent a digitally active and influential consumer segment. This study aims to examine the influence of website design, trust, hedonic shopping motivation, and positive emotions on online impulsive buying behavior among private university students in the Klang Valley. The objective is to determine how technological features and psychological factors contribute to impulsive purchasing tendencies in digital shopping contexts. A quantitative research design was adopted. Data were collected through structured questionnaires distributed to Generation Z students using convenience sampling. The data were analyzed using the Statistical Package for the Social Sciences (SPSS), employing reliability analysis, correlation analysis, and multiple regression to test the proposed relationships. The findings reveal that website design, trust, hedonic shopping motivation, and positive emotions each have a positive and statistically significant effect on online impulsive buying behavior. These results highlight the combined importance of technological attributes and emotional drivers in shaping impulsive purchases. The study offers practical implications for online retailers and marketers seeking to enhance user engagement, strengthen trust, and create more appealing digital shopping experiences.

1. Introduction

In recent years, the rapid advancement of technology has significantly accelerated the online shopping process, transforming consumer purchasing behavior and giving rise to online impulsive

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buying behavior (OIBB) as an important area of academic inquiry. The widespread availability of the internet has fundamentally altered traditional shopping habits, enabling consumers to make purchases anytime and anywhere [1]. Prior studies by Safeer [2] suggest that digital environments, particularly social media platforms, function as external stimuli that can trigger impulsive purchasing behavior by increasing exposure, convenience, and emotional engagement. According to Kimiagari *et al*., [3], impulsive buying is commonly defined as unplanned and spontaneous purchasing behavior driven by internal states and external cues. For instance, empirical findings indicate that nearly 40% of online transactions may be characterized as impulsive Mian [4], suggesting that e-commerce settings provide structural and psychological conditions conducive to spontaneous buying behavior. Grounded in the Theory of Planned Behavior (TPB) [5], this study conceptualizes online impulsive buying behavior as an outcome influenced by consumers' attitudes, perceived behavioral control, and subjective norms. Website design and trust are expected to shape consumers' perceived control and confidence in online transactions, while hedonic shopping motivation and positive emotions are closely linked to affective attitudes that may encourage impulsive decisions.

The Theory of Planned Behavior (TPB) has been widely applied in consumer behaviour research to explain online purchase intentions and impulsive tendencies in technology-mediated environments [6]. Empirical research further suggests that generational differences influence impulsive buying behaviour in digital contexts. Evidence indicates that approximately 41% of Generation Z consumers exhibit impulsive buying tendencies, compared with 34% of Millennials and 32% of Generation X [7,8]. This higher prevalence has been associated with Generation Z's preference for novelty and immediacy in consumption. Impulsive buying behaviour appears to be particularly pronounced among Generation Z due to their extensive engagement with digital platforms and social media [8]. High levels of technological competence and intuitive online navigation skills may further facilitate spontaneous purchasing decisions in online environments [9].

Despite the growing interest in OIBB, research on Generation Z university students remains limited, and few studies have simultaneously examined the combined influence of website design, trust, hedonic shopping motivation, and positive emotions within this population. Addressing this gap, the present study aims to examine the effects of these factors on online impulsive buying behavior among private university students in Klang Valley. Specifically, this study aims (1) to examine the influence of website design on online impulsive buying behavior, (2) to examine the influence of trust on online impulsive buying behavior, (3) to examine the influence of hedonic shopping motivation on online impulsive buying behavior, and (4) to examine the influence of positive emotions on online impulsive buying behavior. The findings of this study are expected to provide practical insights for e-commerce platforms and marketers seeking to optimize online shopping experiences for Generation Z consumers. Additionally, this research contributes to the academic literature by extending the application of the Theory of Planned Behavior in digital consumer behavior contexts, offering a detailed understanding of the psychological and environmental factors that drive impulsive online purchases in a highly digitalized generation. Furthermore, while the current study focuses on direct relationships within the TPB framework, future research could incorporate flow experience as a mediating variable, which may provide additional insight into the psychological mechanisms linking online stimuli and impulsive buying behavior [10-14].

2. Literature Review

2.1.1 Online impulsive buying behavior

Impulsive buying behaviour, particularly in online contexts, has gained increasing scholarly attention alongside rapid technological advancement and the seamless integration of internet access

into daily life [15]. The digitalisation of commerce has expanded opportunities for spontaneous purchasing by embedding consumers within highly interactive and stimulus-rich environments. Importantly, the conceptual definition of impulsive buying remains consistent across offline and online settings; the primary distinction lies in the facilitating medium and the greater intensity of external stimuli present in online environments [15]. The growing dominance of the internet as a commercial platform further underscores the need to examine impulse buying within digital contexts [16]. The rapid expansion of e-commerce, information technology, telecommunications, mobile commerce, and digital payment systems has fundamentally reshaped consumer purchasing patterns. These technological developments have increased consumers' exposure to persuasive cues such as personalised recommendations, time-limited promotions, and frictionless checkout systems thereby amplifying the likelihood of online impulsive buying behaviour (OIBB) [17]. Consistent with earlier research, OIBB is generally conceptualised as an unplanned purchasing act triggered by sudden urges and affective responses rather than deliberate cognitive evaluation [18]. This emphasis on immediacy and emotional activation distinguishes impulsive buying from planned purchasing decisions and highlights the psychological mechanisms that digital environments may intensify.

Recent studies have identified several behavioral indicators of OIBB, including spontaneous online purchases, difficulty resisting buying urges, post-purchase guilt, sensitivity to online promotions, vulnerability to product displays, and purchasing for enjoyment rather than necessity [19]. A study by Chen *et al*., [17] reported that these indicators reflect the emotionally driven and situational nature of impulsive buying in online environments, where convenience [20] and constant accessibility [21] reduce consumers' decision-making barriers. Despite the increasing tendency toward impulsive purchasing online, the literature also highlights the role of protective psychological factors that may restrain such behavior. Recent empirical evidence by Chaudhary *et al*., [21], Kathuria *et al*., [22], suggests that emotion regulation, self-control, self-regulation, and self-efficacy significantly reduce consumers' vulnerability to online impulsive buying by enhancing cognitive control over emotional impulses. Consumers with higher self-regulatory capacity are better able to evaluate purchasing consequences and resist situational triggers commonly embedded in digital platforms [23]. Consequently, OIBB emerges from the interaction between external technological stimuli and internal psychological processes, underscoring the need for integrated theoretical perspectives in understanding impulsive online consumption.

2.1.2 Web design

Web Design significantly affects impulsivity, as elements like ease of navigation, visual appeal, and interactivity can enhance user engagement, making consumers more susceptible to impulsive decisions [24]. Well-thought of website design does not only enhance usability but also significantly impacts customer perceptions, behavior and satisfaction [24,25]. The attractiveness of the design of the website, virtual layout, easy and convenient navigation of the website virtual experience, and trust stimulate the customer to buy impulsively online [26]. According to Peng [27], the decision-making process of impulsive purchase may be influenced by signals derived from the surrounding environment. Lun *et al*., [28] suggested that user-centric design, focusing on minimalism and interactivity, has been shown to increase user satisfaction and positively impact brand perception. For instance, appealing web design features with interactive visuals, ease access to products and service, easy redemption of promotions and seamless payment process could stimulate online impulsive buying. Research conducted by Verhagen *et al*., [29] highlights that high quality visuals and promotional layouts can increase the impulsive buying rate by creating a stimulating and emotionally engaging online experience. Similarly, Utama *et al*., [30] found out that, the quality of a website

influences the level of impulsiveness exhibited by customers while making online purchases. Hence, the website design quality is significant to excite introductory shoppers' interest to additionally investigate a website and prompt a purchase on the web. This is consistent with the findings from [8,31,32] highlighted that bright colors and visually dynamic layouts appeal to younger demographics, while clean, professional designs are preferred by older users, indicating the need for demographic-sensitive web design.

2.1.3 Trust

Customers who trust e-commerce platforms and find purchasing procedures more convenient and enjoyable tend to spend more time accessing e-commerce, which can lead to more impulsive buying decisions [33]. Trust can be measured by adopting three leading indicators; benevolence, competence, and integrity [34]. A study by Gefen [35] stated that trust consists of three components, namely (1) integrity - how much confidence is someone in the honesty of the seller to maintain and fulfill the agreements that have made to consumers; (2) benevolence - how much someone trust the seller to behave well to consumers or the seller's willingness to serve the interest of consumers; (3) competence - someone's belief in the ability of the seller to help consumers to do something according to what the consumers' needs. Trust in online platforms, facilitated by secure payment methods and positive customer reviews, reduces perceived risks and increases the likelihood of impulse purchases [36]. This ease of completing transactions can lead to more impulsive buying than in the physical channel [37].

A recent study by Russell [38] indicated that trust not only reduces consumers' perceived risk but also enhances emotional confidence in decision-making, which can amplify impulsive purchase tendencies in digital environments. Aprilivianto *et al*., [39] identified that consumers who perceive high platform trust report lower cognitive deliberation, making them more responsive to situational cues that stimulate spontaneous purchases. Such trust has been shown to influence consumer attitudes positively, which in turn strengthens impulsive buying behavior by fostering habitual online purchasing [40]. Furthermore, Hsu *et al*., [41] demonstrated that trust interacts with feature-based factors such as ease of navigation and perceived website quality, thereby indirectly supporting impulsive buying through enhanced user experience. Collectively, these studies Agag *et al*., [40], Hsu *et al*., [41] suggest that trust functions as a critical psychological enabler that not only reduces perceived risk but also lowers cognitive barriers, making impulsive buying more likely in e-commerce compared to offline retail.

2.1.4 Hedonic shopping motivation

Hedonic shopping motivation refers to a form of shopping motivation driven by the pursuit of pleasure, enjoyment, and emotional gratification derived from the shopping experience itself [38]. Online impulsive buying is frequently impacted by a few things in which hedonic motivation plays the primary part where consumers might be associated with the motivation of purchasing [38]. Results of this study align with previous findings by Aprilivianto *et al*., [39], Agag *et al*., [40]. These studies reveal that hedonic shopping motivation has a significant influence on impulsive buying. Hsu *et al*., [41], Cinjarevic *et al*., [42] found out that hedonic shopping motivation is triggered by emotional satisfaction attributes like novelty, fun, praise from others, escapism, and social interaction. Consumers with strong hedonic motivation engage in shopping not solely to evaluate the functional quality or utility of products, but to experience excitement, entertainment, and enjoyment [43]. As a result, shopping becomes a leisure activity undertaken for fun and emotional satisfaction, often

without deliberate consideration of product attributes or practical necessity [44]. Curiosity and the drive to stay up to date with the latest trends often trigger spontaneous and unplanned purchasing decisions [45].

Studies used different dimensions in determining a consumer's hedonic level. For instance, Cinjarevic *et al*., [42] developed six dimensions of hedonic shopping motivation: adventure shopping (getting enjoyment from shopping adventure), social shopping (pleasure from shopping with families or friends), gratification shopping (reduction-stress shopping), idea shopping (collecting new information about the latest products), role shopping (buying a product for a gift), and value shopping (buying at a low-price item). Similarly, Arnold *et al*., [46] reported that studies examining these hedonic shopping dimensions consistently found positive correlations with impulsive buying behavior. These findings suggest that consumers are more likely to make spontaneous purchases when shopping satisfies emotional or experiential needs.

2.15 Positive emotion

Positive emotions can be described as the sense of happiness experienced by consumers, arising from stimuli encountered during the purchasing process [47]. Additionally, positive emotions are much broader and could emerge from a diverse range of experiences which usually influence one's intentions and behaviors externally that specify the pleasure-seeking activities. According to Purnomo *et al*., [48], positive emotion is identified as an effect of the heart's condition, which influences clients in making purchasing decisions. Positive and negative emotions, such as joy and fear, can affect how consumers think, make purchase choices, feel after making decisions, what is remembered, and how to enjoy a specific experience [49]. The fact that consumers experience emotional joy and happiness when making a purchase often motivates them to buy, even if they had no prior plans to do so [50,51]. An earlier study by Purnomo *et al*., [48] reported an insignificant impact of positive emotions on impulsive purchases. Similarly, Choirul *et al*., [52] found out that positive emotions directly contribute to consumers' impulsive buying in various store types and modes. In the similar vein, Sumarwan *et al*., [53] suggested that entertainment values are connected to online consumers' positive emotions and impulse buying behavior, driven by their feelings and psychosocial motivations. Moreover, positive emotions can lower consumers' cognitive control, leading them to rely more on affective responses rather than rational evaluation during the decision-making process [58]. In online shopping environments, emotionally stimulating cues such as visuals, interactivity, and entertainment features have been found to enhance positive emotions, which in turn increase impulsive purchase tendencies [59]. This suggests that positive emotions play a critical mediating role between environmental stimuli and impulsive buying behavior, particularly in hedonic and digitally enriched consumption contexts [60].

2.2 Research Framework

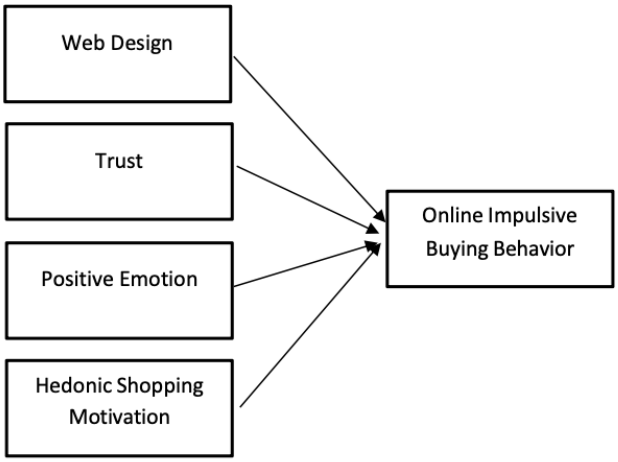

Fig. 1. Research framework

3. Methodology

The research strategy for this study pursues a quantitative research approach that focuses on numerical data and statistical analysis to discover the relationships between the variables. This study employed descriptive study designs to diagnose the influence of web design, trust, hedonic shopping motivation and positive emotion among private university students in Klang Valley. A quantitative approach is favored for linking empirical data with the study's concepts, as numerical data enables the analysis of research variables and provides a precise representation of the research hypothesis. Therefore, this research study took a quantitative approach that aims to confirm theoretical and empirical models that are built on theory related to online impulsive buying behavior and the study's major purpose is to investigate into the relationship and importance between online impulsive buying behavior among private university students in Klang Valley. A non-probability sampling method with convenience sampling technique was used in this research in choosing the samples. The quantitative data was solely gathered through survey questionnaires that disseminated among private university students in Klang Valley. The data collection methods that are used in this study was through a Google-Form questionnaire. To collect empirical data, developing a questionnaire by adapting the measurement scale items from previous literature that suits online impulsive buying behavior. [54], claim that in 1932 Likert method was created that allows for measuring people's attitude. The questionnaire employed a five-point Likert scale,1 being "strongly disagree", 2 being "disagree", 3 being "Neutral", 4 being "agree" and 5 being "strongly agree".

4. Result

4.1 Demographic Descriptive Analysis

The basic demographics of private university students in Klang Valley were analyzed through frequency analysis to provide an overview of the respondents' backgrounds. The objective of this survey is to gather and collect information on private universities students in Klang Valley and to reflect a specific demographic and gain well-rounded understanding of the students.

Table 1
Demographic characteristics

Demographic Analysis	Characteristics	Frequency	Percentage
Gender	Male	203	43.3%
	Female	226	52.7%
	Total	429	100%
Age	18 – 20	153	3.3%
	21 – 25	181	73.3%
	26 – 30	71	16.7%
	Above 31	24	5.6%
	Total	429	100%
Ethnicity	Malay	203	47.3%
	Indian	92	21.4%
	Chinese	92	21.4%
	Others	42	9.8%
	Total	429	100%
University	Management and Science University (MSU)	95	22.1%
	Universiti Selangor (UNISEL)	26	6.1%
	Sunway University	62	14.5%
	SEGi University	32	7.5%
	Universiti Tenaga Nasional (UNITEN)	23	5.4%
	Infrastructure University Kuala Lumpur (IUKL)	32	7.5%
	German-Malaysian Institute (GMI)	21	4.9%
	Multimedia University (MMU)	34	7.9%
	Heriot-Watt University Malaysia	32	7.5%
	Taylor's University	40	9.3%
	Universiti Kuala Lumpur (UniKL)	25	5.8%
	International Islamic College (Others)	2	0.5%
	Monash University (Others)	4	0.9%
	City University (Others)	1	0.2%
	Total	429	100%
Nationality	Local Malaysian	387	90.2%
	International Student	42	9.8%
	Total	429	100%
Education Level	Foundation	63	14.7%
	Diploma	128	29.8%
	Degree	220	51.3%
	Masters	14	3.3%
	PhD	4	0.9%
	Total	429	100%
Shopping Online	Yes	413	96.3%
	No	16	3.7%
	Total	429	100%

Table 1 depicts the summary of the respondent's profile. Most respondents were female with 52.7% and male with 47.3%. Nurlinda *et al*., [55] discovered that females have higher levels of impulsive purchasing tendencies than males, particularly when it comes to purchasing fashion and beauty products. Furthermore, studies have shown that when engaging in impulsive buying behavior, females are more motivated by emotional factors such as the desire for immediate gratification or the need for self-expression [8]. Research focusing on the relationship between age and impulsive buying behavior has shown that age-related factors can influence online impulsive purchasing tendencies among college students. Most respondents are those aged 18-20 years with 153 (35.7%) and 21-25 with 81 (42.2%), followed by 26-30 with 71 (16.6%) and above 31 with 24 (5.6%). The study mostly received responses from students aged 18-20. According to [56] found that younger college students exhibit higher levels of online impulsive buying behavior compared to older students. This could be attributed to factors such as higher levels of technological familiarity and greater exposure to online marketing stimuli among younger individuals [57].

Most respondents identified as Malay, with 203 individuals (47.3%), Chinese and Indian respondents shared the same amount with 92 individuals (21.4%), followed by others ethnicity with 9.8%. The data provides insights into the ethnic diversity within the respondent population, highlighting the predominant ethnic groups among participants. Many respondents came from Management and Science University (MSU), which contributed the highest number with 95 individuals, with 22.1% of the total. This was followed by Sunway University with 62 respondents (14.5%) and Taylor's University with 40 respondents (9.3%). A moderate number of participants were from Multimedia University (MMU), SEGi University, Infrastructure University Kuala Lumpur (IUKL), and Heriot-Watt University Malaysia, each contributing around 7–8% of the sample. Other institutions such as Universiti Selangor (UNISEL), Universiti Kuala Lumpur (UniKL), and Universiti Tenaga Nasional (UNITEN) made up between 5–6% of respondents. Smaller contributions came from the German-Malaysian Institute (GMI), International Islamic College, Monash University, and City University, each comprising less than 5%, with the smallest being City University at only 0.2%.

Local Malaysian respondents had a frequency of 387 (90.2%) while international students with 42 respondents (9.8%). The education level starts off with Foundation with 63 respondents (14.7%), followed by Diploma with 128 respondents (29.8%), the highest were Degree with 220 respondents (51.3%), then master's 3.3% and PhD 0.9%. Ultimately, the demographics section ends with respondents' online shopping activities in which most of the respondents shop online by 96.3% and 3.7% out of the overall total respondents do not shop online.

4.2 Descriptive Analysis

Table 2
Descriptive analysis

Variable(s)	Min	Max	Std. Deviation	Skewness	Kurtosis
Online Impulsive Buying Behavior (OIBB)	5.00	25.00	4.58485	-0.761	-0.172
Web Design (WD)	10.00	30.00	3.47048	-0.964	1.212
Trust	4.00	20.00	2.75489	-.0525	0.072
Hedonic Shopping Motivation (HSM)	7.00	25.00	2.82106	-1.381	2.769
Positive Emotion (PE)	4.00	20.00	2.15796	-1.528	4.561

The minimum and maximum values for these variables range from 4.00 to 30.00. OIBB has the widest spread (Min = 5.00, Max = 25.00) and the highest standard deviation (4.58485), indicating greater variability among respondents. PE shows the lowest standard deviation (2.15796), suggesting more consistent responses. All variables are negatively skewed, with PE (-1.528) and HSM (-1.381) showing the highest negative skewness, indicating a concentration of higher values. In terms of kurtosis, PE (4.561) and HSM (2.769) exhibit leptokurtic distributions, reflecting a sharper peak and heavier tails compared to a normal distribution. Conversely, OIBB and TRUST have near-normal distributions with kurtosis values close to zero. Overall, the data shows some degree of non-normality in distribution, particularly for PE and HSM.

4.3 Reliability Analysis

Table 3
Reliability analysis

Variable(s)	Items	Reliability
Online Impulsive Buying Behavior (OIBB)	5	0.811
Web Design (WD)	6	0.774
Trust	4	0.615
Hedonic Shopping Motivation (HSM)	5	0.816
Positive Emotion (PE)	4	0.806

The reliability analysis was conducted for five variables (i.e.; OIBB, WD, TRUST, HSM, and PE) using a sample size of 429. The results indicate that the reliability coefficients (Cronbach's alpha) for the variables are as follows: OIBB with 5 items has a reliability of 0.811, WD with 6 items has 0.774, TRUST with 4 items has 0.615, HSM with 5 items has 0.816, and PE with 4 items has 0.806. These values suggest that most of the variables demonstrate acceptable internal consistency, except for TRUST, which has a relatively lower reliability.

4.4 Correlation Analysis

Table 4
Correlation analysis

		OIBB	WD	TRUST	HSM	PE
OIBB	**Pearson Correlation**	1	0.518	0.580	0.429	0.283
	Sig. (2-tailed)	.	<0.001	<0.001	<0.001	<0.001
	N	420	420	420	420	420
WD	**Pearson Correlation**	0.518	1	0.522	0.669	0.473
	Sig. (2-tailed)	<0.001	.	<0.001	<0.001	<0.001
	N	420	420	420	420	420

TRUST	**Pearson Correlation**	0.580	0.522	1	0.520	0.355
	Sig. (2-tailed)	<0.001	<0.001	.	<0.001	<0.001
	N	420	420	420	420	420
HSM	**Pearson Correlation**	0.429	0.669	0.520	1	0.560
	Sig. (2-tailed)	<0.001	<0.001	<0.001	.	<0.001
	N	420	420	420	420	420
PE	**Pearson Correlation**	0.283	0.473	0.355	0.560	1
	Sig. (2-tailed)	<0.001	<0.001	<0.001	<0.001	.
	N	420	420	420	420	420

The results gathered from the testing shows an existence of significance value between the two dimensions where p value is not bigger than the significant value (p=0.000 which < 0.05). The Pearson correlation coefficient (Pearson's r) measures the strength and direction of the relationship between two continuous variables. Correlation doesn't imply causation. There may be, for instance, an unknown factor that influences both variables similarly. The range of values for the correlation coefficient is -1.0 to 1.0. If a calculated correlation is greater than 1.0 or less than -1.0, there's an error made. A correlation of -1.0 indicates a perfect negative correlation, while a correlation of 1.0 indicates a perfect positive correlation. In this study, the analysis revealed strong and moderate positive connections between the variables.

The results show significant positive correlations among all variables ($p < 0.001$). OIBB has strong correlations with TRUST ($r = 0.580$) and WD ($r = 0.518$), while its correlation with HSM ($r = 0.429$) and PE ($r = 0.283$) is moderate to low. WD demonstrates strong correlations with HSM ($r = 0.669$) and TRUST ($r = 0.522$). TRUST is also positively correlated with HSM ($r = 0.520$) and PE ($r = 0.355$). Lastly, HSM and PE have a moderate positive correlation ($r = 0.560$). These findings indicate that higher levels of web design, trust, hedonic shopping motivation, and positive emotions are associated with increased online impulsive buying behavior.

4.5 Regression Analysis

4.5.1 Model summary

Table 5
A. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.633	0.400	0.394	3.56826

Table A presents that the model has a correlation coefficient (R) of 0.633, indicating a moderate positive relationship between the independent variables and the dependent variable. The R Square

value is 0.400, meaning that approximately 40% of the variance in the dependent variable can be explained by the model. The Adjusted R Square is slightly lower at 0.394, accounting for the number of predictors in the model. The standard error of the estimate is 3.56826, reflecting the average distance between the observed values and the predicted values of the model.

Table 6
B ANOVA

Model		Sum of Square	Df	Mean Square	F	Sig.
1	Regression	3523.769	4	880.942	69.189	< 0.001
	Residual	5283.972	415	12.732		
	Total	8807.740	419			

The ANOVA table for the regression model shows that the model is statistically significant ($p < 0.001$). The regression model has a sum of squares of 3,523.769 with 4 degrees of freedom (df), resulting in a mean square of 880.942. The residual sum of squares is 5,283.972 with 415 degrees of freedom, leading to a mean square of 12.732. The F value of 69.189 indicates that the model explains a significant portion of the variance in the dependent variable compared to the residual variance. This confirms that the regression model is a good fit for the data.

Table 7
C. Coefficients

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-2.148	1.590	0	-1.351	0.178
	WD	0.381	0.071	0.288	5.365	< 0.001
	TRUST	0.701	0.077	0.421	9.095	< 0.001
	HSM	0.44	0.092	0.027	0.478	0.633
	PE	-0.038	0.099	-0.018	-0.383	0.702

Table C. Coefficients shows that the constant value is -2.148, but it is not statistically significant ($p = 0.178$). Among the predictors, TRUST has the highest positive influence on the dependent variable ($B = 0.701$, Beta = 0.421, $p < 0.001$), followed by WD ($B = 0.381$, Beta = 0.288, $p < 0.001$). HSM has a positive but statistically insignificant effect ($B = 0.44$, Beta = 0.027, $p = 0.633$), while PE has a negligible and non-significant negative impact ($B = -0.038$, Beta = -0.018, $p = 0.702$). These results suggest that trust and web design are the most influential factors in predicting the dependent variable.

Table 8
D. Residual statistics

	Min	Max	Mean	Std. Deviation	N
Predicted Value	8.5023	23.6453	17.4119	2.89999	420
Residual	-10.30452	9.49337	0.00000	3.55118	420
Std. Predicted Value	-3.072	2.149	0.000	1.000	420
Std. Residual	-2.888	2.661	0.000	0.995	420

The residual statistics show that the predicted values of the model range from 8.5023 to 23.6453 with a mean of 17.4119 and a standard deviation of 2.89999. The residuals, which measure the difference between the predicted and actual values, have a minimum of -10.30452, a maximum of 9.49337, a mean of 0.00000, and a standard deviation of 3.55118, indicating that the model is balanced in terms of over and under- predictions. Additionally, the standardized predicted values range from -3.072 to 2.149 with a mean of 0.000 and a standard deviation of 1.000, while the standardized residuals range between -2.888 and 2.661 with a mean of 0.000 and a standard deviation of 0.995, further supporting the normal distribution of residuals.

4.6 Hypotheses Testing

Table 9
Hypotheses testing

Descriptive	Hypotheses	Beta	t	p	Result
H1	Website design has a significant effect on online impulse buying behavior.	0.288	5.365	0.001	Acceptable
H2	Trust has a significant effect on online impulsive buying behavior.	0.421	9.095	0.001	Acceptable
H3	Hedonic shopping motivation has a significant effect on online impulsive buying behavior.	0.027	0.478	0.633	Not Acceptable
H4	Positive emotions have a significant effect on online impulsive buying behavior.	-0.018	-0.383	0.702	Not Acceptable

The hypothesis testing results reveal that two out of four hypotheses are supported. H1, which posits that “website design significantly affects online impulse buying behavior”, is accepted (Beta = 0.288, t = 5.365, p = 0.001). Similarly, H2, suggesting that “trust significantly impacts online impulse buying”, is also accepted (Beta = 0.421, t = 9.095, p = 0.001). However, H3, which assumes that “hedonic shopping motivation significantly affects online impulse buying”, is rejected due to an insignificant effect (Beta = 0.027, t = 0.478, p = 0.633). H4, which suggests that positive emotions have a significant impact on online impulse buying, is also rejected because the effect is not significant (Beta = -0.018, t = -0.383, p = 0.702). This indicates that only website design and trust are significant predictors of online impulsive buying behavior in this study.

5. Discussion

This study tested four direct effect hypotheses on online impulsive buying behavior, and the findings revealed that two of them were supported. The first hypothesis (H1) demonstrated that website design significantly influences consumers' online impulsive buying behavior. This result aligns with previous studies [58-60], which emphasized that a well- designed, attractive website can trigger impulsive purchases. The second hypothesis (H2) also proved significant, indicating that trust in online platforms positively affects impulsive buying. This finding supports the work of Gulfraz et al., [33] and Burns *et al*., [61], who highlighted that consumer who trust e-commerce platforms are more

likely to make impulsive purchases. However, the third hypothesis (H3), which proposed a significant effect of hedonic shopping motivation on impulsive buying, was not supported. This contradicts earlier findings Ozdemir and Akcay, [62], Luo *et al*., [63], which reported a positive relationship between hedonic motivation and impulsive purchases. Finally, the fourth hypothesis (H4), suggesting that positive emotions directly influence impulsive buying, was also rejected. This outcome contrasts with the study by Sumarwan *et al*., [53], which showed a positive link between emotions and impulsive buying behavior. These non-significant results suggest that the effects of hedonic motivation and emotions may be indirect, mediated by a psychological state of immersion. To address this, the study proposes flow experience as a mediating variable. Flow experience is defined as a state of complete absorption, focused attention, and enjoyment during an activity [12,13]. In online shopping, flow experience occurs when consumers are deeply engaged with the platform, losing self-consciousness and experiencing high enjoyment [12]. Empirical studies show that flow experience positively influences impulsive buying and mediates the effect of hedonic browsing and emotional responses on unplanned purchases [13,14]. For example, hedonic browsing in social media–based commerce can enhance flow, which in turn increases impulsive purchase behavior [13]. Flow also mediates the effects of interactive cues and environmental stimuli in live streaming commerce on impulsive buying [64].

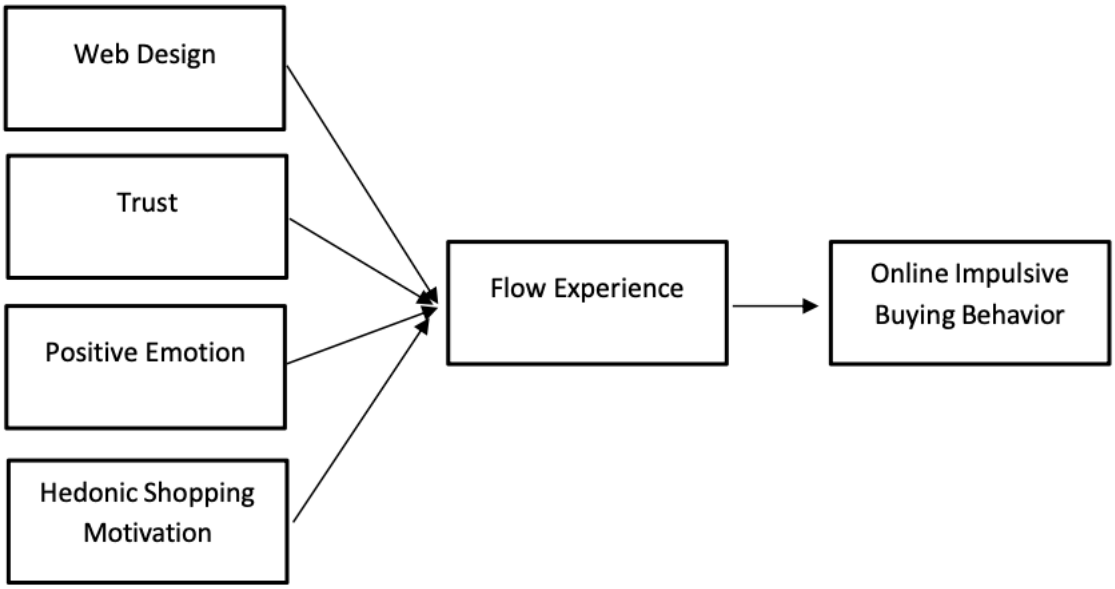

Fig. 2. Suggested research framework for future research

5. Limitation and Recommendation

This study has several limitations that should be acknowledged. First, the research was conducted over a relatively short period, which restricted the depth of data collection and analysis. While the condensed timeframe enabled timely results, it limited the ability to capture longer-term trends or changes in consumer behavior. Extending the research duration in future studies could provide richer data and reveal patterns that evolve over time, offering a more comprehensive understanding of online impulsive buying behavior [14]. Second, the study relied primarily on self-reported data collected through questionnaires, which, although convenient and efficient, are susceptible to response bias and measurement errors. Participants may provide socially desirable answers,

misinterpret questions, or fail to accurately reflect their true behavior [65]. To address this, future research could adopt mixed-method approaches, combining quantitative surveys with qualitative techniques such as interviews or focus groups to obtain more authentic and in-depth insights. Third, the study focused on private university students in Klang Valley, which may limit the generalizability of the findings. Generation Z, the predominant demographic in the sample, exhibits unique digital behaviors, social media usage patterns, and shopping motivations that influence impulsive buying tendencies [8].

Future research could expand the participant base to include other age cohorts, monthly allowance, or geographic regions to improve external validity. Additionally, this study highlights the importance of psychological and experiential factors, such as hedonic motivation, positive emotions, and flow experience, in understanding online impulsive buying. Flow experience, defined as a state of deep immersion, enjoyment, and focused attention during online shopping, has been shown to mediate the effects of hedonic browsing and emotional engagement on impulsive purchase behavior [13,14,64]. Future studies should empirically test these mediating pathways using structural equation modeling or longitudinal designs to capture both direct and indirect effects. Finally, website design and trust remain critical predictors of online impulsive buying. Future research could examine how interactive platform features, personalized recommendations, and platform credibility interact with individual characteristics such as impulsivity or self-control to influence impulsive purchase behavior among Generation Z consumers. Addressing these factors will provide a more holistic understanding of the mechanisms driving online impulsive buying in digital environments.

6. Conclusion

Online impulsive buying behavior (OIBB) is a specific and complex phenomenon that can be analyzed from multiple perspectives due to the wide range of factors influencing it. To better understand consumer behavior in this context, the present study proposes a theoretical model incorporating several determinants of OIBB. Specifically, this study examines the influence of website design, trust, hedonic shopping motivation, and positive emotions on online impulsive buying behavior among Generation Z consumers, represented here by private university students in Klang Valley. Generation Z is considered a highly relevant sample due to their high digital engagement and susceptibility to online impulsive purchases. Recent statistics indicate that approximately 41% of Generation Z consumers exhibit impulsive buying tendencies, compared to 34% of Millennials and 32% of Generation X, reflecting their strong desire for new products and immediate consumption [8], [20]. The study employs a quantitative approach to analyze the effects of these determinants on online impulsive buying behavior. Data were collected using surveys and analyzed through a series of statistical techniques, including descriptive statistics, reliability analysis, and regression modeling, to explore the relationships between the proposed variables and impulsive buying tendencies. While the current study focuses on direct relationships, future research could strengthen the conceptual framework by incorporating flow experience as a mediating variable [12,64]. Including flow experience in the framework could provide a more understanding of how engagement and affective responses translate into impulsive purchase behavior, particularly among digitally native Generation Z consumers, and guide e-commerce platforms in designing more engaging and effective online shopping experiences.

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