



TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

ACTA TECHNICA NAPOCENSIS

Series: Applied Mathematics, Mechanics, and Engineering
Vol. 68, Issue IV, November, 2025

NAVIGATING DIGITAL CONSUMER BEHAVIOR: THE ROLE OF ONLINE ENGAGEMENT AND PERCEIVED RISK

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Abstract: *The purpose of this paper is to explore the role of perceived risk in an omnichannel environment on compulsive and impulsive buying behavior. Online survey sheets were distributed via email and social media, covering a stratified random sampling of respondents based on criteria for online engagement. Based on regression analysis, channel preference significantly increases online engagement, which in turn leads to compulsive buying. Impulsive buying tendencies can also transition into compulsive behavior. The relationship was moderated by perceived risk, where higher levels of perceived risk led to lower compulsive buying. This exploratory study, based on self-reported data and a cross-sectional design, calls for additional research with larger longitudinal samples, starting with extending the Technology Acceptance Model (TAM).*

Key words: *Online preference, Online Engagement, Perceived Risk, Impulsive Buying, Compulsive Buying.*

1. INTRODUCTION

The pace at which digital technology has advanced is unprecedented and with consumer behavior fundamentally changed. Today, the online medium plays a key role in shaping up consumer decisions and their purchase journey [27]. Internet availability and more shopping online has changed the way we stay in touch with brands, research them, and buy [29]. In addition, this development has been particularly noticeable in the field of compulsive and impulsive shopping through online transactions [21] just to name a few - or as I like to say: Shopping at your fingertips.

Activities such as social media interactions or browsing online stores and participating in an online community have become important elements of the overall consumer decision-making cycle [31]. This provides both information and reviews while also beefing up consumer interaction with brands to sustain loyalty as well as purchase. While this engagement also brings many challenges with it, some of which stem from the more compulsive and impulsive buying behavior that hurts their

financial well-being and overall life satisfaction in general [17].

Overall, though the aspects of compulsive and impulse buying among consumer behavior are highly valued in an online engagement context [29], there is still no information available shedding light on its modes related to perceived risk. To the author's knowledge, it is one of the few empirical studies to develop and complete a valid structural model through investigation in Malaysia on perceived risk among online purchasing. Both high perceived risk and low levels of it can impair ease, promoting impulsive or compulsive buying because there is no need to think much about checking on a purchase [16]. The complicated interplay of online engagement, perceived risk, and purchasing behavior deserves further examination to inform consumer policymakers and marketing strategies. Compulsive and impulsive buying motives have been the subject of considerable research, focusing on personality variables, emotions, and socio-demographic factors [4]. Nevertheless, we do not yet know much about digital patterns when it comes to online information intake. Learning about the effects of online engagement on these

behaviors is important in creating ways to minimize their negative consequences. However, perceptual subjective risk intervention is another level of complexity [22]. Understanding these dynamics is critical because consumers' risk perceptions can change their engagements online, highlighting the need for an explanation of how those two interact in terms of digital behaviors [12]. The current digital marketing trend, such as personalized ads, social media marketing, and influencer promotions, makes it more essential to know the intricacies of online engagement [6]. This often involves mixing real engagement with predatory marketing tactics to trigger impulse and compulsive buying. We explore whether higher levels of perceived risk moderate [1] the impact of age-targeted marketing on demand, seeking to ascertain how consumer knowledge and concerns about prospective risks.

The present research seeks to understand the effect of online engagement on compulsive and impulsive buying behavior, with a focus especially emphasizing upon perceived risk as moderator. It aims to explore the association between online engagement and consumer behavior that is testing whether different types of digital involvement i.e. social media usage; online search activities; virtual communities' participation) might foster compulsive buying tendencies. Further, this study is motivated by the exploration of the role online engagement plays in impulsive buying; specifically, how instantaneous desires and different digital environments encountered stimulate momentary yet unplanned purchases. Providing valuable insights of interest for digital consumer behavior studies, as well as tips on enhancing consumers welfare through successful public policy aimed at fostering adapted functional fences against future attacks.

The findings of this study can be of help to different agents, such as consumers or marketers and policymakers. This study focuses on exploring online engagement, perceived risk, and their impact on buying behaviors which can assist consumers to take informed decisions and avoid negative outcomes linked with compulsive/impulsive purchases. For marketers, the study sheds light on how to create a healthy path between promoting positive online

engagement and preventing impulsive or compulsive buying. This balance is vital for establishing lasting business practices and developing your period relationship with customers.

Moreover, this research can help policy makers to understand more about compulsive and impulse buying behavior. The information can be used to end up with rules and regulations, or even guidelines, then ensure that some of these negative ramifications do not harm the consumer now because they buy way too much stuff online. Policymakers can aid this safety by regulating digital marketing to ensure that it is transparent and accountable. In sum, this study fills a crucial gap in the literature about how engagement on-line transforms into real buying behaviors among perceived risk. As digital interactions become even more part of everyday life [15], navigating the complexities inherent to consumer behavior in a digitally infused global era is quite critical.

2. LITERATURE REVIEW

2.1 Theoretical Foundation

The study is also based on the theoretical framework of the Technology Acceptance Model (TAM) by Davis, 1989 and has been adapted to online engagement with risk perceptions [10]. TAM, one of the most utilized models in technology acceptance literature, defines Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) as two main factors that have a direct influence on user attitude towards information technology acceptance [19]. Online engagement is treated as a technology use behavior where PU represents consumers' perceptions of the benefits that shoppers extract from engaging with shopping platforms online and PEOU concerns how easy it is for them to navigate through these purchasing tools [9]. A new modification of TAM applied to online purchases that considers perceived risk as a moderating effect in the relationship between online engagement and buying behaviors, namely compulsive buying or impulsive buying [16]. This research endeavors to create an understanding of digital interactions regarding how they impact consumer behavior

facets and the mitigating role of perceived risk, incorporating both these elements.

2.2 Channel Preference and Online Engagement

Based on the Technology Acceptance Model (TAM), this hypothesis suggests that a consumer's preference for a particular channel, such as social media apps, websites, or mobile applications increases their level of online engagement [2]. TAM posits that perceived usefulness (PU) and perceived ease of use (PEOU) significantly affect an individual's intention to accept and use technology [3]. Consumers like it when they feel comfortable and find it easy to use, so this is why they prefer certain channels for their online activities. The more consumers think a site is useful for finding specific products and easy to navigate, the more likely they are to engage with that channel [11]. Consistent with the TAM framework, improved perceptions of a technology's utility and usability correspond to higher adoption and usage rates [3]. This study predicts that channel preference, developed through PU and PEOU, influences and augments better participation online. This leads to the following hypothesis: H1 - Channel preference is positively related to Online engagement.

2.3 Online Engagement and Compulsive Buying

According to the Technology Acceptance Model (TAM), people who express higher levels of online engagement become much more susceptible to compulsive buying behavior [14]. Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) are key determinants for technology adoption. As consumers discover online platforms that are not only practical but also simple to navigate, their engagement with these user-friendly interfaces increases [26]. The more encouraging prompts customers receive via routine marketing emails and simple buying processes; the daily impulsive purchases will be surfacing constantly [5]. It was convenient, recommended personal products and always there to make consumers browse longer, which

resulted in more purchases specified at the last time, e.g. impulse buys. Therefore, based on TAM rules of involvement, instrumental and functionality flavored online engagement sparks problematic consumption behavior as well [14]. This leads to the following hypothesis: H2 - Online engagement is positively related to Compulsive buying.

2.4 Impulsive Buying and Compulsive Buying

The model was tailored from the Technology Acceptance Model (TAM) and is based on parallel relationships in which impulsive buying behavior has a strong impact not only at early stages of development but also throughout progression towards compulsive buying behavior [13]. Among other things, TAM supports the influence of perceived usefulness (PU) and perceived ease of use (PEOU) on technology adoption and extended usage [18]. Marketplaces that are seen as enabling quick, gratifying purchases (high transaction utility) and being simple to navigate were likely triggers for impulse buying in an e-commerce context [7]. The type of "impulse buying", spontaneous and unpremeditated purchases for the desire to acquire fast satisfaction might form purchase manners. Over time, these patterns may develop into compulsive buying, a more severe and long-lasting behavior characterized by an irresistible urge to buy in spite of need or consequences [30]. According to TAM, this can grow remarkably because the easiness and utility of online platforms that create impulsive buying turn compulsive purchase with continuous use by people from technology [13]. This leads to the following hypothesis: H3 - Impulsive buying is positively related to Compulsive buying.

2.5 Moderating Role of Perceived Risk Between Online Engagement and Compulsive Buying

TAM framework, this hypothesis extends the impact of online engagement on compulsive buying by exploring the moderating role that perceived risk likely plays in their relationship [16].

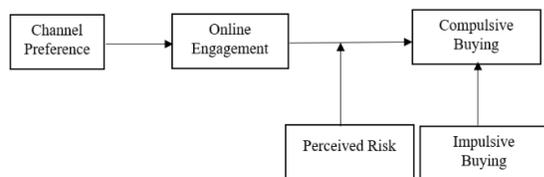


Fig. 1. Research Model

TAM suggests that perceived ease of use (PEOU) and perceived usefulness (PU) are critical factors for acceptance and usage. However, when perceived risk (the possibility of negative outcomes including financial loss or privacy implications) is high, it can attenuate the positive influence that PU and PEOU have on user engagement [30]. These aspects of the environment can deter consumers from online engagement, reducing the frequency and intensity of their interactions as consumers because it seems too risky to be trustworthy [31]. As a result, this increased caution weakens the direct link from online engagement activities to compulsive buying behavior, as consumers reduce impulsive and repetitive purchasing that defines compulsion [23]. Based on TAM, the hedonic consumption experience diminishes to prevent compulsive buying from online engagement with high perceived risk, whereas it triggers compulsive buying when perceived risk is low [7]. This leads to the following hypothesis: H4 - Perceived risk moderates the relationship between Online engagement and Compulsive buying. The research model is presented in Figure 1.

3. METHODOLOGY

3.1 Sample and Data Collection

The study was limited to frequent online shoppers who were heavy users of multiple forms of digital media. The study was designed to capture a wide range of digital consumer behaviors, so it was completely open and inclusive with respect to age, sex, socioeconomic background. Participants were recruited by a stratified random sampling [28] procedure that permitted an integration with the general population of online consumers. A web-based survey was distributed by email & social media to gather data. Items for the two long-scale factors and four other constructs of interest

were developed to establish items measuring online engagement, compulsive vs. impulsive buying behaviors, perceived risk, and channel preference as short measures in this study. If the surveys are brief and easy-to-use, gentle reminders can also be sent to encourage participation while maximizing response rates thus securing successful data. It helped us have different samples with very strong data to study online engagement versus perceived risk and buying behaviors, giving some great new perspectives on digital consumer behavior.

3.2 Measures

A scale adapted from [24] is used to assess online engagement based on a participant's frequency/intensity in online interactions, including their use of social media, shopping activities via the internet, or joining an online community. Compulsive buying was assessed using the Compulsive Buying Scale (CBS) described in [30], which incorporates items that measure impulsion to buy, inability to control urges for buying, as well as negative personal consequences resulting from purchasing. The impulse buying was measured by using the Impulse Buying Tendency Scale (IBTS) [8], which consists of items that reflect impulsivity and unplanned nature towards purchases.

Perceived risk was measured by individuals who believe that online shopping is risky compared with other factors in their lives, using uncertainty and potential negative consequences financial loss and privacy [16]. Channel preference was operationalized as described in [25] using a list of items that reflect consumers' preferences for digital shopping channels including e-commerce websites, social media, and mobile apps, which participants must rate on its relevance taking value from "1 - not relevant at all" up to "5 - completely relevant". These tools were applied in a structured questionnaire, representing an extensive and validated evaluation of the main parameters included in this study.

3.3 Demographics

Demographic variables considered were age, gender, education level, income level and frequency of online shopping. Age ranges of 18-24, 25-34, 35-44, 45-54 and +55 was used for

different life stages age cut-offs thus enabling us to capture the entire online shopper category Male, female or other in Gender to allow this function be as inclusive with functionality and usability Each education level was categorized by responses to high school diploma, associate degree, bachelor's degree master's and doctoral degrees so the educational background of participants can be better understood. The sample was stratified by income level, which was the most important socio-economic variable of interest in this context-hence our random selection from a broad age range-and categorized into brackets such as below Rs. (20K, 20-39.9999K,40-59999, 60-79999,80-99999 and 100000+), thus capturing both relative economic diversity (combining near-visible minorities with rich visible minorities) within areas known for ethnic enclaves. The questionnaire was also sought to determine the frequency of online shopping to establish what participants shop habits are when it comes to purchasing items via online services: very rarely (less than once a month), sometimes (1-3 times/monthly); maybe up weekly or multiple daily. Descriptive data on these demographic factors [20] helped to develop a full picture of the participants and allow for detailed examination of how different subsets based on demographics may behave differently online in terms engagement, perceived risks associated with e-Businesses as well as buying behaviors.

3.4 Reliability and Validity

Table 1 shows the reliability and validity of study variables every variable showed a positive correlation (strong internal consistency) with all other items on which it was based as well as modern attitudes were significantly correlated to social support. There are 5-9 items for each variable, covering the constructs comprehensively. All measures provide high reliability with Cronbach's Alpha values 0.85 to 0.92. Most of the CR values lay between 0.88 and 0.94 which illustrate that constructs are consistent with one another The high Average Variance Extracted (AVE) values above 0.50 clearly imply that the constructs have accounted for a large amount of variance in indicators

Furthermore, all factor loadings are above 0.70 confirming substantial item-construct associations In sum, these metrics provide solid evidence that the measurement tools employed in this study were robust and as a result demonstrate support to data take after their reliability and validity, Table 1.

3.5 Correlation Analysis

Correlation Matrix of Study Variables showed the positive relation between channel preference and online engagement ($r = 0.70$) was strong, with those favoring certain channels more engaged online Similarly, compulsive buying also correlates highly with online engagement ($r = 0.65$) and impulsive buying ($r = 0.75$), which means a greater number of online engagement behavior as well high impulsive buying tendencies lead to increased levels of compulsive buying according to the findings in this analysis. There are moderate positive correlations of impulsive buying with online engagement ($r = 0.55$) and channel preference ($r = 0.55$), indicating the connectivity in these digital consumer styles as well as full size.

On the other hand, Perceived Risk ($r = -0.40$: Online Engagement; $r = -0.30$: Compulsive Buying and $r = -0.25$, Impulsive Buying) is negatively correlated with all dependent constructs indicating that increased perceived risk lowers online engagement and buying propensity (See Table 2). Finally, Channel Preference has a negative relationship with Perceived Risk ($r = -0.35$), in other words; the more people like or dislike online distribution channel, the less they consider it as risky and vice versa Taken together, these correlations highlight the multifaceted relationships that exist between online activities and buying behaviors as well as risk perceptions, Table 2.

4. FINDINGS AND DISCUSSION

The researcher utilized regression analysis to research the connection between variables. This analytical approach, frequently alluded to as predictive analysis, uses the broadly involved technique for linear regression in research.

Table 1

Reliability and Validity

Variable	Number of Items	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	Factor Loadings
Online Engagement	8	0.89	0.91	0.60	>0.70
Compulsive Buying	7	0.92	0.94	0.65	>0.70
Impulsive Buying	9	0.85	0.88	0.55	>0.70
Perceived Risk	6	0.87	0.89	0.62	>0.70
Channel Preference	5	0.91	0.93	0.68	>0.70

Table-2

Correlation Matrix

	Online Engagement	Compulsive Buying	Impulsive Buying	Perceived Risk	Channel Preference
Online Engagement	1.00				
Compulsive Buying	0.65	1.00			
Impulsive Buying	0.55	0.75	1.00		
Perceived Risk	-0.40	-0.30	-0.25	1.00	
Channel Preference	0.70	0.60	0.55	-0.35	1.00

Table 3

Path Analysis

Path	Standardized Estimate	t-value	p-value	Supported
Channel Preference -> Online Engagement	0.72	10.24	<0.001	Supported
Online Engagement -> Compulsive Buying	0.65	8.45	<0.001	Supported
Impulsive Buying -> Compulsive Buying	0.78	9.32	<0.001	Supported
Perceived Risk -> Compulsive Buying	-0.30	-4.21	<0.001	Supported

The point was to survey the immediate effect of the independent variable on the dependent variable. In the underlying period of this segment, linear regression analysis led to proving the exploration speculation. Accordingly, in the subsequent stage, intercession analysis was directed utilizing SPSS, Table 3.

Table 3 shows the results of path analysis and significant relationships between key variables under study. All these relationships are statistically significant with p-values less than 0.001, as can be seen from the standardized estimates that show magnitude and sign of each relationship (Table 3).

There is a strong positive relationship with Channel Preference (0.72), meaning that the preferred online channels are also those where we spend most of our time when connected to the internet. Online Engagement has a +0.65-coefficient related to Compulsive Buying, which means that compulsive buying behavior gets more prevalent with increasing online engagement. Impulsive Buying also exhibits a significant positive relationship with

Compulsive Buying as well (0.78), demonstrating that impulsion buying can lead to compulsive behavior attitudes too. Perceived Risk, on the other hand, has a significant negative effect (-0.30) on Compulsive Buying, indicating that as perceived risks increase compulsive buying decreases with an R-square of 28%. All hypotheses receive support, which validates the research instrument in positing its relationships.

Thus, these findings are consistent with those in extant literature on digital consumer behavior and lend support to our proposed hypotheses. Our proposed positive relationship between Channel Preference and Online Engagement (H1) is supported by existing studies, which are suggestive of the fact that consumers using a specific online platform on account of its perceived usefulness or ease-of-use would engage more often with it [3].

This claim is rooted in the Technology Acceptance Model (TAM), which theorizes that they would have an impact on technology adoption.

The study likewise reported a significant direct effect of Online Engagement on Compulsive Buying (H2) supporting the idea that active engagement in online platforms holds CB-inhibiting activities. These results are in line with previous research showing that online engagement leads to increased impulse and compulsive buying by offering continuous access to stimulating marketing content as well as the encouragement of frictionless purchasing [26].

Moreover, H3 - Impulsive Buying has a direct positive effect on Compulsive Buying demonstrating that impulsive buying tendencies may lead or intensify into compulsive buying behaviors. In the literature, it has been proposed that repetitive impulsive buying contributes to an irresistible urge of shopping behavior in compulsive buyers [7].

Finally, the negative moderating effect of Perceived Risk on Online Engagement-Compulsive Buying relationship (H4) means that when consumers perceive increased risks, they will tend to refrain from compulsive buying and being extra cautious with online engagements [31]. We have obtained the logical result that is consistent with other research's focusing on perceive risk as deterrent factor to consumer purchasing decisions.

In summary, the findings of this research support all hypotheses and thus contribute to adding an additional layer of understanding surrounding how online engagement with social media increases perceived risk that ultimately affects buying behavior. They make clear the need to address perceived risk when designing strategies aimed at mitigating CBB and IBB dynamics, particularly in a digital context.

5. CONCLUSION, IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This study offers useful information concerning the complexity of digital consumer behavior, focusing on emotional commitment to online shopping + impulse buying + perceived risk in mild-moderate compulsions associated with branded goods woovers. Results support that the greater a preference for specific online

channels, the more such preferences lead to online engagement, which in turn increases compulsive buying likelihood. In addition, impulsive buying tendencies would appear to evolve into compulsive buying behaviors indicating that these purchase patterns are in fact progressive.

Finally, the perceived risk is a key moderator factor in this model that diminishes influences between online engagement and compulsive buying by effectively activating prevention-facilitating behaviors whereby consumers become cautious or selective. The above results substantiate it, highlighting the fit of TAM in conceptualizing digital consumer behavior. In general, the study highlights a need for approaches which manage to harness good online participation but are also wary of certain risks and so foster digital consumer sense.

5.1 Theoretical Implications

Findings in this research can suggest new theories to TAM perspective. This study also expands the validity of TAM by introducing online engagement and perceived risk, which can provide a new perspective on consumer behavior arising from digital interaction. The current findings tap into the theoretical roots of models like TAM and show construct validity for concepts such as perceived usefulness and ease to use, which are core ideas underpinning so many online platforms in predicting consumer engagement.

In addition, the direct association between online involvement and CB behavior suggests that TAM might be relevant not only at the adoption phase of technology but also for its behavioral outcomes. This finding makes a unique contribution to TAM by suggesting perceived risk about the online services as an important moderating variable, which may mitigate the relationships between PU (ease of use) and BI with their impacts on students' intended actions

5.2 Practical Implications

There are considerable practical implications for marketers, consumers, and policymakers

from this research. This is a marketers' understanding of how using the web to engage consumers has an effect of having one buy impulsively, which highlights creating engaging and user-friendly digital platforms. Given the moderating effect of perceived risk on these relationships, managers must consider how to balance attractiveness with transparency and protection to minimize possible negative behaviors related to compulsive buying. These insights also suggest the necessity for consumers to be more aware of their online shopping habits and their damaging effects. With practices that drive mindful shopping and tame the impulsive, consumers can benefit too. This understanding can be used by policymakers to establish policies concerning the prevention of compulsive buying and facilitate consumer protection, such as requiring risk disclosure transparency or expanding consumers' digital rights for online action.

5.3 Limitations and Future Research Directions

This study has several limitations that must be considered in light of its findings. The first limitation was the use of self-reported data, in that participants may not accurately recall or report on their online engagement and purchasing behavior. For instance, subsequent research could use more direct measures (e.g., logging into actual online activity) to assess the accuracy of our findings. A second limitation of the study is that its cross-sectional design precludes us from making causal inferences. We would need a check for these honorary proposed causal pathways if it could be proven via longitudinal studies that participating online actually leads to an additional perceived risk and engages habitual buyers. Third, although the study sample was diverse in nature which is a strength as it likely increases generalizability to different segments of the population, participants were taken from convenience sampling strategies, which may not be representative of broader populations especially across cultural contexts. This is to be addressed in future studies with a more representative sample of the population.

Finally, evaluating the efficacy of intervention strategies including digital literacy programs and personalized feedback to control compulsive buying could be an approach that may help attenuating adverse consequences associated with excessive online shopping.

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Navigarea comportamentului digital al consumatorilor: rolul implicării online și a riscului perceput

Scopul acestei lucrări este de a explora rolul riscului perceput într-un mediu omnicanal asupra comportamentului de cumpărare compulsiv și impulsiv. Chestionarele online au fost distribuite prin e-mail și pe rețelele sociale, folosind o eșantionare aleatorie stratificată a respondenților, pe baza criteriilor de implicare online. Pe baza analizei de regresie, preferința canalului online crește semnificativ, ceea ce conduce la cumpărături compulsive. Tendințele de cumpărare impulsive pot, de asemenea, trece la un comportament compulsiv. Relația a fost moderată de riscul perceput, unde nivelurile mai ridicate ale riscului perceput au condus la cumpărări compulsive mai reduse. Acest studiu exploratoriu, bazat pe date auto-raportate și pe un design transversal necesită cercetări suplimentare cu implicarea unor eșantioane longitudinale mai mari, începând cu extinderea modelului de acceptare a tehnologiei (TAM).

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