A Structural Equation Model of Impulse Buying Behavior in Online Shopping

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ARTICLE INFORMATION	ABSTRACT
	Purpose: *This study seeks to model and empirically examine key emotional aspects (positive affect and negative affect) on impulsive buying actions (web browsing, urge to buy impulsive and impulsive buying behavior) in online shopping context.* ***Methodology/Design:*** *Using structural equation modeling model, a total of 470 survey responses from shoppers of online stores were used to empirically test the measurements and propositions.* ***Findings:*** *On the bases of data from online shoppers a significant model emerged. Results were generally in support of the assertion that emotions lead to impulsive actions.* ***Originality/Value:*** *Impulsive buying in online context represents an epidemic proportion of online shopping. Impulsive buying behaviors with upcoming avenues for future research are under the constant review of academicians and practitioners. Despite abundant research on impulsive buying behavior in online context, research scholars' demand for further research and empirical evidences for better understanding of the phenomenon. Examining impulsive buying behaviors in online setting therefore becomes imperative.* ***Implication:*** *This study offers valuable insight and solid grounds to academicians as well as practitioners concerning online impulsive buying behavior by presenting empirical findings and important implications.* ***Limitations:*** *Some notable limitations like consideration of young consumes only needs to be considered for generalizing the findings.* ***©2017 Published by UWJMS***

INTRODUCTION

Consumer buying behavior is classified into two categories: pre-planned buying behavior and unplanned or impulse buying behavior (Wells, Parboteeah & Valacich, 2011). Scholars have defined planned purchasers as those customers who first recognize their need or problem, then search information about potential solution for resolving their problem or fulfilling needs, and terminally, they evaluate different substitutes to make a final purchase decision (Piron, 1991). Customers, on the other hand, adopt an unplanned buying behavior or impulse buying, through which they make decision on the spot, resulted from unexpected and unplanned reaction (Hodge, 2004).

Broadly speaking, impulse buying is a predominant phenomenon around the globe, the extent of which can be determined by the remarks

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of Coca Colas' CEO Muhtar Kent, who claims that almost 70% of Coke's sales is because of impulse buying (Mohan, Sivakumaran & Sharma, 2013). Owing to immense importance of impulse buying, it has been extensively studied in the context of offline shopping by the academician and practitioner for decades (Weun, Jones & Beatty, 1998; Zhou & Wong, 2004; Peck & Childers, 2006; Ghani & Kamal, 2010).

In the contemporary market environment, there have been significant changes in consumer behavioral patterns due to the breakthrough in economic and technological domains. Technology has empowered the customers to search for product's features and pricing, and compare them with alternatives from anyplace at any time (Silveria & Marreiros, 2014). Resultantly, owing to immense advancement of information technology and the stupendous evolution of e-commerce, online impulse buying has become a widespread consumer behavior to the extent that it is projected that 40% of total online consumption are due to impulse buying (Huang, 2015). Along with this, the user navigation in the last two decades has grown from 1 million in North America and Europe to 3 billion worldwide with a significant growth in Middle East and Asia.

Furthermore, $370 billion of online retail sales are forecasted by the end 2017 in U.S. alone (Richard & Chebat, 2016). Scholars have postulated that the online market space is now more favorable to impulse-buying behavior comparing to the offline purchasing (Chan, Cheung & Lee, 2017) as in the online shopping environment consumers are free from the restraints (such as inconvenient store locations, limited operational hours, and social pressure) which they might confront in physical market place. Consequently, it is crucial to investigate the factors which cause impulse buying.

According to scholars, impulse buying behavior ascends on the basis of a robust and irresistible urge to purchase something (Shoham & Brencic, 2003). Likewise, Zhang, Prybutok and Strutton (2007) stated that a strong urge derives the actual impulse purchase. Moreover, impulse buying is influenced by the two major factors, the attitude developed by the store environment (Rook, 1987; Moon, Rasool & Attiq, 2015) and personality trait inherent by an individual (Rook & Fisher, 1995). Correspondingly, online impulse purchase is also derived by an urge to buy which is the result of web browsing features (hedonic and utilitarian) and an individually personality traits (positive affect and negative affect).

According to Chien-Huang and Hung-Ming (2005), positive effect of individual's personality plays a vital role in online shopping, hence a consumer with positive effect will spend more time in web browsing and more inclined to enjoy exploring products in online shopping environment, on other hand in case of negative personality effect vice versa. Furthermore, Park et al., (2012) stated that the web browsing feature significantly contribute in boosting customer's urge to buy, for instance hedonic feature of web browsing (such as east of navigation, vivid pictures, enjoyment and fun in web browsing), and utilitarian feature of web shopping (like as discounted prices and better quality of products) leads consumer's urge to buy impulsively.

Though the relationship of positive and negative aspect of personality with web browsing (Verhagen & Dolen, 2011); and relationship of hedonic and utilitarian web browsing with urge to buy impulsively (Huang, 2015) have been explored, yet there exists a need to probe abovementioned relationships in concurrent online market setting. Abundant research on impulsive buying behavior in online context notwithstanding, research scholars demand further research for better understanding of the phenomenon (Chan et al., 2017; Lin & Lo, 2016;

Li et al., 2016).For instance, Chan et al., (2017) call for more empirical research studies as there is insufficient empirical evidences available for a comprehensive meta-analysis. Moreover, Rezaei, Ali, Amin & Jayashree (2016) and Richard and Chebat(2016) recommend to examine the impact of web browsing on impulse buying to have clear insight of the conversion processes of browning into purchases. Likewise, Chung, Song and Lee (2017) also called for investigating the effect of web browsing features (utilitarian and hedonic) on customer's urge to buy impulsively. Furthermore, Bellini, Cardinali and Grandi (2017) suggested that online impulse buying may differ from customer of positive personality to customer of negative personality and required to probe the relationship of customer's personality aspects (positive and negative) with online shopping environment (hedonic and utilitarian web browsing features).

Having identified the gap, this research seeks to investigate how personality aspects both negative and positive of consumer influence the online shopping environment or web bowings both hedonic and utilitarian, further how web browsing features lead to customer's urge to buy impulsively, consequently how a customer urge to buy is converted to actual impulse buying behavior. This research contributes in consumer behavior literature specifically decision support literature by providing an empirical model which estimate the relationship of personality aspects of an individual on online shopping environment (web browsing both hedonic and utilitarian), and afterward, the relationship of web browsing on online impulse buying behavior though urge to buy impulsively. This research study offers guidelines for researchers and practitioners to understand how customer's personality direct them to web browsing or online shopping and ultimately to impulse buying behavior in the context contemporary online market space.

LITERATURE REVIEW

Online Impulse Buying

Consumer decision making typically has been regarded as rational activity in which customers identify and evaluate needed product, and compare the alternatives to select most suitable one (Haubl & Trifts, 2000). However, advancement in information technology along with emergence of worldwide web has developed unusual consumer buying patterns such as impulse buying, which is now being widely used by consumers (Chen, Su & Widjaja, 2016). Impulse buying is defined as *"an abrupt and instant buying with no pre-shopping intention to buy the specific product, resultant of exposure to a stimulus"* (Sohn & Lee, 2017, p. 345). Online shopping liberates consumers from the restraints that they potentially confront in physical market place, which increase the possibility of online impulse buying behavior (Chan, Cheung & Lee, 2017).

Research on online impulse buying has been conducted since last decade, according to scholars there are two major categories of stimulus (such as external and internal) which stimulate online impulse buying. The external stimuli are website features (utilitarian and hedonic), on web marketing promotions, and the internal stimuli are consumer inherited traits (positive and negative affects). Olsen et al. (2016) stated that both customer personality trait and shopping environment inflame an urge that provoke customer to buy impulsively.

Trait Affect and Web Browsing

Affect perform a key role in shaping consumer behavior. Silvera, Lavack and Krop (2008) conceptualized affect as customer's trait. Trait affects can be categorized into two broader categories: positive affect and negative affect. Customer with positive trait affect will be more enthusiastic, energetic and fun loving, spends more time in the web browsing, pay more

concentration in exploring products, and feels happier in engaging in online shopping (Park & Kim, 2008). On the other hand, customer with negative affect characterized as distressed, irritated, and has no pleasurable feelings while browsing web or online shopping (Bellini et al., 2017). According to Verhagen and Dolen (2011) customers having positive affect are more prone to get involved in web browsing (hedonic & utilitarian) than customers inheriting negative affect. Furthermore several researchers have found a significant impact of trait affect on impulse buying (Huang, 2005). For instance one with more score on positive affect is more inclined toward approach behavior and reluctant toward avoidance behavior. In addition more positive emotions experiencing by an individual are more likely to spend more money and buy impulsively (Verhagen & Dolen, 2011 Verplanken & Herabadi, 2001). Based on above literature, following relations are proposed:

H1a: Positive affect has significant and positive influence on hedonic web browsing.

H1b: Positive affect has significant and positive influence on utilitarian web browsing.

H2a: Negative affect has significant and negative influence on hedonic web browsing.

H2b: Negative affect has significant and negative influence on utilitarian web browsing.

Web Browsing and Urge to Buy

Web browsing, involves consumers for gathering information and making purchase decision via the Internet (Rowley, 2001). Many consumers place great emphasis on browsing and information gathering while shopping online (Smith & Sivakumar, 2004).Web browsing has two aspects: Utilitarian web hedonic browsing and utilitarian web browsing (Childers et al., 2001; ; Moon et al., 2017; Monsuwe et al., 2004).

Hedonic web browsing related to fun, pleasure and enjoyment in online shopping, while utilitarian web browsing related to risk reduction and information gathering in which customers seek information to compare product features and prices. Main concern of online purchaser in utilitarian web browsing to saving money and exerting minimum efforts in shopping (Overby & Lee, 2006). However, customer also take pleasure and joy in browsing a wide range of products either they make purchases or not (Smith & Sivakumar, 2004).

Gohary and Hanzaee (2014) concluded that both type of web browsing that is utilitarian and hedonic browsing significantly contributes in developing impulsive buying behavior. Additionally, Ha and Jang (2010) established association between utilitarian and hedonic browsing and urge to buy impulsively in online market space. Similarly, Chung, Song and Lee (2017) also verified that hedonic and utilitarian exert significant effect on urge to buy impulsive in online setting. Hence, it is proposed that:

H3a: Hedonic web browsing significantly and positively influence urge to buy impulsive.

H3b: Utilitarian web browsing significantly and positively influence urge to buy impulsive.

Urge to Buy and Impulse Buying Behavior

The urge to buy impulsively refers to "*the state of desire that is experienced while encountering an object in the environment*" (Beatty & Ferrell, 1998, p. 175). Urge to buy certainly triggers actual impulsive purchase behavior (Rook 1987). The stronger the urge aroused, the greater the possibility that impulsive purchase will occur (Beatty & Ferrell, 1998).According to Lin and Lo (2016) customer's urge to buy is same as the behavioral intention, which causes the actual behavior. Likewise, Adelaar et al. (2003) postulated that consumers urge to buy cause

impulse buying behavior, assenting to which Valacich, and Wells (2009) narrated that impulsive buying is the outcome of customer urge to buy impulsively. Conferring to above arguments it is hypothesized:

H4: Customers urge to buy positively and significantly influence online impulse buying behavior.
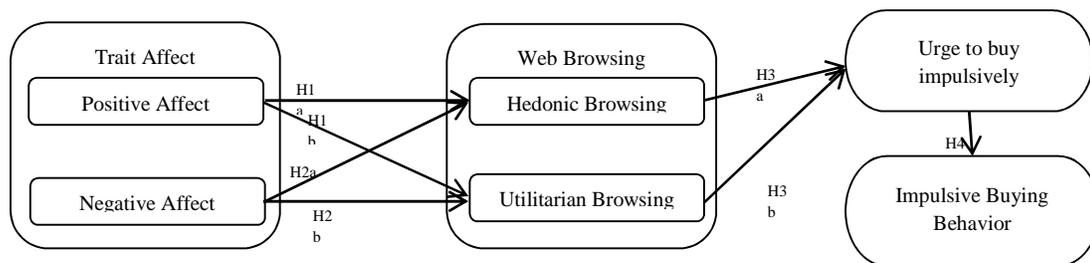
Theoretical Model

Current model is based on theories of impulse buying behavior such as Stimulus Response Theory (S-O-R), Process theory and Cognitive Emotion Theory (CET). According to S-O-R theory, stimulus such as environmental factors leads to organism known as internal affective evaluations like emotional aspects (positive and negative) that ultimately lead response psychological reaction like web browsing features (utilitarian and hedonic), urge to buy implosively and impulse buying behavior (Floh & Madlberger, 2013; Attiq & Azam, 2015). Moreover, according to process theory, trait affect and web browsing are inputs which cause process such as urge to buy which output the impulse buying behavior (Chung, Song & Lee, 2017). Additionally, in accordance to CET trait effects are emotional aspects which cause impulsive actions i.e. web browsing, urge to buy impulsively and impulse buying behavior (Verhagen & Dolen, 2011).

METHODOLOGY

A quantitative research methodology was adapted to empirically test conceptual model and proposed relation paths. Data was collected from young consumers. Young consumer as a subject of study are more appropriate for this research, as young consumer are more inclined to access online media and are more keen in shopping products online (Kim & Eastin, 2011). A total of 470 useable responses were collected with the help of convenient sampling technique. Online survey method was used to collect the data from young online shoppers. The target population for this study consisted of consumers of online stores like telemart, kaymu, daraz, lootlo, ishopping and pakstlye.

Measures

Data was collected by using an online survey questionnaire based on existing validated scales from impulsive buying literature. The first part of the questionnaire was designed for screening purpose to ensure that respondents had experienced an online purchase from shopping websites during last three months. Trait affect is operationalized as positive affect and negative affect. Positive affect (PAFF) was measured on four items and negative affect (NAFF) was measured on three items adopted from Verhagen and van Dolen (2011). Web browsing was operationalized as utilitarian web browsing (UWEB) and hedonic web browsing (HWEB). Based on measurement scale of Rezaei et al., (2016), 5 items for utilitarian web browsing and four items for hedonic web browsing were used respectively. Urge to buy impulsively (UTB) was measured on four items measurement scale

adopted form Verhagen and van Dolen (2011). Rezaei et al., (2016) five items measurement scale was adapted to measure online impulse buying behavior (IMPB).

DATA ANALYSIS

Sample Demographics

Sample of 470 young consumers consisted of 44 percent female and 56 percent male which represented almost equal representation of gender. Most of the respondents (80 percent) were from the age group of 20 to 30 year old. Most of the respondents had graduation degree (62 percent) while 34 percent had Masters/M.phil and only 4 percent were PhD. Representing income, 26 percent had monthly income less than 50000 thousand, 41 percent (50001-10,0000), 26 percent (10,0001-150,000) and only 7 percent were above 150,001. Demographic statistics showed that sample fairly represents the target population of online young shoppers.

Descriptive Statistics

Descriptive statistics and correlation analysis were estimated for the overview of data and to determine the association among study variables respectively. Results are depicted in Table 1. Results revealed that mean for all study variable ranged between 3.54 and 3.65 with standard deviation (SD) ranging between .74 and .86. Furthermore, for Skewness (SKW) and kurtosis (KURT) values ranged between -.366 and -.769

and -.163 and -.595 respectively fall with the criteria of normality of the data that is ±3.

Common variance bias

Harman's single-factor was adopted to test the common variance biased. Results of common variance bias are shown in Table 2. Results reveal that the percentage of variance explained by first factor is accounted for 43% which is less than 50% suggested by Podsakoff, MacKenzie, Lee and Podsakoff, (2003). Thus results were in favor of data which is free from common method biases.

Partial Least Squares Structural Equation Modelling (PLS-SEM)

The model and propositions were empirically tested by using Partial Least Squares Structural Equation Modelling (PLS-SEM). Researchers employ this approach to model and empirically tests complex relationships. PLS-SME is consider as more flexible approach to relate theory and data, namely; specification of relationship among variables, modeling unobservable latent variables and test propositions against empirical data. For these reasons PLS-SEM is widely used in organizational, management and marketing research (Ballestar, Grau-Carles, & Sainz, 2016; Hair, Sarstedt, Ringle, & Mena, 2012). Measurement model and structural model are the basics components of PLS path model. The PLS-SEM algorithm provides the maximized percentage of explained variance, proportion of explained variance and path coefficients. This

Table1. *Descriptive statistics and Correlations analysis of study variables (N=470)*

Code	Mean	SD	SKW	KURT
PAFF	3.657	0.817	-0.769	0.560
NAFF	3.574	0.846	-0.703	0.248
HWEB	3.53	0.768	-0.41	-0.338
UWEB	3.65	0.64	-.578	-.083
UTB	3.535	0.933	-0.582	-0.176
IMPB	3.543	0.815	-0.366	-0.595

Note: Positive Affect (PAFF); Negative Affect (NAFF); Utilitarian web browsing (UWEB); Hedonic web browsing (HWEB), Urge to buy impulsively (UTB) and online impulse buying behavior (IMPB)

study assessed measurement model (reflective measurement model) and structural model as suggested by Hair et al., (2012). The estimated results estimated through Smart-PLS were shown in Figure 2.

Measurement model evaluation

Measurement model was evaluated on the criteria of reliability, internal consistency reliability, convergent validity, and discriminant validity(Hair et al., 2012). Reliability indicator evaluates the value and significance of outer model coefficients. The estimated results are depicted in Table 3. Outer loadings indicated that the correlation between each observed variable and latent variable is higher than the threshold value of .71 in an exploratory model (Hair et al., 2012) except two items of urge to buy impulsively (i.e. UTB1 and UTB4) due to lower loadings.

Internal consistency can be accessed by using the criteria of Composite reliability (CR) and Cronbach's alpha. CR estimates internal consistency based on outer loadings while Cronbach's alpha estimation is based correlation between indicator variables. The measurement model was assessed on the bases of Cronbach's alpha (greater than 0.7), CR (greater than 0.7) (Chung et al., 2017). The results were consistent with fact that the estimated measurement model was internally consistent as shown in Table 4.

The discriminant validity is asserted with the help of the Fornell-Larcker criteria. Discriminant validity is the measure to estimate the difference among latent variables and ensure that each variable explain represented different phenomenon in theoretical model. The Fornell-Larcker establishes discriminant validity by comparing square root of average variance explained (AVE) for each latent variable and correlation among latent variables. Fornell and Larcker (1981) suggested that square root of AVE should be higher than correlation among latent variables. Results shown in Table 5 are in favor of discriminant validity.

Structural model

The satisfactory valuation of measurement model is an indication to proceed towards the evaluation of structural model. Structural model for this study was evaluated on the bases of multicollinearity, R^2 values and path coefficients. One of the important aspects to take an account is absence of multicollinearity. The Variance Inflation Factor (VIF) is an estimator to test the severity of multicollinearity. VIF value shows the inflation in variance of regression coefficient due to collinearity. Values ranged between 1 to 5 are the indication of moderate correlation and ensure the absence of mlticollinearity (Ballestar et al., 2016; O'brien, 2007).

Table 2. *Results of CMV analysis (Total Variance Explained)*

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.845	42.803	42.803	9.313	40.492	40.492	4.586	19.940	19.940

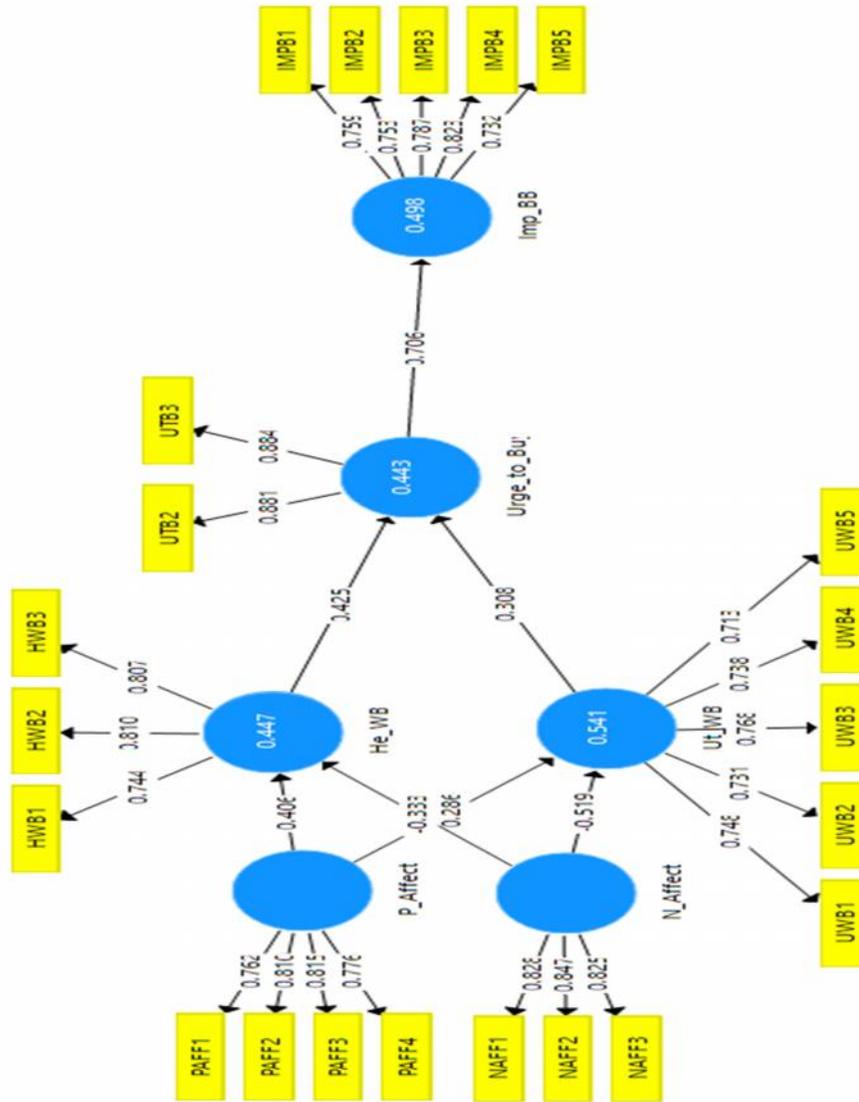**Note:** Extraction Method: Maximum Likelihood.

Figure 2. *Structural Model*

The R^2 value shows the percentage of change caused by latent exogenous variables in latent endogenous variables. Table 7 represented the values of R^2 clearly indicated that exogenous variables caused variations in endogenous variables. Structural model with two exogenous variables and four endogenous variables was estimated to test the proposed structural paths (H1 – H4). Results regarding structural model were depicted in Table 8 and Figure 2. From the results it can be comprehend that positive affect has a positive and significant on hedonics web

Table 3. *Results of the outer loadings indicating the correlation between the latent variables and the observed variables*

Code	Statements	PAFF	NAFF	HWEB	UWEB	UTB	IMPB
PAFF1	While shopping at this shopping website I was excited.	0.76					
PAFF2	While shopping at this shopping website I was enthusiastic.	0.81					
PAFF3	While shopping at this shopping website I was proud.	0.82					
PAFF4	While shopping at this shopping website I was inspired.	0.78					
NAFF1	While shopping at this shopping website I was distressed.		0.83				
NAFF2	While shopping at this shopping website I was upset.		0.85				
NAFF3	While shopping at this shopping website I was irritable.		0.83				
HWB1	While web browsing at this shopping web site, I am able to forget my problems and to feel relaxed.			0.74			
HWB2	During web browsing at this shopping web site, I am very excited, like playing.			0.81			
HWB3	I enjoy web browsing enough at this shopping web site to forget a time out.			0.81			
UWB1	I browse at this shopping web site to buy better items in price or quality.				0.75		
UWB2	I browse at this shopping web site to gather information about products.				0.73		
UWB3	I look around this shopping web site to compare shops.				0.77		
UWB4	I browse this shopping web site to get additional value as much as possible.				0.74		
UWB5	I browse at this shopping web site for efficient shopping online				0.71		
UTB2	I had not planned to purchase this product.					0.88	
UTB3	I saw a number of things I wanted to buy even though they were not on my shopping list.					0.88	
IMPB1	My purchase was spontaneous.						0.76
IMPB2	My purchase was unplanned.						0.75
IMPB3	I did not intend to do this purchase before this shopping website						0.79
IMPB4	Before visiting this shopping website, I did not have the intention to do this purchase.						0.82
IMPB5	I could not resist doing this purchase at this shopping website.						0.73

Note: Positive Affect (PAFF); Negative Affect (NAFF); Utilitarian web browsing (UWEB); Hedonic web browsing (HWEB), Urge to buy impulsively (UTB) and online impulse buying behavior (IMPB)

browsing (= .41, p< .01) and utilitarian web browsing (=.29, p< .01), while negative affect has a negative and significant impact on hedonic web browsing (= -.33, p<.01) and utilitarian web browsing (= -.52, p<.01), supporting $H_{1a,b}$ and $H_{2a,b}$. Furthermore results revealed a significantly positive impact of hedonic web browsing (= .43, p<.01) and utilitarian web browsing (= .31, p<.01) on urge to buy impulsively and significantly positive impact of urge to buy impulsively on impulsive buying behavior (= .71, p< .01), supporting $H_{3a,b}$ and H4 respectively.

DISCUSSION

This study probe into the relationship between trait affect, web browsing, urge to buy impulsively and impulsive buying behavior by developing a theoretical model and empirically tests it. Data provide solid evidences for the validation of the model and in favor of all propositions. The findings of the study revealed a significant impact of both positive and negative affect on web browsing. These results are consistent with the studies of Huang (2005); and Verhagen and Dolen (2011). The significant trait affect showed that customers with high score on positive trait affect are more enthusiastic, energetic and fun loving, spend more time in the web browsing. Contrary to this customers with high score on negative trait affect are more irritable, distressed and upset, are less likely to spend time on web browsing.

Findings of the research evidence regarding the significantly positive impact of web browsing on urge to buy impulsively. Results are in line with the previous literature e.g. Park et al., (2012); Verhagen and van Dolen (2011).These results implies that websites which catch the intention of the online shoppers by providing an exciting, value added, informative and problem solving layoutstimulate an urge to buy impulsively. Furthermore, results are also in support of the significant relationship between urge to buy impulsively and impulsive buying behavior. Consistent with the previous literature (Park et al., 2012; Verhagen & van Dolen, 2011)results revealed that strong urge is one of the key contributing factor for buying impulsively.

Table 4. Results for the Cronbach's alpha, CR & AVE

Code	Alpha	CR	AVE
PAFF	0.80	0.87	0.63
NAFF	0.78	0.87	0.69
HWEB	0.69	0.83	0.62
UWEB	0.79	0.86	0.55
UTB	0.72	0.88	0.78
IMPB	0.83	0.88	0.60

Note: Positive Affect (PAFF); Negative Affect (NAFF); Utilitarian web browsing (UWEB); Hedonic web browsing (HWEB), Urge to buy impulsively (UTB), online impulse buying behavior (IMPB); Composite Reliability (CR) & Average Variance Explained (AVE)

Table 5. *Results of the Fornell–Larcker validation criterion showing correlation among latent variables*

Code	AVE	Sq. root (AVE)	PAFF	NAFF	HWEB	UWEB	UTB	IMPB
PAFF	0.63	0.79	**0.79**					
NAFF	0.69	0.83	-0.63	**0.83**				
HWEB	0.62	0.79	0.62	-.59	**0.79**			
UWEB	0.55	0.74	0.62	-.70	0.64	**0.74**		
UTB	0.78	0.88	0.56	-0.56	0.62	0.58	**0.88**	
IMPB	0.60	0.77	0.59	-0.65	0.77	0.64	0.71	**0.77**

Note: Positive Affect (PAFF); Negative Affect (NAFF); Utilitarian web browsing (UWEB); Hedonic web browsing (HWEB), Urge to buy impulsively (UTB) and online impulse buying behavior (IMPB)

The findings of this research offer useful implications for practitioners regarding online impulse buying behavior. The findings of the study facilitate managers and web developers in understanding the role of emotion (trait affect) in developing impulsive action (web browsing, urge to buy impulsive and impulsive buying behavior). The results of the suggest manager and online retailers the importance of positive and negative trait affect, and web browsing in developing urge to buy and impulsive purchase decision in online settings.

Although profound care has been taken to make the study prudent and objective, there are some notable limitations that need to be considered for generalizing the findings. The sample size for this study might be low for the actual representation of online shoppers. This study was survey based; a field study or experiment may provide better insight of the phenomenon. Future research, preferable longitudinal, should probe into this concern. Future research should consider some other situational and psychological correlates of impulsive buying, to have more clear insight and to and to determine ways to keep impulse buying from taking on its compulsive darker aspect.

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