

## Determinants of Online Consumers' Compulsive Buying Behavior: An S-O-R Approach in SNS Context

Muhammad Umer<sup>a</sup>, Saman Attiq<sup>b</sup>, Hassan Jalil<sup>c</sup>

### Abstract:

*We draw on social capital theory to examine the unanswered questions: (1) the extent to which social factors (i.e. social capital and peer communication) influence psychological factors (i.e. perceived enjoyment and urge to buy); (2) to what extent psychological factors predict consumers' response (i.e. urge to buy and compulsive buying behavior). The self-administrated online questionnaires through purposive sampling were collected from universities' students. An empirical research has been conducted on famous online shopping stores (e.g. draz.pk, yayvo etc.) and social networking services (i.e. facebook.com, WhatsApp, Instagram and linkedin). Data were collected to empirically test the measurement and structural models using Smart PLS structural equation modeling approach. The study sample included experienced online shoppers who performed shopping via internet medium/mobile devices. Analyses of cross-sectional data (n = 456) found that social factors significantly contribute in psychological factors. Similarly, perceived enjoyment has significant impact on the development of consumer's urge to buy as well as compulsive buying behavior. Online compulsive buying through internet/mobile is not intensely studied in current available literature, despite its significant usage for customers, managers, academicians and marketers. Moreover, this research contributes towards the field of online commerce, marketing, retailing and mobile learning research. The current study also opens new doors of inquiry especially in the context of collectivist societies.*

**Keywords:** Social-Capital, Peer-Communication, Perceived-Enjoyment, Urge-To-Buy, Compulsive Buying Behavior

### 1. Introduction

In modern life, shopping becomes necessity as it is considered as an easily accessible life style activity and socially approved leisure (Maraz, Griffiths, & Demetrovics, 2016). Accordingly, now consumers are engaged in shopping activities for hedonistic purposes like immediate sensory stimulation or gaining immediate gratification (Horváth & Adigüzel, 2018). These tendencies are accounted for the worldwide development of compulsive buying behaviors. Compulsive buying is chronic repetitive buying to escape from negative feeling and experience positive emotions to improve social self-image and express themselves (Kukar-Kinney, Scheinbaum, & Schaefers, 2016). A steady increase is observed in compulsive buying in different buying environments and consumer societies (de Mattos, Kim,

---

<sup>a</sup> PhD Scholar, LMS, National Defence University. Islamabad. Email: mohd.umer@gmail.com

<sup>b</sup> Associate Professor, AUSOM, Air University, Islamabad.

<sup>c</sup> National Defence University, Islamabad.

Filomensky, & Tavares, 2019). In marketing literature, research scholars attempted to explore the dark side of consumer behavior. An extent of literature concerning compulsive buying behavior is available.

Research studies found the prevalence of compulsive buying tendencies both in hyperactive online as well as in-store purchasing (Johnson & Attmann, 2009; Moulding, Duong, Nedeljkovic, & Kyrios, 2017). The online setting is considered as more suitable for compulsive buyers as compared to brick and motor stores (Kukar-Kinney et al., 2016). This is because the increased use of the internet and social networking sites in daily life. The internet provides a space with attractive features of easy access in a less cost and anonymity for users (Beard, 2005).

The internet users are grown up from 400 million users in the year 2000 to 3.58 billion internet user in 2017 (International Telecommunication Union, 2017). The survey conducted by the International Telecommunication Union in 2016 found that around 18% of Pakistanis are involved in daily social networking activities. The sudden growth in the usage of internet and social networking site and prevalence of online compulsive buying gets the attention of research scholars and practitioners in concerned filed. Mostly social networking sites (SNS) are used for social interaction and connectivity, research studies also found that users feel compelled to spend more time to maintain their SNS accounts (Maraz et al., 2016). These feelings may cause young people to get addicted to SNSs (Islam, Wei, Sheikh, Hameed, & Azam, 2017). Thus, the misuse of SNSs is likely to be ever-present and ongoing problem among young people. SNSs become integral part of leisure and professional culture, thus total avoidance of using internet is extremely unlikely (Griffiths, Kuss, Billieux, & Pontes, 2016). Research scholar associated this phenomenon with negative consequences, for instance heightened tendencies towards compulsive buying in both conventional and online setting (Sharif & Khanekharab, 2017).

The emerging market of material goods on the SNSs arose the importance of the contributing factors that may evoke the tendencies of compulsive buying in online context (Sharif & Khanekharab, 2017). Compulsive buying phenomenon is well documented and sufficient empirical evidence is available in existing literature (Maraz et al., 2015). In recent studies, an extension in traditional compulsive phenomenon is the subject of the research in online context (de Mattos et al., 2019; Islam et al., 2017; Sharif & Khanekharab, 2017). Empirical evidence suggests that

internet characteristics, more specifically, SNSs compel individuals for compulsive buying (Islam et al., 2017; Pahlevan Sharif & Yeoh, 2018; Panda & Jain, 2018).

In comprehensive manner, compulsive buying found worldwide (Horváth & Adıgüzel, 2018) is described as repetitive, excessive and chronic behavior that may result in uncontrolled urges and negative feelings. Compulsive buying with the same features as addiction and gambling disorder is considered as a behavioral addiction (Lawrence, Ciorciari, & Kyrios, 2014). A number of researches attempted to explore the concept of compulsive buying behavior in online context. In a recent review of literature, Horváth, Büttner, Belei and Adıgüzel (2015) highlighted few major streams of research regarding compulsive buying behavior. First with the focus on online compulsive buying e.g. web site cues (Weinstein, Maraz, Griffiths, Lejoyeux, & Demetrovics, 2016). Second main stream is with the focal point of the contribution of offline compulsive-buying factors (e.g. role of social and hedonic consumption needs) in driving online compulsive buying (Japutra, Ekinci & Simkin, 2017). A wide range of theoretical perspectives is employed to comprehend compulsive buying behavior, however, Stimulus-Organism-Response. S-O-R is widely used framework in compulsive buying behavior context (Islam et al., 2017).

The compulsive buying phenomenon gets the attention of researchers as it is accounted for serious psychological consequences and make influence on a significant proportion of US citizens, around fifty million citizens (Dittmar & Drury, 2000). The emergence of social commerce raises the importance of compulsive buying behavior in social networking site (SNS) as equally important as conventional setting. However, plenty of literature is available regarding compulsive buying in online setting; some recent research e.g. Lee, Park and Bryan Lee (2016) claimed that a very little research is available on the determinants of compulsive buying in online environment. More specifically, Sharif and Khanekharab (2017)highlighted the need for further research for compulsive buying in SNSs context by elaborating the dearth of knowledge about the relationship between compulsive buying and internet usage.

Although there are significant differences between emerging and developed countries, the extent of literature on compulsive buying is comprised of the empirical evidences from developed countries and literature about emerging markets is fragmented and scarce (Horváth & Adıgüzel, 2018; Islam et al., 2017). This gap

needed to be addressed by considering the fact that 80% of the consumers are from transitional economics and live in emerging markets (Steenkamp & Baumgartner, 2000) and consumer from these emerging markets are almost get effected from the problem of compulsive buying (Unger & Raab, 2015). Thus, study of compulsive buying in emerging markets like Pakistan is of utmost necessity.

Pakistan as a context of research for compulsive buying behavior offers a suitable environment in many aspects. Some recent studies e.g. Horváth and Adigüzel (2018) call for research on compulsive buying in the emerging markets as the compulsive buying may be derived from some other mechanisms than those in developed economies. Furthermore, facts revealed that half of the population of Pakistan is under the age of 30 and an increase has been observed in middle-class group (Islam et al., 2017). In recent time, the young age group is more inclined towards individuality and independence (Kampmeier & Simon, 2001). Additionally, the likelihood of unique consumption and psychological disorders is higher in young age group (Wang, Liu, Jiang, & Song, 2017). Seeing the young age groups as the largest segment of Pakistan as well as SNS users with higher tendencies of compulsive buying (Dittmar, 2005). Importance of social factors and its impact on individual's emotional and cognitive aspects cannot be ignored. Recently, it is also found in developing country context (Pakistan) that social factors (such as social influence, social values, social comparison orientation and peer influences) have significant and positive impact on the development of compulsive buying behavior (Attiq, 2015; Attiq & Rauf-i-Azam, 2012; Moon, Farooq, & Kiran, 2017). Furthermore compulsive buying behavior in SNSs gets little attention of scholarly research (Leonardi, 2015; Turel & Osatuyi, 2017). Hence, this study attempts to bridge the abovementioned gap and tests a model that accounts for the effects of social capital, peer-communication related, perceive enjoyment and urge to buy on compulsive SNS use.

The focus of this research to develop model and empirically test social and psychological aspects with compulsive buying behavior in SNS setting. This research study contributes in consumer buying behavior literature specifically decision support literature by providing an empirical model based on S-O-R model in social capital context. The S-O-R model is with the view point that stimulus can evoke stir up behaviors (actions) and organism are the precursors of the internal



processes that contributes in making a final reaction. The intervening processes are composition of thinking, feeling, physiological and perceptual activities (Huang, 2016)

The current study discusses social capital, peer communication (as social factors), shopping enjoyment and urge to buy (as psychological factors) in the formation of compulsive buying behavior. The purpose of this paper is threefold: (1) to empirically test S-O-R Framework in the formation of consumer's compulsive buying behavior, (2) to integrate and examine two core perspectives such as social and psychological influences in the formation of compulsive buying behavior towards online SNSs setting (3) to analyze major antecedents of compulsive buying based on social capital theory.

## **2. Literature Review**

Socialization is a process in which consumers learn knowledge, consumption related skills, new information, purchase attitudes and behaviors from their peer groups (Wang et al., 2017). The current study discusses social capital and peer communication (as social factors), perceived enjoyment and urge to buy (as psychological factors) in the formation of online consumer's compulsive buying behavior.

### **2.1 Social Capital**

Social capital the combination of all potential and actual resources embedded in and/or derived from the social networks hold by a social unit and individual (Nahapiet & Ghoshal, 1998). The existing literature theorized social capital as a set of social resources embedded in relationships (Chiu, Hsu, & Wang, 2006). Putnam (2000) categorized social capital as bonding and bridging which is widely used as compared to other dimensions of social capital (Nahapiet & Ghoshal, 1998) particularly in consumer behavior context. Bridging social capital also known as weak tie; representing the stage in which individuals acquire new information and perspective from weak connections with no or little emotional support. Contrary to this bonding, social capital also regarded as strong tie in which persons build up emotionally strong relations (Putnam, 2000); that gives emotional sustenance through continual reciprocity (Williams, 2006). Subsequently, bonding and bridging social capital are affective determinants and relations through SNS enable peer

communication that is a significant means of individual's socialization (Zhang & Daugherty, 2009). Individual's captures fresh information and resources (Putnam, 2000) and therefore, consumers with bridging social capital might have a larger set of opportunities because they interact and communicate with members of varied backgrounds very frequently.

According to social capital perspective, online social identification, online social interaction ties and online social support have a significant positive effect on social networking sites addiction (Japutra, Ekinci, & Simkin, 2017). Certainly, members that join and participate actively in online communal activities may cultivate strong communication bonds with other community users in online context (Wang et al., 2017). Those relations will help to allow members to uphold a vigorous social association with other members and get support from those community members which might result in the psychological dependence on the online groups (Wang & Wang, 2013). Very few research studies have examined the social gain associated in using social network sites that can drive negative concerns, like technology or social media addiction. Certainly, by giving users a chance to shape social relationships with other online group members; social networking sites are intrinsic to an extremely addictive application (Stieger et al., 2013; Wang & Wang, 2013).

Bessant et al., (2003) postulated that social capital may enhance the "appropriate practices" between community and customers. Moreover, individuals particularly young adults, are using different social networks over their smartphone devices (Cho, 2015; Salehan & Negahban, 2013) and connecting into numerous social resources at any point in time. In addition, two trends of social network sites have been recognized; firstly, the majority of the people use two or more services concurrently since each has its exclusive features (Brandtzaeg, 2012) and secondly, individuals embrace social networks as means for communication, information and enjoyment, which benefit them to achieve social, emotional and informational desires (Quan-Haase & Young, 2010). On the basis of literature cited above it can be postulated that:

Hypothesis1: Social capital has a significant and positive impact on peer communication

Hypothesis2: Social capital has a significant and positive impact on perceived enjoyment

## 2.2 Peer Communication

Social interaction like peer communication is acknowledged as a strong predictor of purchase behaviors specifically in online shopping context (Lueg & Finney, 2007). With the increased intensity of peer communication, the deliberation of the stimuli has been magnified in front of customer, for example new products, shared experiences, store information and product/service information. The increased exposure of stimuli increased the likelihood to engage in impulse buying (Huang, 2016). Furthermore, peer communication also shaped out the positive perceptions regarding enjoyment and usefulness of products. Scholars in the context of emotional factors found various relationships such as emotional arousal, enjoyment and uncontrolled buying i.e. impulse buying (Verhagen & van Dolen, 2011; Adelaar, Chang, Lancendorfer, Lee, & Morimoto, 2003). Meanwhile, literature also found that shared experience like having lunch with colleagues or share their stories on social media such as Facebook, twitter to get more satisfaction than solo experience (Fossen & Schweidel, 2016). Research regarding consumer behavior found that these social interactions also known as peer communication are preferred by individuals to get more enjoyment than solo experiences. Additionally, such social interaction (i.e. shared experience) through peer communication develop the sense of social bonding and resulted in increased enjoyment (Kovacheva & Lamberton, 2018). On the other hand, some researchers like Achenreiner and John (2003) Benmoyal-Bouzaglo and Moschis (2010) established that regular correspondence with peer increase the likelihood of materialism. This stage of materialism is considered as mandatory for enjoyment in life (Belk, 1984) and leads towards compulsive buying (Islam et al., 2018).

Studies are of the view that youth that connect frequently with the peers may be persuaded to surrender to pressure of peers and those have high materialistic tendencies as compared to individuals who do not possess strong peer relationship (Achenreiner, 1997; Achenreiner & John, 2003). Youth acquire information regarding values, culture, and their expected behavior in specific circumstances in different ways. In youngsters, studies also found significant association between peer connection and the feeling to peer pressure (Chan & Prendergast, 2007; Benmoyal-Bouzaglo & Moschis, 2010). On the basis of literature cited above, it can be postulated that:

Hypothesis3: Peer communication has a significant and positive impact on perceived enjoyment

### 2.3 Perceived Enjoyment

Social networks provide entertainment use; it also inspires the users and delivers users with break hectic life (van der Heijden, 2004). A more thorough study of the hedonic usage is still needed to be attained enjoyment is less studies in research (Davis et al., 1992). Difference among hedonic and utilitarian products has vigorous insinuations for customers (Hirschman & Holbrook, 1982). Though utilitarian things are typically related with tangible and functional features while hedonic things are connected to the senses plus they are being related with enjoyment and self-fulfillment. The utilitarian usage of internet has been comparatively well studied. Like literature establish perceived usefulness as precursor of adoption and usage of technology (Davis, 1989).

Enjoyment concept is also explained with respect to the specific usage of technology specifically social sites assumed to be pleasurable in its own right, irrespective of performance concerns (Venkatesh, 2000). Perceived enjoyment has significant positive impact on behavior intention and technology usage (Davis et al., 1992; Teo et al., 1999; Venkatesh, 2000) and has great inferences as well. Li (2011) concluded that enjoyment influence the urge of social network usage, Perceived enjoyment might be a pertinent measurement to comprehend group belonging and identification. Literature also established that the number of peers in a particular social network has a positive influence on perceived enjoyment (Lin & Lu, 2011). Enjoyment is used to assess customers' hedonic involvements and experiences. Though, the exact meaning of enjoyment has not been defined yet.

Previous research proposes that perceived enjoyment can arouse one's behavior meanings from their wish to get involved in motivating tasks for the purpose of fun (Wu & Liu, 2007). Online gaming is also one of the antecedents of perceived enjoyment in online context (Choi & Kim, 2004). Basically, gamified business applications drive enjoyment and can be observed as the extent to which the motion of buying and selling is considered by customer as enjoyable and fun. Few other studies in online commerce have identified the effects of perceived enjoyment on shopping online (e.g. Hwang & Kim, 2007; Wakefield et al., 2011) and enhanced

customer satisfaction (Khalifa & Liu, 2007; Vallerand, 2000) as well. Moreover, scholars like Van der Heijden (2004) found that enjoyment are decisive factors for the intention of website use. On the basis of literature cited above, it can be postulated that:

Hypothesis 4: Perceived enjoyment has a significant and positive impact on urge to buy

#### 2.4 Urge to Buy

The urge to buy refers to the feeling evoked to experience an object while observing an environment (Beatty & Ferrell, 1998). As the feeling of urge to buy gets stronger the likelihood to purchase will increased (Bellini, Cardinali & Grandi, 2017). Some researcher e.g. Lin and Lo (2016) documented that urge to buy is same as behavioral intention which leads toward actual buying behaviors. Existing literature examines the urge to buy as precursor of buying behavior as urge to buy develop certain behaviors like unreflective and instant purchase without delay. For instance, Adelaar et al. (2003) postulated that consumer urge to buy cause irrational behaviors, assenting to which Valacich and Wells (2009) narrated that irrational behavior is the outcome of customer urge to buy.

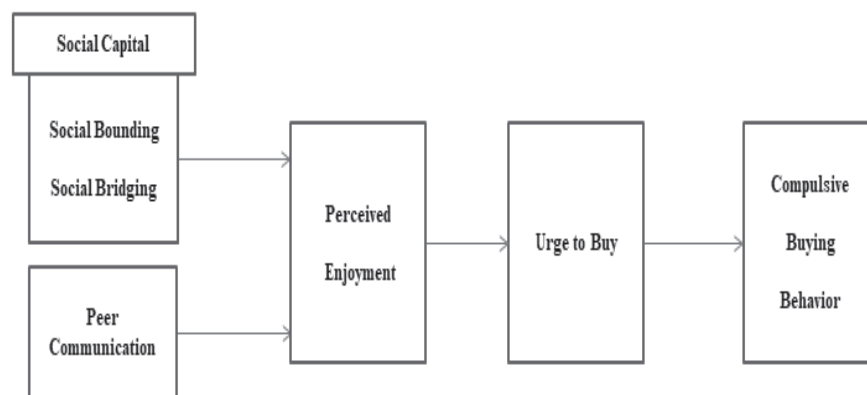
The phrase “urge to buy continuum” by D’Astous (1990) placed impulsive buyers at one end of spectrum and compulsive purchases on other upper extreme end of spectrum. The core of compulsive buying is derived from the urge to buy which is recognized as a sense of loss of self-control, irresistible and buying irrespective of monetary limits and adverse consequences (Moulding et al., 2017). Urge to buy may get effect from a number of external and psychological factors like emotional affect (Bellini, Cardinali & Grandi, 2017), product related factors Vonkeman, Verhagen, & van Dolen, 2017), psychological factors (Parboteeah et al., 2009) and environmental factors (Liu et al., 2013). Some of the researchers use compulsive buying and impulsive buying as synonyms as an individual may experience a number of uncontrollable urges and impulses that may compels to buy for temporary pleasure. Existing literature extensively examine urge to buy in non-rational behaviors and found as a significant predictors of buying behaviors (Adelaar et al., 2003; Liu et al., 2013; Vonkeman, Verhagen, & van Dolen, 2017). The literature cited above reveled that urge to buy being a core of compulsive buying and

significant predictor of non-rational behaviors contributes in compulsive buying behaviors. On the bases of literature cited above it can be postulated:

Hypothesis5: Urge to buy has a significant and positive impact on compulsive buying behavior

## 2.5 Theoretical Framework

Based on social capital theory, social interactions and communication are considered as core stimuli on social network services. Finally, on the grounds of S-O-R model this study focuses on stimulus as social factors (social capital and peer communication) that affects the formation of organisms as psychological factors (perceived enjoyment and urge to buy) that untimely leads towards response behavior (compulsive buying behavior).



**Figure 1: Theoretical Framework**

## 3. Research Methodology

The present study is quantitative in nature and deductive approach is used to test the S-O-R model in social capital perspective. A survey questionnaire based on well-established measurers is used to collect the data from young consumers from different universities. Young consumers were considered as most suitable for this research as they represent the major segment of consumer market in Pakistan that is 51percent (18-33 years) (Pakistan Bureau of Statistics, 2018). Young consumer perceive them self as more influential in retail setting (Burns & Harrison, 2015). Breazeale and Lueg, (2011) documented young consumer having potential to influence the future of retail setting. Furthermore, young consumers spend more time



on internet. Some of the past studies recommended young consumers as an appropriate sample as they are dominant in online setting (Veena Parboteeah, Valacich, & Wells, 2009). The purposive sampling is used to collect the data from respondents. For the purpose of data collection, questionnaire was floated on online social network sites i.e. Facebook and Linked in, through emails and as well as personally visited the universities. About 600 questionnaires were floated online and personally, out of which 517 usable responses were received. Out of 517, only 456 respondents have bought from online shopping stores (e.g. daraz.pk, yayvo.com, shophive.com, cheezmall.com, homeshopping.pk, symbios.pk and other). Respondents were also asked about their communication on social network services (such as facebook.com, WhatsApp, Instagram and linkedin) regarding shopping/buying. Therefore, finally 456 complete questionnaires were included in the study. Few questions were asked based on the frequency of online shopping based on different product categories i.e. appearance related products, mobile accessories, IT products, fashion and gift items. Data is analyzed through SPSS & PLS-SEM for both descriptive and inferential analyses.

### 3.1 Measures

Survey questionnaire was developed on the basis of well-established scales. Social capital is comprised of two dimensions i.e. bridging social capital and bonding social capital. Social bonding was measured through 3 items taken from McNeely and Falci (2004). Social bridging was measured through 5 items taken from McNeely and Falci (2004). Peer communication was measured through 4 items taken from (Lueg & Finney, 2007). Perceived enjoyment was measured with 4 items taken from Teo and Liu (2007). Urge to buy was measured with 3 items taken from (Parboteeah et al., 2009). Compulsive buying behavior was measured through 7 items taken from Faber and O'guinn (1992).

## 4. Data Analysis

### 4.1 Sample Description

A total of 571 participants took part in this study. Out of these 571 participants, 240 were males and remaining 216 were females. Most of the participants (i.e. 127 participants) were from the age group between 18 to 23 years. Most of the participants have graduate degree i.e. 233 participants. 101 participants replied that they were buying online occasionally whereas 355 respondents have frequently used

internet for online buying from online stores. Respondents communicate with their peers/reference groups and share/receive information from different social network services (Facebook is mostly used by users regarding purchasing online). Total strength those who buy online either occasionally or frequently, therefore the current study further considered 456 respondents for analysis. Descriptive analysis of demographic variables is also performed such as Mean, S.D, Skewness and kurtosis (see table 2).

Table 2: Demographic Variables Profile

Demographic	Category	Frequency	Mean (S.D)	Skewness	Kurtosis
Gender	1. Male	240	1 mode (0.50)	0.49	-1.99
	2. Female	216			
	Total	456			
Age (In years)	1. Less than 18	33	2.89 (0.99)	-0.48	-0.95
	2. 18-23	127			
	3. 24-29	171			
	4. 30-35	103			
	5. Above 36	22			
	Total	456			
Education	1. 12-14 years	49	2.42 (0.86)	0.43	-0.52
	2. 14-16	233			
	3. 16-18	108			
	4. Above 18	66			
	Total	456			
Online Buying	1. Never buy Online	115	1.78 (0.42)	-1.35	-0.20
	2. Occasionally	101			
	3. Frequently	355			
	Total	571			

#### 4.2 Partial Least Squares Structural Equation Modelling (PLS-SEM)

Partial Least Squares Structural Equation Modelling (PLS-SEM) technique is used to empirically test the model and their propositions. PLS-SEM is a flexible technique to relate theory and data, namely, specification of relationship among variables. Because of these grounds, PLS-SEM is extensively used in organizational, marketing, management and research (Hair, Sarstedt, Ringle, & Mena, 2012; Ballestar, Grau-Carles, & Sainz, 2016). Measurement and structural models are the basic components of SEM as well as PLS-SEM path model. The PLS-SEM

algorithm provides the proportion of explained variance, path coefficients, and maximized percentage of explained variance. Furthermore, data is collected through purposive sampling (non-random sampling) which may cause normality issues in data. Researchers also suggest PLS-SEM path model to overcome normality issues. For these reasons, this study assessed measurement model (reflective measurement model) and structural model as suggested by Hair et al. (2012).

#### 4.3 Measurement Model

For analyzing the measurement model, confirmatory factor analysis was performed. Construct reliability was evaluated by Cronbach alpha and it is ranged from 0.77 to 0.88 that is acceptable (Hair, 2010). For validation of measurement model, convergent and discriminant validities are also assessed through composite reliability (CR) and average variance extracted (AVE). The CR and AVE values range from 0.85-0.91 and 0.55-0.69 are within acceptable criteria (Bagozzi & Yi, 1988; Fornell & Larcker, 1981). Thus, results demonstrated good convergent validity See Table3.

The discriminant validity was checked by testing whether square root of AVE for each measure was greater than the correlations values involving the variable. All correlation values were acceptable with square root of the AVE for each measure being greater than inter-construct correlation values, as shown on the diagonal in Table 4. This demonstrated good discriminant validity (Chin, 1998). Results of CFA represent that all variables are reliable and acceptable. Correlations are also presented in following Table 4 that demonstrates that all study variables have strong positive correlations with each other.

**Table 3: Confirmatory Factor Analysis**

Constructs	Code	Loadings	AVE	Composite Reliability (CR)	Cronbach Alpha
Social Bridging/Social Bonding	SBO6	0.74	0.55	0.91	0.88
	SBO7	0.70			
	SBO8	0.70			
	SBR1	0.74			
	SBR2	0.78			
	SBR3	0.76			
	SBR4	0.74			
	SBR5	0.74			
Peer Communication	PC1	0.64	0.59	0.85	0.77
	PC2	0.79			
	PC3	0.83			
	PC4	0.80			
Perceived Enjoyment	PEJ1	0.76	0.69	0.90	0.85
	PEJ2	0.83			
	PEJ3	0.87			
	PEJ4	0.86			
Urge to Buy	UTB1	0.82	0.69	0.87	0.77
	UTB2	0.84			
	UTB3	0.84			
Compulsive Buying Behavior	CBB1	0.78	0.63	0.89	0.85
	CBB2	0.80			
	CBB3	0.77			

**Table 4: Discriminant Validity Fornell-Larcker Criterion**

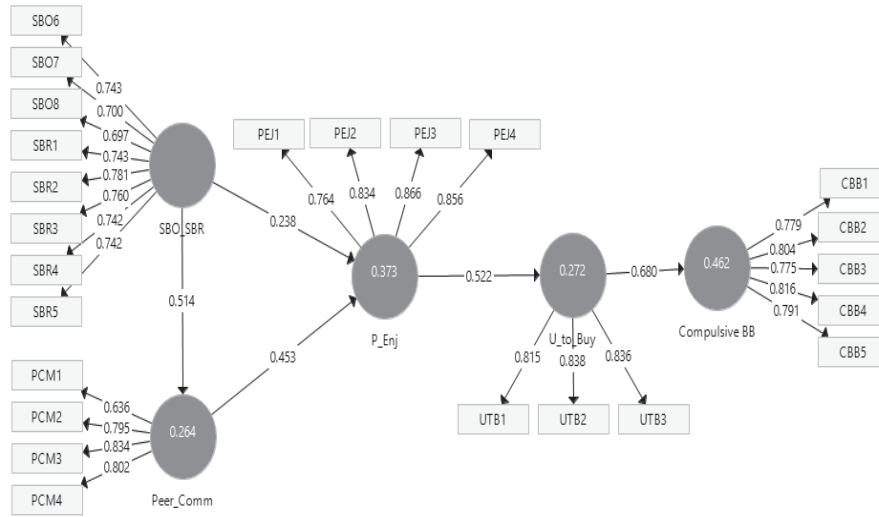
Constructs	SBR/SBO	PCM	PEJ	UTB	CBB
Social Bridging/Social Bonding	<b>0.74</b>				
Peer Communication	0.51	<b>0.77</b>			
Perceived Enjoyment	0.47	0.57	<b>0.83</b>		
Urge to Buy	0.49	0.63	0.52	<b>0.83</b>	
Compulsive Buying Behavior	0.57	0.70	0.62	0.68	<b>0.79</b>

#### 4.4 Structural Model

The PLS analysis was performed to test the structural model. Path analysis results are presented in Table 6 and Figure 2. As shown in Figure 2, Social bonding/Social bridging have significant positive impact on peer communication i.e  $\beta = 0.62$ ,  $p < 0.00$  this confirming the  $H_1$ . Social bonding/Social bridging significantly positive effect on perceived enjoyment i.e.  $\beta = 0.18$ ,  $p < 0.02$ , this represented that  $H_2$  is confirmed. In  $H_3$ , peer communication is a significant determinant of perceived enjoyment i.e.  $\beta =$

*Determinants of Online Consumers' Compulsive Buying Behavior: An S-O-R Approach in SNS Context*

0.59,  $p < 0.00$ . Furthermore, perceived enjoyment is also found as positively and significantly related to urge to buy i.e.  $\beta = 0.64$ ,  $p < 0.00$ , in favor of H<sub>4</sub>. Urge to buy have significant impact on compulsive buying behavior i.e.  $\beta = 0.84$ ;  $p < 0.00$  that support H<sub>5</sub>.



**Figure 2: Structural Model**

**Table 6: Hypothesis Results and Structural Relationships**

Hypothesis	Path	Path	Standard	t	p	Decision
		Coefficient	Error	Statistics	Value	
H1	<u>SBO_SBR</u> → <u>Peer Comm</u>	0.62	0.07	9.01	0.00	Accepted
H2	<u>SBO_SBR</u> → <u>P_Enj</u>	0.18	0.08	2.26	0.02	Accepted
H3	<u>Peer Comm</u> → <u>P_Enj</u>	0.59	0.07	8.00	0.00	Accepted
H4	<u>P_Enj</u> → <u>U to Buy</u>	0.64	0.06	11.03	0.00	Accepted
H5	<u>U to Buy</u> → <u>CompulsiveBB</u>	0.84	0.03	25.98	0.00	Accepted

## 5. Conclusion and Recommendations

### 5.1 Discussion

This present study aimed to model and empirically examines social and psychological and behavioral aspects in social commerce context. Data from online shoppers of e-shopping websites was in support of a significant model and proposed relational paths. In general, social and psychological aspects are contributing factors in developing response behavior. The findings of this study are aligned with the pervious literature for instance S-O-R (Huang, 2016; Verhagen & van Dolen, 2011; Valacich, and Wells (2009) and social capital theory perceptive (Lueg & Finney,

2007; Song, Chung, & Koo, 2015). The findings revealed that social capital with wide set of opportunities and plenty of information has acted as a stimulus that drives impulsive buying. Furthermore, in line with S-O-R, the increased intensity of peer communication acts as stimuli and evoke customers' psychological aspects (perceived enjoyment) that ultimately generate urge to buy and compulsive actions. From the results, it can be elaborated that customer beliefs to acquire new information (bridging social) and development of emotional relationship (bonding social) are the contributing factors in developing favorable perceptions about the enjoyment of the web site layout (Tsai & Pai, 2013). Furthermore, relationship on social media networking websites assist peer communication, that is an important agent of consumer socialization which also enhance the perceptions about the enjoyment of buyers in online shopping environment. The more enjoyable web store attracts shoppers to spend more time on shopping websites and probe into the items they have interested. Thus, perceived enjoyment grants them a sense of confidence and shoppers get emotionally attached towards the shopping website. Consequently, online shoppers with high score on perceived enjoyment are more inclined towards compulsive buying (Koufaris, 2002; Wakefield et al., 2011). The findings of the study offer significant implications for academicians and practitioners in the context of online impulsive buying. Based on the current model, marketer who targeted online buyers should consider social bonding and peer communication as a stimulus that develops perception about the usefulness and enjoyment of shopping websites that ultimate drives impulsive actions. Managers should consider the website characteristics and develop a website that contains exciting, imaginative, entertaining aspects with rich amount of information to convert the web browsing into actual online purchasing.

## 5.2 Future Recommendations and Limitations

Despite the fact that this research provides precious contributions; some notable limitations should be considered before generalizing the findings. First, data were collected from three shopping websites only that may be arguable to represent the realistic and accurate picture of online shoppers in Pakistani context. Future research should consider more online shopping for more generalizable results. Second, this study is conducted in non-contrived setting and cross sectional in nature. Experimental context (e.g. use of e-coupons; Lin & Lo, 2016) and longitudinal data



provide more fruitful results in this context. Third, future studies may also consider social like Facebook instead of shopping websites as consumers spend a significant amount of time on social websites. Finally, future research can also consider some other variables like pre-shopping tendencies, emotional aspects (e.g. trait affect) and situation variables (money and time) to get more insight of the phenomenon.

## **References:**

- Achenreiner, G. B., (1997). Materialistic Values and Susceptibility to Influence in Children. *Advances in Consumer Research*, 24, 82-88.
- Achenreiner, G.B., & John, D.R. (2003). The Meaning of Brand Names to Children: A Develop-Mental Investigation. *Journal of Consumer Psychology*, 13, 205-219.
- Achtziger, A., Hubert, M., Kenning, P., Raab, G., & Reisch, L. (2015). Debt out of control: The links between self-control, compulsive buying, and real debts. *Journal of Economic Psychology*, 49, 141-149.
- Adelaar, T., Chang, S., Lancendorfer, K.M., Lee, B., & Morimoto, M. (2003). Effects of media formats in emotions and impulse buying intent. *Journal of Information Technology*, 18(4), 247-266.
- Adler, P.S. & Kwon, S.-W. (2002). Social capital: prospects for a new concept. *Academy of Management Review*, 27(1), 17-40.
- Alt, R. and Klein, Stefan., (2011), Twenty Years of Electronic Markets Research. *Looking Backwards Towards the Future*.
- Anabel .Q & Alyson L. (2010) uses and Gratifications of Social Media: A Comparison of Facebook and Instant Messaging. *Bulletin of Science, Technology & Society*. 30(5), 350-361.
- Anderson, M. Brusa, J. Price, J. & Joe Sims (2011), Turning "like" to "buy": Social media emerges as a commerce channel. Booz & Company. Retrieved from <https://www.strategyand.pwc.com/reports/turning-like-social-media-emerges>
- Attiq, S., Ahmed., A., Ilyas, A., Kulsoom, K., & Ahmad, W. (2018). Investigating the impact of consumer's involvement, risk, self-efficacy, life style and privacy concern on online purchase intention and shopping adoption. *Pakistan Business Review*, 20(2).

- Attiq, S. & Azam, R. I. (2015). Attention to Social Comparison Information and Compulsive Buying Behavior: An S-O-R Analysis. *Journal of Behavioral Sciences*, 25(1), 39-58.
- Attiq, S., & Azam, R. I. (2014). Materialism Derives: An Analysis of Direct and Indirect Impact of Materialistic Attitude in the Development of Compulsive Buying Behavior. *Pakistan Journal of Social Sciences (PJSS)*, 34(2), 663-682.
- Attiq, S., & Azam, R. I. (2012). How individual social values stimulate consumer purchase decision involvement and compulsive buying behavior: a path by path multi-groups analysis. *Actual Problem of Economics*, (7), 300-308.
- Bagozzi, P.R., & Yi, Y., (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74–94.
- Ballestar, M. T., Grau-Carles, P., & Sainz, J., (2016). Consumer behaviour on cashback websites: Network strategies. *Journal of Business Research*, 69(6), 2101–2107
- Beard, K. W. (2005). Internet Addiction: A Review of Current Assessment Techniques and Potential Assessment Questions. *Cyber Psychology and Behavior*, 8, 7-14.
- Beatty, E. S & Ferrell, E. M. (1998). Impulse buying: Modelling its precursors. *Journal of Retailing*, 74(2), 169-191.
- Bellini, S., Cardinali, M. G., & Grandi, B. (2017). A structural equation model of impulse buying behaviour in grocery retailing. *Journal of Retailing and Consumer Services*, 36, 164-171.
- Bouzaglo, B & Moschis, G. (2010). Effects of Family Structure and Socialization on Materialism: A Life Course Study in France. *The Journal of Marketing Theory and Practice*. 18. 53-70.
- Bentler, P. M., & Speckart, G. (1979). Models of attitude behavior relations. *Psychological Review*, 86(5), 452-464.
- Bessant, J., Kaplinsky, R. & Lamming, R. (2003). Putting supply chain learning into practice. *International Journal of Operations & Production Management*, 23(2), 167-84.
- Bighiu, Georgiana & Manolica, Adriana & Roman, Teodora. (2015). Compulsive Buying Behavior on the Internet. *Procedia Economics and Finance*, 20, 72-79.

- Brandtzæg, P.B. (2012). Social Networking Sites: Their Users and Social Implications A Longitudinal Study, *Journal of Computer-Mediated Communication*, 17(4), 467–48
- Breazeale, M., & Lueg, E.J (2011). Retail shopping typology of American teens. *Journal of Business Research*, 64, 565-571.
- Chan, K., Zhang, H., & Wang, I. (2006). Materialism among adolescents in urban China. *Young Consumers*, 7(2), 64–77.
- Chan, T. K., Cheung, C. M., & Lee, Z. W. (2017a). The state of online impulse-buying research: A literature analysis. *Information & Management*, 54(2), 204–217.
- Chan, K., & Prendergast, G. (2007). Materialism and social comparison among adolescents. *Social Behavior and Personality: An international journal*, 35,23-228
- Chin, W. (1998). The Partial Least Squares Approach to Structural Equation Modeling. *Modern Methods for Business Research*, 295-236.
- Chiu, C.M., Hsu, M.H., Wang, E.T., (2006). Understanding knowledge sharing in virtual communities: an integration of social capital and social cognitive theories, *Decis. Support Syst.* 42(3),1872–1888.
- Cho, Y. J. (2015), Segment Disclosure Transparency and Internal Capital Market Efficiency: Evidence from SFAS No. 131, *Journal of Accounting Research*, 53, 669-723
- Choi, D., & Kim, J. (2004). Why people continue to play online games: in search of critical design factors to increase customer loyalty to online contents. *Cyber Psychology & Behaviour*, 7(1).11-24.
- Chow, W.S. & Chan, L.S. (2008). Social network, social trust and shared goals in organizational knowledge sharing, *Information & Management*, 45(7), 458-465
- d'Astous, A. (1990). An inquiry into the compulsive side of “normal” consumers. *Journal of Consumer Policy*, 13(1), 15-31.
- Darrat, A. A., Darrat, M. A., & Amyx, D. (2016). How impulse buying influences compulsive buying: The central role of consumer anxiety and escapism. *Journal of Retailing and Consumer Services*, 31, 103-108.
- Davis, F. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology, *MIS Quarterly*, 13(3), 319-340.

- Davis, F., Bagozzi, R. & Warshaw, P. (1992). Extrinsic and intrinsic motivation to use computers in the workplace, *Journal of Applied Social Psychology*, 22(14), 1111-1132.
- de Mattos, Kim, Filomensky, & Tavares. (2019). Development and validation of the compulsive-buying follow-up scale: A measure to assess treatment improvements in compulsive buying disorder. *Psychiatry Research*
- Dittmar, H., & Drury, J. (2000). Self-image—is it in the bag? A qualitative comparison between “ordinary” and “excessive” consumers. *Journal of Economic Psychology*, 21(2), 109–142.
- Faber, R., & O'Guinn, T. (1992). A Clinical Screener for Compulsive Buying. *Journal of Consumer Research*, 19(3), 459-469
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behaviour: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fornell, C., & Larcker, D. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1). 39-50.
- Gefen, D., Straub, D.W., & Boudreau, M. C. (2000). Structural equation modeling and regression: guidelines for research practice. *Communications of the Association for Information Systems*, 4, 1-77.
- Grant, J. E., Mancebo, M. C., Eisen, J. L., & Rasmussen, S. A. (2010). Impulse-control disorders in children and adolescents with obsessive-compulsive disorder. *Psychiatry Research*, 175(1), 109-113
- Granovetter, M.S. (1985). Economic action and social structure: the problem of embeddedness. *American Journal of Sociology*, 91(3), 481-510
- Griffiths D. M. Kuss J. D. , Billieux J. , & Pontes. M . H (2016) The evolution of Internet addiction: A global perspective. *Addictive Behaviors*, 53, 193-195.
- Hajli, N., & Sims, J. (2015). Social commerce: The transfer of power from sellers to buyers. *Technological Forecasting and Social Change*, 94, 350–358.
- Hale J.L., Householder B.J., Greene K.L. (2003). The theory of reasoned action. *The persuasion handbook*, 259–86
- Hair Jr., J., Sarstedt, M., Ringle, C.M., Pieper, T. (2012) Use of partial least squares in strategic management research: a review of past practices and recommendations for future applications. *Long Range Planning*.

- Hair Jr., J.F., Black, W.C., Babin, B.J. & Anderson, R.E. (2010) *Multivariate Data Analysis: A Global Perspective. 7th Edition, Pearson Education*, Upper Saddle River.
- Halliwel, E., Dittmar, H., & Howe, J. (2005). The impact of advertisements featuring ultra-thin or average-size models on women with a history of eating disorders. *Journal of Community & Applied Social Psychology*, 15(5), 406–413..
- Hennig-Thurau, T., Gwinner, K. P., Walsh, G., & Gremler, D. D. (2004). Electronic word of- mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the internet? *Journal of Interactive Marketing*, 18(1), 38–52.
- Hirschman, E. & Holbrook, M. (1982), Hedonic consumption: emerging concepts, methods and propositions. *Journal of Marketing*, 46(3), 91-101.
- Horváth, C., Adıgüzel, F., & Herk, H.v. (2013). Cultural aspects of compulsive buying in emerging and developed economies: A cross cultural study in compulsive buying. *Organizations and Markets in Emerging Economies*, 4(2), 8–24.
- Horváth Csilla, Adıgüzel Feray. (2018). Shopping enjoyment to the extreme: Hedonic shopping motivations and compulsive buying in developed and emerging markets. *Journal of Business Research*, 86, 300–310.
- Horváth, C., Büttner, O. B., Belei, N., & Adıgüzel, F. (2015). Balancing the balance: Self-control mechanisms and compulsive buying. *Journal of Economic Psychology*, 49, 120–132.
- Hsiao, C.C. & Chiou, J.-S. (2012), “The effect of social capital on community loyalty in a virtual community: test of a tripartite-process model”, *Decision Support Systems*, 54(1), 750-757.
- Huang, Z., Benyoucef, M., (2013). From e-commerce to social commerce: A close look at design features. *Electron. Commerce Res. Appl.* 12(4), 246–259.
- Huang L. (2016). Flow and social capital theory in online impulse buying. *Journal of Business Research*, 69, 2277–2283
- Huang, H. L., & Chen, Y. Y. (2017, June). Developing and Validating Internet Compulsive Buying Tendency Measurement Scales. In *Academy of Marketing Science World Marketing Congress*. 3-16.

- Hwang, Y. & Kim, J. D., (2007). Customer self-service systems: The effects of perceived Web quality with service contents on enjoyment, anxiety, and e-trust. *Decision Support Systems*, 43, 746–760.
- Hyun, K. D., & Kim, J. (2015). Differential and interactive influences on political participation by different types of news activities and political conversation through social media. *Computers in Human Behaviour*, 45, 328-334.
- Inglehart, R., & Baker, W. E. (2000). Modernization, cultural change, and the persistence of traditional values. *American Sociological Review*, 19–51.
- Islam, T., Sheikh, Z., Hameed, Z., Khan, I. U., & Azam, R. I. (2018). Social comparison, materialism, and compulsive buying based on stimulus-response-model: a comparative study among adolescents and young adults. *Young Consumers*, 19(1), 19-37
- Islam, Wei, Sheikh, Hameed, & Azam. (2017) Determinants of compulsive buying behavior among young adults: The mediating role of materialism. *Journal of Adolescence*, 16, 117-130.
- Japutra, A., Ekinci, Y., & Simkin, L. (2017). Self-congruence, brand attachment and compulsive buying. *Journal of Business Research*.
- Johnson T. & Attmann J. (2009). Compulsive buying in a product specific context: clothing. *Journal of Fashion Marketing and Management: An International Journal*, 13(3),
- Kampmeier, C & Simon, B. (2001). Individuality and Group Formation: The Role of Independence and Differentiation. *Journal of personality and social psychology*. 81. 448-62.
- Khalifa.M & Liu.V (2014) Satisfaction with Internet-Based Services: The Role of Expectations and Desires, *International Journal of Electronic Commerce*, 7(2), 31-49
- Khalifa, M. & Liu, V. (2007). Online consumer retention: contingent effects of online shopping habit and online shopping experience. *European Journal of Information Systems* 16(6), 780-792.
- Shaw, J. D., Park, T. & Kim, E. (2013), A resource-based perspective on human capital losses, HRM investments, and organizational performance. *Strat. Mgmt. J.*, 34, 572-589
- Koufaris, M. (2002). Applying the technology acceptance model and flow theory to online consumer behaviour. *Information Systems Research*, 13(2), 205-223.



- Kovacheva, A & Lamberton, C., (2018). Whose Experience Is It, Anyway? *Psychological Ownership and Consumer Behavior*. 195-210.
- Krause, D., Handfield, R.B. & Tyler, B.B. (2007), The relationships between supplier development, commitment, social capital accumulation and performance improvement, *Journal of Operations Management*, 25(2), 528-45.
- Kukar-Kinney.M, Angeline C, Schaefer, T. (2016), Compulsive buying in online daily deal settings: An investigation of motivations and contextual elements, *Journal of Business Research*, 69, 691-699
- Kukar-Kinney, Scheinbaum, Schaefer. (2016). Compulsive buying in online daily deal settings: An investigation of motivations and contextual elements. *Journal of Business Research*, 69(2), 691-699.
- Kuss, D.J. & Griffiths, M.D. (2011), Online social networking and addiction – a review of the psychological literature, *International Journal of Environmental Research and Public Health*, 8(9), 3528-3552.
- Lawrence, L. M., Ciorciari, J., & Kyrios, M. (2014). Relationships that compulsive buying has with addiction, obsessive-compulsiveness, hoarding, and depression. *Comprehensive psychiatry*, 55(5), 1137-1145.
- Lee, S., Park, J., & Bryan Lee, S. (2016). The interplay of Internet addiction and compulsive shopping behaviors. *Social Behavior and Personality: an International Journal*, 44(11), 1901-1912.
- Leonardi M. P., (2015). Ambient Awareness and Knowledge Acquisition: Using Social Media to Learn "Who Knows What" and "Who Knows Whom", *MIS Quarterly*, 39(4), 74-763.
- Li, H., Zou, Y., Wang, J., & Yang, X. (2016). Role of Stressful Life Events, Avoidant Coping Styles, and Neuroticism in Online Game Addiction among College Students: A Moderated Mediation Model. *Frontiers in Psychology*, 7, 1794-1806.
- Li, D. (2011), Online social network acceptance: a social perspective, *Internet Research*, 21(5), 562-580.
- Liang, T.P., & Turban, E. (2011). Introduction to the special issue social commerce: A research framework for social commerce. *International Journal of Electronic Commerce*, 16(2), 5–14.

- Lin, K.-Y. & Lu, H.-P. (2011), Intention to continue using Facebook fan pages from the perspective of social capital theory, *Cyber psychology, Behavior, and Social Networking*, 14(10), 565-570
- Lin, S.W., & Lo, L. Y.-S. (2016). Evoking online consumer impulse buying through virtual layout schemes. *Behaviour & Information Technology*, 35(1), 38–56.
- Liu, Y., Li, H., & Hu, F. (2013). Website attributes in urging online impulse purchase: An empirical investigation on consumer perceptions. *Decision Support Systems*, 55, 829-837
- Lu, B., Fan, W., & Zhou, M. (2016). Social presence, trust, and social commerce purchase intention: An empirical research. *Computers in Human Behaviour*, 56, 225–237.
- Lueg, J. E., & Finney, R. Z. (2007). Interpersonal communication in the consumer socialization process: Scale development and validation. *Journal of Marketing Theory and Practice*, 15(1), 25–39.
- Marino J.M., Ertelt T.W., Mitchell J.W., & Lancaster K. (2011). Alcohol abuse and dependence before and after bariatric surgery: a review of the literature and report of a new data set. *Compulsive Buying*, 4(5):647-50
- Maraz A, Griffiths MD, Demetrovics Z. (2015). The prevalence of compulsive buying: a meta-analysis. *Addiction*, 111(3), 408-19.
- McNeely, C., & Falci, C. (2004). School connectedness and the transition into and out of health-risk behaviour among adolescents: A comparison of social belonging and teacher support. *Journal of School Health*, 74(7), 284-292.
- Mekler, E.D., Bopp, J.A., Tuch, A.N. & Opwis, K. (2014), A systematic review of quantitative studies on the enjoyment of digital entertainment games, *Proceedings of the 32nd Annual ACM Conference on Human Factors in Computing Systems*, 927-936.
- Moon, M. A., & Attiq, S. (2018). Compulsive Buying Behavior: Antecedents, Consequences and Prevalence in Shopping Mall consumers of an emerging economy. *Pakistan Journal of Commerce and Social Sciences*, 12(2), 45-63.
- Moulding, R., Duong, A., Nedeljkovic, M., & Kyrios, M. (2017). Do You Think That Money Can Buy Happiness? A Review of the Role of Mood Materialism, Self, and Cognitions in Compulsive Buying. *Current Addiction Reports*, 4(3), 254-261

*Determinants of Online Consumers' Compulsive Buying Behavior: An S-O-R Approach in SNS Context*

- Müller, A., Mitchell, J. E., & de Zwaan, M. (2015). Compulsive buying. *The American Journal on Addictions*, 24(2), 132-137.
- Nabi, R.L. & Kremer, M. (2004), "Conceptualizing media enjoyment as attitude: implications for mass media effects research", *Communication Theory*, 14(4), 288-310.
- Nahapiet, J., & Ghoshal, S., (1998). Social capital, intellectual capital, and the organizational advantage. *Acad. Manage. Rev.* 23(2), 242–266.
- O'Brien, R.M. & Quant, Q (2007). A Caution Regarding Rules of Thumb for Variance Inflation Factors. 41(5) 673–690
- Olbrich, R & Holsing, C (2011), Modeling Consumer Purchasing Behavior in Social Shopping Communities with Clickstream Data, *International Journal of Electronic Commerce*, 16(2), 15-40
- Panda, A & Jain, K. N (2018). Compulsive smartphone usage and users' ill-being among young Indians: Does personality matter? *Telematics and Informatics*, 35(5), 1355-1372.
- Pagani, M & Mirabello, A (2014) The Influence of Personal and Social-Interactive Engagement in Social TV Web Sites, *International Journal of Electronic Commerce*, 16(2), 41-68.
- Pahlevan S. S. & Yeoh, K. K (2018). Excessive social networking sites use and online compulsive buying in young adults: the mediating role of money attitude. *Young Consumers*,
- Parboteeah, D. V., Valacich, J. S., & Wells, J. D. (2009). The influence of website characteristics on a consumer's urge to buy impulsively. *Information Systems Research*, 20, 60–78.
- Pinho, J. & Soares, A. (2011), "Examining the technology acceptance model in adoption of social networks", *Journal of Research in Interactive Marketing*, 5(2), 116-129.
- Putnam, R. (2000). Bowling alone: The collapse and revival of American community, *Journal of Catholic Education*, 6(2), Paperback edition. Simon & Schuster.
- Quan-Haase, A & Young, A, (2010). Uses and Gratifications of Social Media: A Comparison of Facebook and Instant Messaging, *Bulletin of Science, Technology & Society*. 30(5), 350-361.

- Routledge. Kampmeier, C., & Simon, B. (2001). Individuality and group formation: The role of independence and differentiation. *Journal of Personality and Social Psychology*, 81(3), 448-461.
- Salehan, M., & Negahban, A. (2013). Social networking on smartphones: When mobile phones become addictive. *Computers in Human Behavior*, 29(6), 2632-2639.
- Sarah B.B. & George P. M (2014) Effects of Family Structure and Socialization on Materialism: A Life Course Study in France, *Journal of Marketing Theory and Practice*, 18(1), 53-70.
- Starkey, K. & Tempest, S. (2004), "Bowling along: strategic management and social capital", *European Management Review*, 1(1), 78-83.
- Stieger, S., Burger, C., Bohn, M. & Voracek, M. (2013), "Who commits virtual identity suicide? Differences in privacy concerns, internet addiction, and personality between Facebook users and quitters", *Cyberpsychology, Behaviour, and Social Networking*, 16(9), 629-634.
- Sharif, S. P., & Khanekharab, J. (2017). Identity confusion and materialism mediate the relationship between excessive social network site usage and online compulsive buying. *Cyber Psychology, Behavior, and Social Networking*, 20(8), 494-500.
- Steenkamp, Jan Benedict & Baumgartner. (2000). On the Use of Structural Equation Models in Marketing Modeling. *International Journal of Research in Marketing*, 17, 195-202.
- Sun, Y., Fang, Y., Lim, K.H. & Straub, D. (2012), User satisfaction with information technology service delivery: a social capital perspective, *Information Systems Research*, 2(4), 1195-1211.
- Teo, T., Lim, V. & Lai, R. (1999), Intrinsic and extrinsic motivation in Internet usage, *Omega*, 27(1), 25-37.
- Turel, O. & Serenko, A. (2012), The benefits and dangers of enjoyment with social networking websites, *European Journal of Information Systems*, 21(5), 512-528.
- Turel, O & Osatuyi B., (2017). A peer-influence perspective on compulsive social networking site use: Trait mindfulness as a double-edged sword. *Computers in Human Behavior*, 77, 47-53.

- Unger, Alexander & Raab. (2015). The Dark Side of Globalization and Consumption: How Similar Are Chinese and German Consumers Toward Their Proneness to Compulsive Buying? *Journal of Asia-Pacific Business*, 16, 4-20.
- Uzzi, B. (1997), Social structure and competition in inter firm networks: the paradox of embeddedness, *Administrative Science Quarterly*, 42(1), 35-67.
- Van der Heijden, H. (2004), User acceptance of hedonic information systems, *MIS Quarterly*, 28(4), 695-704.
- Vasović, L., Trandafilović, M., Vlajković, S., Jovanović, I., & Ugrenović, S. (2013). Persistent Primitive Olfactory Artery in Serbian Population. *BioMed Research International*.
- Venkatesh, V. (2000). Determinants of perceived ease of use: integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information Systems Research*, 11(4), 342-365.
- Verhagen, W., & Van Dolen (2011). The influence of online store beliefs on consumer online impulse buying: a model and empirical application, *Inf. Manage.* 48(8), 320–327.
- Vicdan .H & Sun. J. (2008). Towards the framework for understanding compulsive buyers online: Exploring the effects of online sales promotion, *29th southwest decision sciences institute annual conference*, Houston, TX
- Vogt, S, Antje, H, Reinhard. P & Alexander. G (2015). Impulsivity in consumers with High compulsive buying propensity. *Journal of Obsessive-Compulsive and Related Disorders*. 7(10), 33-47.
- Vonkeman, C., Verhagen, T., & van Dolen, W. (2017). Role of local presence in online impulse buying. *Information & Management*, 54(8), 1038-1048.
- Vorderer, P., Klimmt, C. & Ritterfeld, U. (2004), "Enjoyment: at the heart of media entertainment", *Communication Theory*, 14(4), 388-408.
- Wagner, H.-T., Beimborn, D. & Weitzel, T. (2014), "How social capital among information technology and business units drives operational alignment and IT business value", *Journal of Management Information Systems*, 31(1), 241-272.
- Wang, E.S.-T. & Wang, M.C.-H. (2013), "Social support and social interaction ties on internet addiction: integrating online and offline contexts", *Cyberpsychology, Behaviour, and Social Networking*, 16(11), 843-849.

- Wang, R., Liu, H., Jiang, J., & Song, Y. (2017). Will materialism lead to happiness? A longitudinal analysis of the mediating role of psychological needs satisfaction. *Personality and Individual Differences*, 105, 312–317.
- Wang, J., & Xiao, J. J. (2009). Buying behavior, social support and credit card indebtedness of college students. *International Journal of Consumer Studies*, 33(1), 2-10.
- Weibel, D. & Wissmath, B. (2011), Immersion in computer games: the role of spatial presence and flow, *International Journal of Computer Games Technology*, 2011(6), 1-14.
- Weinstein, A., Mezig, H., Mizrachi, S., & Lejoyeux, M. (2015). A study investigating the association between compulsive buying with measures of anxiety and obsessive–compulsive behavior among internet shoppers. *Comprehensive psychiatry*, 57, 46-50.
- Williams, C.C. (2005), Book review: *The Creation and Destruction of Social Capital*, *Journal of Rural Studies*, 2(1), 260-261.
- Wu, J. & Liu, D. (2007), The effects of trust and enjoyment on intention to play online games, *Journal of Electronic Commerce Research*, 8(2), 128-140.
- Xu, Z., Turel, O. & Yuan, Y. (2012), Online game addiction among adolescents: motivation and prevention factors, *European Journal of Information Systems*, 21(3), 321-340.
- Yeh, Y.-C., Ko, H.-C., Wu, J.Y.-W. & Cheng, C.-P. (2008), Gender differences in relationships of actual and virtual social support to internet addiction mediated through depressive symptoms among college students in Taiwan, *Cyberpsychology & Behaviour*, 11(4), 485-487.
- Zhao, L., Lu, Y., Wang, B., Chau, P.Y. & Zhang, L. (2012), Cultivating the sense of belonging and motivating user participation in virtual communities: a social capital perspective, *International Journal of Information Management*, 32(6), 574-588
- Zhang, J., & Daugherty, T. (2009) Third-Person Effect and Social Networking: Implications for Online Marketing and Word-of-Mouth Communication, *American Journal of Business*, 24(2), 53-64.