

# Chapter 7

## Development and Validation of an Online Shopping Scale Adapted to Specific Cities of India



Arif Hasan, Sunil Tiwari, and Amina Omrane

**Abstract** The present study aims to develop and validate an appropriate scale for online shoppers in the Indian context. In compliance with prior scale developmental studies on online shopping, an OSBS (i.e. Online Shopping Behavioral Scale) is proposed in order to better understand the Indian online shoppers' behavior. For this purpose, several rounds of focus group interviews with experts, retailers and academicians helped in developing a pool of preliminary set of items. Then, an exploratory and a confirmatory factor analyses were performed to develop the OSBS in order to ensure the applicability and clarity of the measurement instrument. Results reveal that the OSBS suggested in the current research is a second-order formative multi-dimensional construct, reflecting a nine-factor structural model composed of 38 indicators. This valid and reliable scale is then applicable in the Indian context. It offers a valuable framework for managers and academicians who could employ it to assess the shoppers' online behavior. Decision makers and marketers could also consider this OSBS whenever they plan to formulate and implement new business strategies in the Indian context.

**Keywords** Online shopping behavior · OSBS · Scale development · Online shoppers · The Indian context

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## 1 Introduction

Internet plays an imperative role and a conventional means to get information in this digital age (Batra, 2002; Kuhlmeier & Knight, 2005). Actually, approximately 2 billion of Indian citizens have access to internet and twice of them are mobile phone subscribers (Yadav & Rahman, 2017); while around 700 million persons are internet users in India. Besides, out of the total number of those internet users, internet penetration in the urban area is threefold than in the rural regions (Varshneya & Das, 2017). Subsequently, it was found that the widespread internet penetration has engendered a rapid growth of electronic commerce (Das, 2014). Indeed, using internet is one of the main significant factors that might explain the increase of online shopping at an exponential rate in India (Singh et al., 2017; Mosquera et al., 2019).

Earlier, Indian shoppers prefer browsing for goods and services through internet; but, at present, they are involved in an actual buying process (Das, 2014) and the trend is expected to continue in the upcoming years (Chakraborty & Bhat, 2018). Furthermore, number of persons from different age groups are spending more time in online-related activities from the past few years in Indian context (Das, 2014). Moreover, addiction towards the usage of internet; cell-phones, and mobile-phones is also nurturing the online shopping in India (Young, 1998; Chakraborty & Bhat, 2018).

By drawing on the precedent literature, it could be deduced that there is a scant attention dedicated to the specific instruments that might predict the consumers' online shopping behaviors in the Indian context. In fact, although several researches related to online shopping have been conducted in pasture western settings of India, most of them were relying on a survey/questionnaire analysis (Andreassen et al., 2015). It implies that the existing instruments were employed inadequately and their perspectives were restricted to the western regions and suburbs of India (Seo & Green, 2008). In addition, it has been shown that the instruments that have been commonly used in the industry have several psychometric problems (Carman, 1990). On the other hand, Indian urban shoppers are different from rural and western ones regarding their distant buying traditions and their usage of Internet (Hasan, 2017). Consequently, the usefulness of our developed scale for the Indian population should be ensured.

The scale developed in the current research aims at facilitating the survival and growth of online business, mainly in such an ambiguous and complex environment owed to the overwhelming pressure of competitors (Das, 2014; Poddar et al., 2009; Singh, et al. 2017). Consequently, online marketers could gain competitive advantages in the market due to the associated benefits deriving from them (Ong, 2011; Changchit et al., 2019). The aforementioned discussion illustrated the underlying reasons behind the online shopping domain for researchers by helping them to develop conceptual frameworks, to identify and assess unexplored dimensions of the Indian online shopping (Das, 2014). Moreover, it may enable practitioners and online retailers to design appropriate strategies.

Nowadays, there are various types of websites in different spheres like online newspapers, free downloaded sites, job or entertainment websites. However, the present study deals with online shopping sites. The respondents were frequent online shoppers across ample number of e-retailers, who have an array of items including books, CDS, electronic devices, apparels, and mobile phones. This study sample is confined to online shoppers (*those who bought* electronic devices and mobile phones) in the last three months and residing in four metro Politian cities of India.

On the basis of the observations cited above, the present study sought to explore and address the various determinants of online shopping in India.

Due to the enormous potential growth of the online shopping sector, this study developed and checked the applicability of existing instruments like those already proposed by Faber and O'Guinn's scale (1992), Ridgway et al. (2008), Andreassen et al. (2015), and Maraz et al. (2015). Prior researchers revealed that previous scales did not covered all the required criteria. Hence, this research is an attempt to disseminate knowledge and investigate the determinants of online shopping that has not been investigated in previous studies. Due to narrow perspectives and focusing on few dimensions like security, social desirability, functional, emotional, and social value, researchers have already argued that several other dimensions, such as mood modification, problems, salience alienation may also be included as imperative dimensions of online shopping (Andrews et al., 2007; Williams & Soutar, 2009).

The present research seeks then to validate a multi-item online shopping scale with the endeavor to add it to the existing literature. Its second goal is to examine the online shopping components and underlying attributes in an unexplored area located in the Indian context. It began with an introduction about online shopping and its determinants, followed by a section dedicated to the theoretical background for the suggested scale; while subsequent sections detailed and discussed its development procedure. The final section provides theoretical and managerial contributions of the study along with its main limitations.

## **2 Theoretical Underpinning and Research Development**

To outline the theoretical framework corresponding to the development of a multi-item online shopping scale, our focus was firstly put on specifying the domain of online shopping behaviors. Therefore, it was turned to retrieving the few existing online shopping scales that were developed in the Indian and western contexts.

### **2.1 Outlining and Specifying the Construct's Domain**

According to Churchill (1979), the domain of each construct should be defined while developing it (Churchill, 1979). Furthermore, constructs can be derived from the literature review or/and from experts' opinions (Varshneya & Das,

2017; Hasan, 2017). Drawing on the mainstream research on online shopping, it appears that researchers operationally defined the online shoppers' behavior, by qualifying those who use internet or mobile devices as a platform for goods and services (Abott, 2012). In the same perspective, precedent studies cited other similar constructs, such as internet addiction (IA) and compulsive buying (CB), which should also be considered. IA involve both specific and generalized types depending on the targets of the behavior itself (Davis, 1989), while CB concerns the propensity of repeated buying behaviors of shoppers (Müller et al., 2015; Trotzke et al., 2015).

Preliminary studies asserted that positive insights lead customers towards online shopping although it is still uncertain that perception is a convenient determinant that enables to in-depth understand the shoppers' behavior (Kotler & Keller, 2006; Mahmood et al., 2004; Nagar, 2018). Perception refers to the process of selecting, organizing, and interpreting information in order to create a significant image of the globe (Kotler & Keller, 2006; Ono et al., 2012; Chi, 2018). It depends on physical stimuli and inner feelings of shoppers who might be exposed to the same reality (Chen & Dubinsky, 2003). Besides, according to Holbrook (1994), shoppers have the tendency to evaluate and select the products or services that obtain the overall best value. That is why Shrum et al. (1995) revealed, in the same vein, that marketers actively inquire about the psychographic information related to shoppers and leading to their purchase decision. It means that the buying process follows different stages, emphasizing that the consumer behavior is not just about decision or purchasing. It rather includes a full range of experiences associated with the usage of products and services. Currently, the buying behavior is considered as a complex phenomenon, which consists of a wide set of prior and after purchase activities (Rose & Dhandayudham, 2014).

Several studies conducted mainly by Davis (1989), Liu and Arnett (2000), Muylle et al. (2004), and Shih (2004) indicated that online shopping is a multidimensional construct. Moreover, earlier scholars assessed concerns of shoppers regarding online shopping and revealed that those ones perceive a higher level of risk and uncertainties with any online purchase compared with other traditional modes of shopping (Lee & Tan, 2003; Bhatnagar & Ghose, 2004, Miyazaki & Fernandez, 2001).

It is noteworthy that the present study proposes and develops an online shopping scale, by drawing on previous researches and considering shoppers' perceptions with respect to their online purchasing habits. Nevertheless, it appears that prior empirical studies conducted in this area had not sufficiently explored the dimensions of online shopping. Furthermore, even if the online shopping domain has been investigated in different contexts, it had not been explored in a comprehensive manner, in the western Indian regions (Xu-Priour et al., 2017). Hence, a scant attention has been paid to the Indian shoppers' influencing factors with respect to online shopping. For this reason, it is expected that the scale proposed by here serves to assess shoppers' perception, attitude, feasibility, as well as to evaluate their essential psychographic characteristics.

## ***2.2 Existing Online Shopping Scales***

There are abundant standard operational scales that have been developed by marketers, dealing with online shopping dilemmas, and each scale moves towards the issue differently. By reviewing the precedent literature on compulsive buying behaviors, it appears that the most commonly used scales had been proposed by Faber and O’Guinn (1992) as well as Maraz et al. (2015). Those 7-item scales evaluate the compulsive buying by assessing buyers’ thoughts, affects, and behaviors during their purchase cycle. In addition, Rose and Dhandayudham (2014) and Trotske et al. (2015) have also suggested another online shopping scale in order to assess situations faced by shoppers during their decision-making process. Furthermore, Christo et al. (2003) proposed another ten-item scale with respect to behavioral addiction by adding certain other factors.

In the same orientation, other prior instruments exhibiting a sound reliability and validity, such as the Facebook Addiction Scale (Torsheim et al., 2012) or the Game Addiction Scale (Lemmens et al., 2009), have been adopted by researchers. In fact, the corresponding literature shows that the IA scale developed by Morahan-Martin and Schumacher (2000) and the shopping addiction scale proposed by Andreassen et al. (2016) were employed to measure the core criteria of shopping addiction.

For Horrigan (2008), attitudes and perceptions play a key role for both online and offline users who intend to purchase products, whereas Muncy and Vitell (1992) already adopted a different customers’ perspective to examine the ethical issues in the market place from the customers’ perspective.

In order to develop our online shopping scale, we considered not only the aforementioned studies, but also those respectively undertaken by Forsythe et al. (2006) in the Indian context, or Lee and Turban (2001) who developed comparable scales in similar contexts and situations. Those prior scales should be adapted to contexts like India and revisited to ensure their validity and synchronicity (King et al., 2016).

Furthermore, the existing literature documented that there has been a dearth of attempts to measure the online shopping behavior in the Indian context, stressing that the western scales would not be applicable before their alteration and adaptation (Parsons, 2002). A sound measure of the perceptions associated with online shopping is then required to fulfil the endeavor of developing an online shopping scale appropriate for different structural and cultural perspectives.

## ***2.3 Theoretical Framework for the Development of a Multi-item Online Shopping Scale***

A review of empirical studies shows that the Theory of Reasoned Action (TRA; Ajzen & Fishbein, 1977) and the Technology Acceptance Model (TAM; Davis, 1989) are among the most popular instruments that have been applied to the online shopping situational researches.

The TRA emphasizes the individual's perceptions, which is an outcome action, whereas the TAM proposes that attitude towards the employment of a new technology is affected by its perceived usefulness and ease of usage. While constructing our scale, the preliminary items were adapted from the behavioral addiction and compulsive buying instruments (Faber & O'Guinn, 1992; Christo et al., 2003; Lemmens et al., 2009; Torsheim et al., 2012; Müller et al., 2015; Maraz et al., 2015 and Andreassen et al., 2016). Subsequently, several prior studies were employed to evaluate the online behavior of shoppers (Ridgway et al., 2008; Rose & Dhandayudham, 2014; Maraz et al., 2015; Mahnke et al., 2015; Song et al., 2018). Those precedent models helped us in developing a pool of possible indicators and modifying the items elaborately based on the comments and data emanating from corresponding pre-tests.

Miyazaki and Fernandez (2001) revealed four major shoppers' concerns regarding online shoppers. The first one is related to privacy of shoppers concerning their personal information and the undisclosed tracking of their activities. The second one corresponds to security with regard to protection devices used to acquire consumers' personal, financial, or transaction-oriented information. The third category designates fraud linked to purposeful misrepresentation or non-delivery of goods. Finally, the last concern reflects shoppers' views about internet use and online behaviors. Later, Milne and Culnan (2004) found that reading privacy notices represents one element in an overall strategy implemented by consumers to manage the risks incurred by disclosing personal information online. Accordingly, developing a new scale for measuring consumer online shopping behavior towards online shopping decisions might enrich the existing literature, by completing its theoretical insights with further practical meaningful implications.

### 3 Methods and Results on Multi-item Scale Development

A multiple item-scale serves to assess a concept and facilitates tapping its complexity (De Vaus, 1996). Probability of misleading information can be avoided in case of multi-item measurement scale with greater accuracy. Primary function of multi-item scale is summarizing the information presented by a number of questions into one variable (in this case online shopping behavior) the analysis is simplified. Quantitative statistical techniques were employed in the analysis of survey data through SPSS 22.0 and AMOS.

Since latent variables are not observable, researcher has to create instruments in order to measure them. In this study, scale development steps were adopted from (Churchill, 1979; Jain et al., 2017) and improved by using other researchers' recommendation too (Arnold & Reynolds, 2003; Bagozzi, 1980; Gerbing & Anderson, 1988; Wolfinbarger & Gilly, 2003). Four stages, drawn from the literature (Bearden et al., 1993; De Vaus, 1996), were taken to develop the online shopping behavior scale (OSBS). The scientific scale development procedure comprised item generation, exploring, and purification and validation of scale through reliability and validity.

### **3.1 Stage 1. Items' Pool Generation (Via a Qualitative Study)**

Firstly, items were identified through the previous literature, which provides a theoretical basis of scales (Churchill, 1979). For this purpose, prior developed and relevant instruments, such as Compulsive Buying Scale (Edward, 1993); Facebook Addiction Scale (Torsheim et al., 2012); Game Addiction Scale (Khazaal et al., 2018); Bergen shopping addiction scale (Andreassen et al., 2015), were revisited to generate the appropriate indicators that could be retained for our research.

However, to the best of our knowledge, there is a dearth of studies conducted on online shopping scale development in the Indian and western contexts. For this reason, a qualitative study was carried out and several questions were then addressed to experts in order to extract other relevant items that are convenient to our context (Bush et al., 2000; Kruger & Casey, 2008). In the light of an inductive approach combined with a deductive one, focus group meetings and in-depth interviews were held with respondents who were deemed to have manifested their consent to participate in our survey. Participants, who were mainly experts (including senior executives, faculty members, scholars, professionals, etc.), were then asked to share their daily-life experiences regarding what they do and how they behave as online shoppers whenever they intend to check and purchase online products. Consequently, a pool of 65 possible items was gathered from our participants, comprising both positive and negative statements. The optimal length of the scale is debated within the literature (Pritchard et al., 1999). Hereby, 13 redundant, ambiguous or poorly worded items were excluded and after the pre-test step, the number of items came down from 65 to 52. The modified pretested layout of the questionnaire was therefore administrated to the respondents for the refinement and the organization of items, which were elaborately modified.

### **3.2 Stage 2. Organization and Refinement of the Pool of Items (by Exploring the Factors) (Study I)**

The Exploratory Factor Analysis (EFA) was performed to explore the pool of items into a coherent subscales' structure, so that the primary dimensions could be reduced after the possible omission of the inappropriate indicators, yielding to a more effective scale.

#### **3.2.1 Sample and Data Collection**

A non-probability method, based on a convenience sampling, was considered in the present study for two main reasons: (i) *the exploratory nature of the research design* and (ii) *the necessity to gather the responses from the participants (if and only if*

*they had consulted and purchased online products during the last 3 months), who filled the e-questionnaire properly (Ferber, 1977).*

Consequently, our sample comprises the frequent shoppers who have bought through online retailers' websites and platforms. Moreover, only those who lived in the four major cities of India that have a high-internet penetration rate were selected. Our respondents had then more than 4 years of prior experience of using internet 2–4 h per day for any online shopping purpose. They were accustomed to use internet for an average of 27.2 h per week.

Primary data were collected through e-mails and via an online survey link (on Google Forms). Each respondent was requested to fill an attached e-questionnaire. As recommended by Best and Krueger (2002), instead of conventional interviewing methods, such as face-to-face interviews and surveys, the online procedures enable to get more efficient and convenient form of data collection.

For Parasuraman et al. (2005), a sample size composed of 200 observations could be sufficient for such analyses. However, after the elimination of missing and outlier data, our sample comprised finally 178 respondents.

From the descriptive analyses, it was found that the two main gender categories were more than 18 years old, with a mean age of 27.4 years. Besides, men were slightly more represented (58%) than women (42%). Our respondents were also of different categories of occupation, including employed (28%), self-employed (33%), and students (39%).

### **3.2.2 Factorial Analysis Through the Exploratory Factor Analysis (EFA)**

The scale refinement undergoes the administration of a multi-item questionnaire with respect to the statements generated from the pool of items deriving from the Exploratory Factor Analysis (EFA), performed to explore the possible factor structure.

The Kaiser–Meyer–Olkin (KMO), which measures the sampling adequacy, is in the acceptable limit with a value of 0.840 (Field, 2013), whereas the Bartlett's test of Sphericity is ( $p < 0.005$ ), showing that the correlation matrix is an identity and acceptable one (Field, 2013). The principal axis factor analysis was carried out on the 57 items and explored 12 factors, explaining 69.012% of the total variance after the varimax rotation. Items of respective factors were kept whether: (1) they loaded 0.50 or more on one factor, (2) they did not load more than 0.50 on two factors, and (3) for each item, the reliability analysis indicated more than 0.40 of the total correlation (Hair et al., 1998). Those criteria were not met by factor 12 (encompassing 3 items) and by six other items related to other factors. With respect to Singhapakdi et al. (1996) recommendations, a range of nine problematic indicators, whose split loadings were not above the permissible limit, were eliminated and dropped. The final exploratory analysis yielded a 11-factor structure, representing 78.75% of the total variance, as shown in Table 7.1 below.



**Table 7.1** Items retained based on an exploratory factor analysis (study 1;  $n = 178$ )

Constructs/factors (multi-item measures)	No. of items (48)	Items (label) code	Rotated factor loadings	Eigen values	Variance extracted (%)
<i>(KMO-0.840 and Bartlett's Test of Sphericity 0.00)</i>					
Entrustment (factor 1)	8	Q.13	0.720	13.938	29.038
		Q.15	0.692		
		Q.18	0.763		
		Q.25	0.672		
		Q.27	0.803		
		Q.29	0.860		
		Q.33	0.733		
		Q.34	0.841		
Salience (factor 2)	6	Q.3	0.869	4.228	8.809
		Q.5	0.774		
		Q.8	0.782		
		Q.11	0.871		
		Q.22	0.828		
		Q.32	0.791		
Security (factor 3)	5	Q.9	0.726	3.321	6.919
		Q.12	0.724		
		Q.16	0.777		
		Q.19	0.638		
		Q.23	0.794		
Problems' resolution (factor 4)	4	Q.6	0.898	2.738	5.705
		Q.7	0.737		
		Q.31	0.738		
		Q.35	0.898		
Mood modification (factor 5)	5	Q.2	0.841	2.591	5.398
		Q.4	0.738		
		Q.54	0.563		
		Q.56	0.876		
		Q.57	0.904		
Social insurance (factor 6)	4	Q.36	0.815	2.299	4.789
		Q.46	0.854		
		Q.49	0.795		
		Q.50	0.817		
Privacy (factor 7)	4	Q.38	0.877	2.118	4.413
		Q.39	0.764		
		Q.42	0.845		
		Q.43	0.613		
Conflict management (factor 8)	3	Q.10	0.876	1.868	3892
		Q.24	0.867		
		Q.28	0.917		

(continued)

**Table 7.1** (continued)

Constructs/factors (multi-item measures)	No. of items (48)	Items (label) code	Rotated factor loadings	Eigen values	Variance extracted (%)
Relapse prevention (factor 9)	3	Q.41	0.915	1.732	3.609
		Q.44	0.859		
		Q.45	0.936		
Alienation hindrance (FACTOR 10)	3	Q.47	0.901	1.586	3.305
		Q.48	0.858		
		Q.53	0.845		
Social desirability (factor 11)	3	Q.20	0.859	1.382	2.879
		Q.26	0.706		
		Q.30	0.812		
Rotation sums of squared loadings (Cumulative % of variance)					78.757%

Extraction method: principal component analysis

Rotation method: Varimax with Kaiser normalization

Rotation converged in 6 iterations

Rotated Factor loadings: Only loadings greater than the threshold value of 0.6 were reported, and those below 0.6 were excluded by researchers

Source: Prepared by the researchers, based on primary data

Note: All estimates were significant ( $p < 0.05$ )

### 3.3 Stage 3. Cross-Validation of the Factorial Structure (Through the Scale Purification) (Study 2)

A Confirmatory Factor Analysis (CFA) was conducted via the Analysis of Moment Structure (AMOS) software, with a new set of 600 respondents. Such a stage was helpful for the cross validation of the explored factors and redundancies.

#### 3.3.1 Sample and Data Collection Using Condensed Instrument

A second study was carried out for a better purification and an additional evaluation of the factorial structure. A purposive sampling method was used to select the respondents. The sample unit was the frequent shoppers of four major cities located in India (i.e., *online shoppers who were accustomed to use internet and who purchased via online platforms during the last three months*). 600 online shoppers were contacted via e-mails and asked to fill an e-questionnaire on an online survey link. From the primary data, only 547 responses were found to be complete and convenient for our factorial analysis, by fulfilling the minimum criteria of a sample size (Hair et al. 1998; Stevens, 2012). Respondents were so encouraged to fill the e-questionnaire (Google forms) on the basis of their last three months' on-line purchases. As recommended by Best and Krueger (2002), we contacted respondents via e-mails to obtain more efficient and convenient data.

Our sample encompasses both men and women shoppers whose average age was relatively older than 37.2 years. It was comprised 62.3% of men and only 36.7% of

women. Moreover, 67% of participants were highly educated. 72.3% of them were self/employed workers, whereas the rest of them were students.

### 3.3.2 Restructuring Factors and Corresponding Items

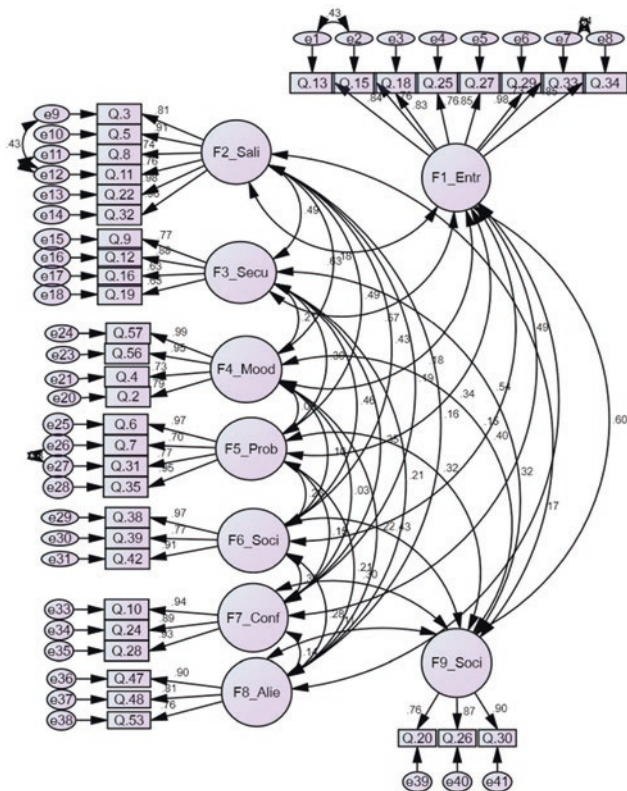
The multi-item scale was purified through a CFA. Initially, 11 factors corresponding for 48 items were estimated in the first model. The Goodness of Fit Index (GFI) and the Adjusted Goodness of Fit Index (AGFI) that range between 0 and 1, with a value of over 0.9, indicate an acceptable model fit (Hooper et al., 2008). Additionally, the Normed fit index (NFI) and the Tucker-Lewis fit index (TLI), which are preferable for smaller samples, should also be greater than 0.9 (Byrne, 1994) or 0.95 (Schumacker & Lomax, 2004). To establish good fit indices, two other approximate indexes should be considered for a reasonable model fit: the root mean square error of approximation (RMSEA) whose value should be less than 0.08; and the Chi-square/Degree of Freedom (CMIN/DF) whose value should not exceed 3 (Hooper et al., 2008).

On the basis of the criteria cited above, it appears that the fit of our model was poor and unacceptable. For this reason, problematic items were deleted one at a time and dropped from further investigations, followed by another round of confirmatory factor analyses. During the CFA process, 10 items and two factors were accordingly dropped to get values that comply with the acceptable limits. The re-specified nine-factor model obtained had thus shown an acceptable goodness, parsimony, and badness of fit indices as shown in Fig. 7.1 below.

The second-order (OSBS) structure model that comprises 38 items showed standardized factor loadings “causes” for the first-order factors (Entrustment, salience etc.), as demonstrated in Fig. 7.2 below. This provides a strong support for the nine factors structure of the OSBS. Both nine-factor models (including the one with higher order factors and the other one without), were so similar on all fitness measures, and much better than the other models.

## 3.4 *Stage 4. Validation of the Scale Through Validity and Reliability Checking*

In order to assess the validity and reliability of the scale, the EFA and CFA methods were performed, as their usefulness was already demonstrated across a wide range of other different cultural contexts (Christo et al., 2003; Faber & O’Guinn, 1992). After conducting the factorial analysis via the EFA & CFA, the obtained scale contained 38 measurement items corresponding to nine factors. Each indicator (related to a respective factor) was reflected in a convenient sentence that reports the internal or external influence of online shopping as well as the strength/intensity of the effect.



$\chi^2 (625) = 1.779; p < 0.0$   
 CFI = 0.95; GFI = 0.81;  
 NFI = 0.88; RMSEA = 0.05; RMR = 0.04

**Source:** Prepared by the researchers based on primary data

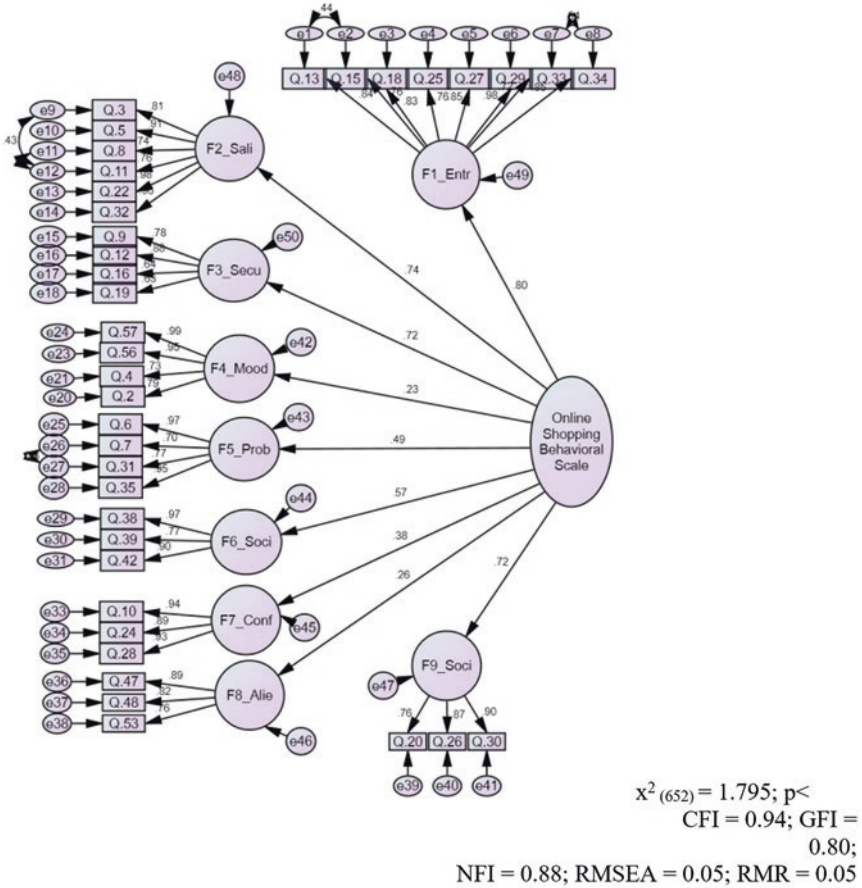
**Note.** ENTR: Entrustment; SALI: Saliency; SECU: Security; MOOD: Mood; PROB: Problems’ resolution; SOCI: Social insurance; CONF: Conflict management; ALIE: Alienation hindrance; SOCI: Social Responsibility

**Fig. 7.1** Measurement construct model of the Online Shopping Behavioral Scale. (Source: Prepared by the researchers based on primary data)

**Note.** ENTR Entrustment, SALI Saliency, SECU Security, MOOD Mood, PROB Problems’ resolution, SOCI Social insurance, CONF Conflict management, ALIE Alienation hindrance, SOCI Social Responsibility

### 3.4.1 Assessment of the Scale Validity

1. **Content Validity:** it has been examined through a Content Validity Index (CVI), where 25 independent experts were consulted to avoid any ambiguity. Accordingly, eight items were dropped and 57 others were retained.
2. **Criterion Validity:** it is assessed by checking whether there is a correlation between constructs measured into the OSBS and the other known standardized scales’ measures. It undergoes two kinds of validity: (a) **the predictive validity,**



**Source:** Prepared by the researchers based on primary data

**Note.** Q1-Q57 are the manifest variables of the scale; F1-F9 are the factors related to the scale of Online Shopping Behavioral Scale; e1-e50 are the errors of the manifest variables.

**Fig. 7.2** OSBS modelling as a reflective second-order factorial structure. (Source: Prepared by the researchers based on primary data)

**Note.** Q1-Q57 are the manifest variables of the scale; F1-F9 are the factors related to the scale of Online Shopping Behavioral Scale; e1-e50 are the errors of the manifest variables

which helps in predicting future outcomes and events and **(b) the concurrent validity**, which indicates the amount of agreement between two different measures. In other words, it is ensured whenever scores on an established measure are associated with scores on another measure taken at the same time (Adams et al., 2014).

3. **Construct Validity (Factorial Validity):** it was established by checking three main prerequisites: (i) the *assemblage of multiple sources* which include basic frameworks, like Bergen’s model and other related established measures; (ii) the *inclu-*

sion of experts' advices with respect to domestic factors, and (iii) *the wide assessment of all significant constructs via minimized likelihoods*. For more precision, the construct validity was ensured via three stages, encompassing the nomological validity, the convergent validity, and the discriminant validity.

- (a) *Nomological Validity*: Constructs and items relatedness have been duly checked and the nomological validity makes sense when there is a logical relationship between each construct (i.e., entrustment, salience, etc.) and its correspondent items.
- (b) *Convergent Validity (AVE)*: It reflects the degree to which a set of indicators could fully represent its latent variable. It was established through checking the respective values of the Standardized Factor Loadings (SFL), the Construct Reliability (CR), and the Average Variance Explained (AVE). According to Hair et al. (1998), it should be demonstrated that  $CR > 0.7$ ,  $CR > AVE$ , and  $AVE > 0.5$ . As shown in Table 7.2, the AVE of the extracted nine latent variables of our study was greater than 0.50.
- (c) *Discriminant Validity*: It evaluates the shared variance among the items of each factor (i.e., AVE), by examining the variance shared between factors (i.e., their correlation). As shown in Table 7.2, the AVE square roots of all the constructs of this study were greater than their correlations with the different other constructs. Therefore, based on Hair et al. (1998) principles, the measurement model satisfies the necessary criteria of the discriminant validity.

### 3.4.2 Assessment of the Scale Reliability

1. *Overall Reliability*: In order to determine the reliability of a multi-item scale, it should be proved that the Cronbach's  $\alpha$  value exceeds 0.7 the threshold value suggested by Nunnally (1978).  
In our study, the computed Cronbach alpha was 0.937, denoting the high-internal consistency of our instrument.
2. *Inter-Item Reliability*: It was ensured that the Cronbach's  $\alpha$  value of all the nine sub-constructs was ranging between 0.85 and 0.98, thus greater than the cut-off acceptable value of 0.7. Indeed, Cronbach's  $\alpha$  values of the nine constructs were, respectively, as follows: Entrustment ( $\alpha = 0.961$ ); Salience ( $\alpha = 0.984$ ); Security ( $\alpha = 0.866$ ); Mood modification ( $\alpha = 0.921$ ); Problems' resolution ( $\alpha = 0.936$ ); Social insurance ( $\alpha = 0.937$ ); Conflict management ( $\alpha = 0.960$ ); Alienation hindrance ( $\alpha = 0.855$ ); and Social desirability ( $\alpha = 0.908$ ), ensuring the required internal consistency.
3. *Split Half Reliability*: It was ascertained whenever the Cronbach's  $\alpha$  coefficient values of the first half items' (19 items) compared with those of the second half ones (19 items) were found satisfactory, 0.827.
4. *Inter-rater Reliability*: Results indicated that the estimated reliability between respondents is 0.263, with an acceptable confidence interval (CI) value of 95%

**Table 7.2** Validity and reliability analysis

Dimensions	SRWs	No. of Items	CR	AVE	SQR AVE
<i>Entrustment (F1)</i>		8	0.961	0.758	0.870
Q.13	0.840				
Q.15	0.761				
Q.18	0.830				
Q.25	0.762				
Q.27	0.849				
Q.29	0.979				
Q.33	0.725				
Q.34	0.847				
<i>Saliience (F2)</i>		6	0.984	0.818	0.904
Q.3	0.813				
Q.5	0.912				
Q.8	0.741				
Q.11	0.756				
Q.22	0.983				
Q.32	0.962				
<i>Security (F3)</i>		4	0.866	0.624	0.790
Q.9	0.774				
Q.12	0.883				
Q.16	0.633				
Q.19	0.630				
<i>Mood modification (F4)</i>		4	0.921	0.749	0.866
Q.2	0.794				
Q.4	0.732				
Q.56	0.951				
Q.57	0.990				
<i>Problems' resolution (F5)</i>		4	0.936	0.789	0.888
Q.6	0.972				
Q.7	0.698				
Q.31	0.774				
Q.35	0.952				
<i>Social insurance (F6)</i>		3	0.937	0.833	0.913
Q.38	0.971				
Q.39	0.769				
Q.42	0.906				
<i>Conflict management (F7)</i>		3	0.960	0.890	0.943
Q.10	0.937				
Q.24	0.888				
Q.28	0.931				

(continued)

**Table 7.2** (continued)

Dimensions	SRWs	No. of Items	CR	AVE	SQR AVE
<i>Alienation hindrance (F8)</i>		3	0.855	0.664	0.814
Q.47	0.895				
Q.48	0.815				
Q.53	0.760				
<i>Social desirability (F9)</i>		3	0.908	0.767	0.876
Q.20	0.762				
Q.26	0.867				
Q.30	0.904				

Keywords: *SRWs* Standardized Regression Weights, *CR* Composite Reliability, *AVE* Average Variance Extracted

Source: Prepared by researchers based on primary data

(0.221, 0.312). On the other hand, *average measures* showed 80% of stability among respondents, which ensured the consistency in information about the same construct from two different respondents. It was also revealed that the average score of established measures related to the second respondent is similar to those of the first one.

## 4 Results' Analysis and Discussion

The present study aims at developing a scale to assess Indian online shopping behavior, which is in an infant stage in many western cities and rural regions of India, where the internet occupation rate is still low. It emphasizes by the way that the online shopping behavior is a complex and a multidimensional phenomenon. It appears also that Indian shoppers perceive the online behavior differently depending on their location, their cultural heritage, and their habits. Hence, it is recommended to revisit and update the existing developed scales, which may vary whenever the context and the culture change. Indeed, on the basis of the prior literature, it is ascertained that the Shopping Addiction Scale proposed by Bergens (Andreassen et al., 2015) and the Online Shopping Addiction Scale (COSS) (Zhao et al., 2017) are becoming increasingly renowned as valid scales worldwide. However, those scales should be reconsidered and adapted before applying them to the Indian context as they do not reproduce the alike dimensions. For the present study, few measurement items were chosen and maintained in the light of a qualitative analysis and on the basis of previous scales developed in the Indian context; while several other problematic indicators were excluded due to validity issues.

The EFA results revealed that 12 factors structural dimensions could be retained. Nevertheless, by performing the CFA, out of those 12 factors, three factors corresponding to *privacy*, *recursion*, and *alienation* were deleted. Nine factors encompassing, *entrustment*, *salience*, *security*, *mood modification*, *problems' resolution*, *social insurance*, *conflict management*, *withdrawal*, and *social responsibility*, were



then maintained indicating the perspectives of an appropriate model that could fit the substantive theory. The obtained OSBS was outlined on the basis of prior reputed similar scales, such as those already suggested by Morahan-Martin and Schumacher (2000), Edward (1993, Compulsive Buying Scale), Montag et al. (2015), and Bergen (2015, shopping addiction scale; Cited in Andreassen et al., 2015). Convergent and discriminant validity were then checked and established, revealing that OSBS items and factors were highly correlated with the scale after performing the EFA and CFA.

Furthermore, modified measurement model loadings and factor loadings of the new obtained scale along with Cronbach's alpha coefficients were acceptable (as shown in Table 7.1). Consequently, the OSBS scale could be considered as a valuable, reliable, and relevant one, as compared to previous similar scales. It also revealed that out of nine factors, salience and entrustment factors are the two main strong predictors of the online shopping behavior.

## 5 Conclusion and Managerial Implications

This study adds new insights to the body of knowledge in terms of investigation and identification of the essential factors that might influence consumers' online purchase behaviors in specific cities of India. It revealed that the existing developed scales and their relevant constructs are not exclusively applicable in the Indian context, which leads us to reconsider and adapt them to the present investigation. Hence, an OSBS was proposed. Consistent with prior researches and drawing on the most reputed similar online shopping scales, the present study implemented a rigorous scale development procedure for establishing a strong psychometric structure of an OSBS, including nine factors with 38 statements (which are the most likely to affect the consumer behavior towards online shopping).

This study has several theoretical and managerial implications derived from the obtained results. Indeed, it offers academics and managers a validated OSBS, which can be employed by them to evaluate and in-depth-understand their shoppers' online behaviors. Such a basic tool could also be helpful for online retailers' decision makers whenever they are looking for formulating and implementing appropriate and recent business strategies.

Furthermore, this research emphasizes the importance of the interplay between various determinants of online shopping that may lead to the success or the failure of an online business. Consequently, online retailers are conveyed to put a special focus on entrustment, social responsibility, and salience issues. For instance, entrustment could be improved by securing online transactions and offering multi-payment options. Similarly, online social responsibility may involve adopting socially responsible elements in marketing strategies and redirecting online communication towards communitarian purposes. Finally, brand salience could be upgraded by implementing correspondent emotional stories, attractive figures, and facts that create strong and long-term memories about online products.

## 6 Limitations and Future Research Avenues

Although the present research yields several interesting insights and practical contributions for specific regions of the Indian context, it has quite few limitations that should be recognized. First, its primary objective was to understand a new phenomenon related to the behavior of online shoppers who are especially located in the four major cities of India (Delhi, Mumbai, Chennai, and Bangalore). The exploratory study that was carried out purposely could then have some social desirability issues. Moreover, the convenience sampling technique used in this research could generate biased or skewed data, and the obtained results could not be generalized to other retail shoppers located in different geographical areas.

Future investigations may be conducted by adopting other scientific sampling methods for the development of similar scales related to the same domain. They could be performed by including heterogeneous samples spread across different geographical regions of India and even other emergent countries.

## References

- Abott, K. (2012). *How i beat my online shopping addiction*. Learnvest. Retrieved from: <http://www.learnvest.com>.
- Adams, E. J., Goad, M., Sahlqvist, S., Bull, F. C., Cooper, A. R., Ogilvie, D., & iConnect Consortium. (2014). Reliability and validity of the transport and physical activity questionnaire (TPAQ) for assessing physical activity behaviour. *PLoS one*, 9(9), e107039.
- Ajzen, I., & Fishbein, M. (1977). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Addison-Wesley.
- Andreassen, C., Griffiths M., Pallesen S., Bilder R., Torsheim T., and Aboujaoude, E. (2015). The Bergen Shopping Addiction Scale: reliability and validity of a brief screening test. *Frontiers in Psychology (Quantitative Psychology and Measurement)*, 6 (September 2015). Article, 1374. 11 pages. <https://www.frontiersin.org/articles/10.3389/fpsyg.2015.01374>. DOI=10.3389/fpsyg.2015.01374.
- Andreassen, C. S., Torsheim, T., Brunborg, G. S., & Pallesen, S. (2016). Development of a Facebook addiction scale. *Psychological Reports*, 110(2), 501–517.
- Andrews, L., Kiel, G., Drennan, J., Boyle, M. V., & Weerawardena, J. (2007). Gendered perceptions of experiential value in using web-based retail channels. *European Journal of Marketing*, 41(5/6), 640–658.
- Arnold, M. J., & Reynolds, K. E. (2003). Hedonic shopping motivations. *Journal of Retailing*, 79(2), 77–95.
- Bagozzi, R. P. (1980). Book Review: Advances in Factor Analysis and Structural Equation Models. *Journal of Marketing Research*, 17(1), 133–134.
- Batra, M. M. (2002). Managerial challenges of global advertising agencies. *Journal of Promotion Management*, 7(1–2), 161–176.
- Bearden, W. O., Netemeyer, R. G., & Mobley, M. F. (1993). *Handbook of marketing scales: Multi-item measures for marketing and consumer behavior research*. Sage.
- Best, S. J., & Krueger, B. (2002). New approaches to assessing opinion: The prospects for electronic mail surveys. *International Journal of Public Opinion Research*, 14(1), 73–92.
- Bhatnagar, A., & Ghose, S. (2004). A latent class segmentation analysis of e-shoppers. *Journal of Business Research*, 57(7), 758–767.

- Bush, V. D., Venable, B. T., & Bush, A. J. (2000). Ethics and marketing on this Internet: Practitioners' perceptions of societal, industry and company concerns. *Journal of Business Ethics*, 23(3), 237–248.
- Byrne, B. M. (1994). Burnout: Testing for the validity, replication, and invariance of causal structure across elementary, intermediate, and secondary teachers. *American Educational Research Journal*, 31(3), 645–673.
- Carman, J. M. (1990). Consumer perceptions of service quality: An assessment of T. *Journal of Retailing*, 66(1), 33.
- Chakraborty, U., & Bhat, S. (2018). The effects of credible online reviews on brand equity dimensions and its consequence on consumer behavior. *Journal of Promotion Management*, 24(1), 57–82.
- Changchit, C., Cutshall, R., Lonkani, R., Pholwan, K., & Pongwirithon, R. (2019). Determinants of online shopping influencing the consumer's buying choices. *Journal of Internet Commerce*, 18(1), 1–23.
- Chen, Z., & Dubinsky, A. J. (2003). A conceptual model of perceived customer value in e-commerce: A preliminary investigation. *Psychology & Marketing*, 20(4), 323–347.
- Chi, T. (2018). Mobile commerce website success: Antecedents of consumer satisfaction and purchase intention. *Journal of Internet Commerce*, 17(3), 189–215.
- Christo, G., Jones, S. L., Haylett, S., Stephenson, G. M., Lefever, R. M., & Lefever, R. (2003). The shorter PROMIS questionnaire: Further validation of a tool for simultaneous assessment of multiple addictive behaviors. *Addictive Behaviors*, 28(2), 225–248.
- Churchill, G. A., Jr. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16(1), 64–73.
- Das, G. (2014). Store personality and consumer store choice behavior: An empirical examination. *Marketing Intelligence & Planning*, 32(3), 375–394.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13, 319–340.
- De Vaus, D. A. (1996). *Surveys in social research* (4th ed.). UCL Press.
- Edwards, E. A. (1993). Development of a new scale for measuring compulsive buying behavior. *Financial Counseling and Planning*, 4, 67–84.
- Faber, R. J., & O'guinn, T. C. (1992). A clinical screener for compulsive buying. *Journal of Consumer Research*, 19(3), 459–469.
- Ferber, R. (1977). Research by convenience. *Journal of Consumer Research*, 4, 57–58.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.
- Forsythe, S., Liu, C., Shannon, D., & Gardner, L. C. (2006). Development of a scale to measure the perceived benefits and risks of online shopping. *Journal of Interactive Marketing*, 20(2), 55–75.
- Gerbing, D. W., & Anderson, J. C. (1988). An updated paradigm for scale development incorporating unidimensionality and its assessment. *Journal of Marketing Research*, 25(2), 186–192.
- Hair, J. F., Anderson, R. L., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis*. Macmillan.
- Hasan, A. (2017). Examining applicability of RSQS with added dimensions for organized apparel retailers in India: Validation and development of scale. *Paradigm*, 21(1), 52–74.
- Holbrook, M. B. (1994). The nature of customer value: An axiology of services in the consumption experience. *Service Quality: New Directions in Theory and Practice*, 21, 21–71.
- Hooper, L., Kroon, P. A., Rimm, E. B., Cohn, J. S., Harvey, I., Le Cornu, K. A., & Cassidy, A. (2008). Flavonoids, flavonoid-rich foods, and cardiovascular risk: A meta-analysis of randomized controlled trials. *The American Journal of Clinical Nutrition*, 88(1), 38–50.
- Horrigan, J. (2008). *Online shopping: Internet users like the convenience but worry about the security of their financial information*. Pew Internet & American Life Project.
- Jain, N. K., Gajjar, H., Shah, B. J., & Sadh, A. (2017). E-fulfillment dimensions and its influence on customers in e-tailing: A critical review. *Asia Pacific Journal of Marketing and Logistics*, 29, 347–369.
- King, R. C., Schilhavy, R. A., Chowa, C., & Chin, W. W. (2016). Do customers identify with our website? The effects of website identification on repeat purchase intention. *International Journal of Electronic Commerce*, 20(3), 319–354.

- Khazaal, Y., Breivik, K., Billieux, J., Zullino, D., Thorens, G., Achab, S., & Chatton, A. (2018). Game addiction scale assessment through a nationally representative sample of young adult men: Item response theory graded-response modeling. *Journal of medical Internet research*, *20*(8), e10058.
- Kotler, P., & Keller, K. L. (2006). *Marketing Management* (12th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Kruger, R. A., & Casey, M. A. (2008). *Focus groups: A practical guide for applied research* (4th ed.). Sage.
- Kuhlmeier, D., & Knight, G. (2005). Antecedents to internet-based purchasing: A multinational study. *International Marketing Review*, *22*(4), 460–473.
- Lee, K. S., & Tan, S. J. (2003). E-retailing versus physical retailing: A theoretical model and empirical test of consumer choice. *Journal of Business Research*, *56*(11), 877–885.
- Lee, M. K., & Turban, E. (2001). A trust model for consumer internet shopping. *International Journal of Electronic Commerce*, *6*(1), 75–91.
- Lemmens, J. S., Valkenburg, P. M., & Peter, J. (2009). Development and validation of a game addiction scale for adolescents. *Media Psychology*, *12*(1), 77–95.
- Liu, C., & Arnett, K. P. (2000). Exploring the factors associated with Web site success in the context of electronic commerce. *Information & Management*, *38*(1), 23–33.
- Mahmood, M. A., Bagchi, K., & Ford, T. C. (2004). On-line shopping behavior: Cross-country empirical research. *International Journal of Electronic Commerce*, *9*(1), 9–30.
- Mahnke, R., Benlian, A., & Hess, T. (2015). A grounded theory of online shopping flow. *International Journal of Electronic Commerce*, *19*(3), 54–89.
- Maraz, A., Eisinger, A., Hende, B., Urbán, R., Paksi, B., Kun, B., et al. (2015). Measuring compulsive buying behavior: Psychometric validity of three different scales and prevalence in the general population and in shopping centres. *Psychiatry Research*, *225*(3), 326–334.
- Milne, G. R., & Culnan, M. J. (2004). Strategies for reducing online privacy risks: Why consumers read (or don't read) online privacy notices. *Journal of Interactive Marketing*, *18*(3), 15–29.
- Miyazaki, A. D., & Fernandez, A. (2001). Consumer perceptions of privacy and security risks for online shopping. *Journal of Consumer Affairs*, *35*(1), 27–44.
- Morahan-Martin, J., & Schumacher, P. (2000). Incidence and correlates of pathological Internet use among college students. *Computers in Human Behavior*, *16*(1), 13–29.
- Montag, C., Bey, K., Sha, P., Li, M., Chen, Y. F., Liu, W. Y., et al. (2015). Is it meaningful to distinguish between generalized and specific Internet addiction? Evidence from a cross-cultural study from Germany, Sweden, Taiwan and China. *Asia-Pacific Psychiatry*, *7*(1), 20–26.
- Mosquera, A., Juaneda Ayensa, E., Pascual, C. O., & Murillo, Y. S. (2019). Omnichannel shopper segmentation in the fashion industry. *Journal of Promotion Management*, *25*(5), 681–699.
- Müller, A., Trotske, P., Mitchell, J. E., de Zwaan, M., & Brand, M. (2015). The pathological buying screener: Development and psychometric properties of a new screening instrument for the assessment of pathological buying symptoms. *PLoS One*, *10*(10), e0141094.
- Muncy, J. A., & Vitell, S. J. (1992). *Consumer ethics: An investigation of the ethical beliefs of the final consumer*. Journal of business Research.
- Muyllé, S., Moenaert, R., & Despontin, M. (2004). The conceptualization and empirical validation of web site user satisfaction. *Information & Management*, *41*(5), 543–560.
- Nagar, K. (2018). Drivers of E-store patronage intentions: Choice overload, internet shopping anxiety, and impulse purchase tendency. *Journal of Internet Commerce*, *15*(2), 97–124.
- Nunnally, J. C. (1978). An overview of psychological measurement. *Clinical diagnosis of mental disorders: A handbook*, 97–146.
- Ong, B. S. (2011). Online shopper reviews: Ramifications for promotion and website utility. *Journal of Promotion Management*, *17*(3), 327–344.
- Ono, A., Nakamura, A., Okuno, A., & Sumikawa, M. (2012). Consumer motivations in browsing online stores with mobile devices. *International Journal of Electronic Commerce*, *16*(4), 153–178.
- Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). ES-QUAL: A multiple-item scale for assessing electronic service quality. *Journal of Service Research*, *7*(3), 213–233.

- Parsons, A. G. (2002). Non-functional motives for online shoppers: Why we click. *Journal of Consumer Marketing*, 19(5), 380–392.
- Poddar, A., Donthu, N., & Wei, Y. (2009). Web site customer orientations, Web site quality, and purchase intentions: The role of Web site personality. *Journal of Business Research*, 62(4), 441–450.
- Pritchard, M. P., Havitz, M. E., & Howard, D. R. (1999). Analyzing the commitment-loyalty link in service contexts. *Journal of the Academy of Marketing Science*, 27(3), 333.
- Ridgway, N. M., Kukar-Kinney, M., & Monroe, K. B. (2008). An expanded conceptualization and a new measure of compulsive buying. *Journal of Consumer Research*, 35(4), 622–639.
- Rose, S., & Dhandayudham, A. (2014). Towards an understanding of Internet-based problem shopping behavior: The concept of online shopping addiction and its proposed predictors. *Journal of Behavioral Addictions*, 3(2), 83–89.
- Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling*. Psychology Press.
- Seo, W. J., & Green, B. C. (2008). Development of the motivation scale for sport online consumption. *Journal of Sport Management*, 22(1), 82–109.
- Shih, H. P. (2004). An empirical study on predicting user acceptance of e-shopping on the Web. *Information & Management*, 41(3), 351–368.
- Shrum, L. J., McCarty, J. A., & Lowrey, T. M. (1995). Buyer characteristics of the green consumer and their implications for advertising strategy. *Journal of Advertising*, 24(2), 71–82.
- Singh, V., Chaudhuri, R., & Verma, S. (2017). E-personality of the young Indian online shopper: A scale validation. *Global Business Review*, 18(3\_suppl), S157–S171.
- Singhapakdi, A., Vitell, S. J., Rallapalli, K. C., & Kraft, K. L. (1996). The perceived role of ethics and social responsibility: A scale development. *Journal of Business Ethics*, 15(11), 1131–1140.
- Song, Y., Wei David Phang, C., Yang, S., & Luo, X. (2018). The effectiveness of contextual competitive targeting in conjunction with promotional incentives. *International Journal of Electronic Commerce*, 22(3), 349–385.
- Stevens, J. P. (2012). *Applied multivariate statistics for the social sciences*. Routledge.
- Torsheim, T., Brunborg, G. S., & Pallesen, S. (2012). Development of a facebook addiction scale. *Psychol Rep*, 110. 501–517. doi: 10.2466/02.09.18.PR0.110.2.501-517.
- Trotzke, P., Starcke, K., Müller, A., & Brand, M. (2015). Pathological buying online as a specific form of Internet addiction: A model-based experimental investigation. *PLoS One*, 10(10), e0140296.
- Varshneya, G., & Das, G. (2017). Experiential value: Multi-item scale development and validation. *Journal of Retailing and Consumer Services*, 34, 48–57.
- Williams, P., & Soutar, G. N. (2009). Value, satisfaction and behavioral intentions in an adventure tourism context. *Annals of Tourism Research*, 36(3), 413–438.
- Wolfenbarger, M., & Gilly, M. C. (2003). ETailQ: dimensionalizing, measuring and predictingetail quality. *Journal of Retailing*, 79(3), 183–198.
- Xu-Priour, D. L., Cliquet, G., & Palmer, A. (2017). The influence of buyers' time orientation on online shopping behavior: A typology. *International Journal of Electronic Commerce*, 21(3), 299–333.
- Yadav, M., & Rahman, Z. (2017). Measuring consumer perception of social media marketing activities in e-commerce industry: Scale development & validation. *Telematics and Informatics*, 34(7), 1294–1307.
- Young, K. S. (1998). Internet addiction: The emergence of a new clinical disorder. *Cyberpsychology & Behavior*, 1(3), 237–244.
- Zhao, H., Tian, W., & Xin, T. (2017). The development and validation of the online shopping addiction scale. *Frontiers in Psychology*, 8, 735.