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# Editorial

Eldon Y. Li

## ***Historical Retrospect***

The publication of *Journal of Business and Management (JBM)* was initiated in 1993 by Prof. Burhan Yavas at California State University Dominguez Hills, who was a member of Board of Directors in Western Decision Sciences Institute (WDSI). In 2000, he transferred the journal to WDSI and the Board selected Prof. Raymond Hogler of Colorado State University to take over the journal. He then served as the Editor for five years and transferred the journal to Chapman University in 2005. Since then, *JBM* has a nice home and two passionate editors, Prof. Amy E. Hurley-Hanson and Prof. Cristina M. Giannantonio. On behalf of the Board of WDSI, I wholeheartedly thank them for their tireless effort and excellent services devoted to *JBM*. We salute them for their immense contribution to WDSI community and the business community at large. This year in 2017, the journal has been transferred to me, Prof. Eldon Y. Li, at National Chengchi University in Taiwan. It is a great honor for me to assume the role as the Editor of *JBM*. I shall do my best to let *JBM* flourish and be included in Cabell's Directory, Ei Compendex, and Scopus in the next few years.

## ***Editorial Objective***

*JBM* is a double-blind refereed, authoritative reference addressing working or potential business and management theories/practices as well as the emerging issues of interest to academics and practitioners. The primary editorial objective of the *JBM* is to provide a forum for the dissemination of theory and research in all areas of business, management, and organizational decisions areas. We invite research articles, comprehensive reviews, and case studies that provide insights into the business phenomena occurring every day. Authors of *JBM* are always encouraged to offer recommendations to readers exemplifying the applicability of their research findings.

## ***Research Topics***



In this issue, we have accepted four research papers for publication in *JBM*. The research topic of the first paper is “Impact of Impulsive Personality Traits and Store Environment on Impulse Buying Behavior,” authored by Chandan Parsad, Sanjeev Prashar, and Vinita Sahay. The second one is “Interplay of Strategic Orientations, Innovativeness, and Industrial Sectors in Enhancing Innovation Performance,” reported by Colin C.J. Cheng, Chenlung Yang, and Chwen Sheu. The third one is “The Moderating Effect of Emotional Intelligence on Loan Officers’ Judgments and Decisions,” examined by Bruce Lagrange, Estelle M. Morin, and Chantal Viger. Finally, Prashant Raman presents a study on “What Women Want? An Analysis of Demographics and Different Factors Influencing Online Shopping in India.” Please note that the views expressed in these articles are those of the authors and not of the editors, editorial board, WDSI or National Chengchi University. We hope these papers are interesting to read and useful to your future research. On behalf of the Editorial Board, I thank you very much for your continuous support.

**Reference** to this paper should be made as follows: Li, E.Y. (2017). Editorial. *Journal of Business and Management*, 23 (1/2), i-ii.

### About the Author

**Eldon Y. Li** is University Chair Professor and former department chair of the Department of Management Information Systems at the National Chengchi University (NCCU), Taiwan. He holds a bachelor degree (1975) in international trade from NCCU and both MSBA degree (1978) in management information systems and Ph.D. degree (1982) in information systems and quantitative sciences from Texas Tech University. He was the Dean of College of Informatics and Director of Graduate Institute of Social Informatics at Yuan Ze University, Chung Li, Taiwan (2003-2005), the Founding Director of Graduate Institute of Information Management, National Chung Cheng University, Chia Yi, Taiwan (1994-1996), the Coordinator of Management Information Systems Program, California Polytechnic State University, San Luis Obispo, USA (1986-1989; 2001-2003). He has published over 260 papers in the areas of electronic business, service innovation, decision systems, human factors in information technology (IT), strategic IT planning, software engineering, total quality management, information management, and business management. His papers have appeared in top journals such as *Communications of the ACM*, *Communications of Association for Information Systems*, *Computers & Education*, *Decision Support Systems*, *Information & Management*, *Journal of Association for Information Systems*, *Journal of Management Information Systems*, *Omega*, and *Research Policy*, among others.

# Impact of Impulsive Personality Traits and Store Environment on Impulse Buying Behavior

Chandan Parsad  
Sanjeev Prashar  
Vinita Sahay

*This study was aimed to understand and assess the role of store environment, impulsive buying personality traits, impulsive buying tendency, and urge to buy on impulsive buying. Adopting validated scales from different studies, the survey instrument was developed. Data was collected from 203 respondents and analyzed using AMOS 22.0 software.*

*Using SEM technique, findings of the study suggested that impulse buying was positively associated with impulse buying tendency and urge to buy. The most important finding of the study is the significant effect of store environment on consumers that ultimately leads to such instinctive buying. The study also suggests that impulsive traits of the consumer do not directly lead to impulse buying. It actually needs some drive such as store environment that would stimulate their impulse buying tendency. However, this study didn't find any effect of demographic variables (gender and income) on impulse buying tendency. The outcomes of this paper suggest a number of implications for mall managers, retailers and marketers. Retailers should focus on store environment elements such as crowd, sales employee, entertainment, lighting, aroma and display etc. to stimulate impulse buying. The managerial implications of the study along with scope of further research have been addressed.*

**Keywords:** Impulse buying, impulsive buying behavior, ward store environment, impulse buying tendency, impulsive buying personality traits, urge to buy, structural equation modeling.

**Reference** to this paper should be made as follows: Parsad, Prashar, and Sahay (2017). Impact of impulsive personality traits and store environment on impulse buying behavior. *Journal of Business and Management*, 23 (1/2), 1-24. DOI: 10.6347/JBM.201709\_23(1\_2).0001.

## Introduction

Marketing managers have been acknowledging the importance of impulse buying. In fact, several researches in the west have posited that around 50 percent to 70 percent of consumers buying decisions in supermarkets involve impulsive buying. Studies like Bellenger, Robertson, and Hirschman (1978), Dawson and Kim (2010) and, Heilman, Nakamoto, and Rao, (2002) have noted that this could be around 80 percent in some product types. Research conducted by Coca Cola found that 50 percent of grocery item purchases account for impulse buying (CNBC, 2009). As per Point-of-Purchase Advertising International, seventy-six percent of all shopping decisions in the stores are unplanned (POPAL, 2012). The Indian retail industry, in the last one-decade, has shifted from unorganized to organized retailing (shopping malls). According to a report by KPMG (2014), approximately 70 percent stores of branded products operated in shopping malls. These malls were having maximum footfalls of shoppers from the younger age group (25-35 years). The report also stated that impulse buying in India accounted for approximately forty percent of consumer total purchasing and such impulse behavior was higher in organized retailing than unorganized.

Though it is exhibited in distinctive ways, subject to individual variances like gender, age (e.g., Dittmar, Beattie, & Friese, 1995, 1996; Kollat & Willet, 1967; Verplanken & Herabadi, 2001) or personality trait (Rook & Fisher, 1995; Youn & Faber, 2000), impulse purchasing is a widespread worldwide phenomenon. Impulse buying has received tremendous attention in the literature related to retail and marketing (Beatty & Ferrell, 1998; Rook & Fisher, 1995; Jones et al. 2003; Mohan, Sivakumaran, & Sharma, 2013; Prashar, Parsad, & Vijay, 2015). Previous studies on impulse purchasing uncovered its many variables, including shopper characteristics, for example: impulse buying tendency (Beatty & Ferrell, 1998; Rook, 1987; Rook & Fisher, 1995), product involvement (Jones et al. 2003), and money and time availability as situational factors (Beatty & Ferrell 1998). On the other hand, store environment has emerged as a rising stream of research that assesses the impact of its antecedents on shoppers' buying behavior. Mohan, Sivakumaran, and Sharma (2013) established positive association between store environment and urge to buy. However, there is lack of research on impulse buying literature pertaining to the

combined impact of store environment and traits of shopping impulsiveness on impulse buying.

Endeavoring to address the above stated gap, this study for the first time, combines the store environment and personality traits of buying impulsiveness and their effect on impulse buying behavior. The study also proposes the positive impact of store environment on impulsive buying tendency that leads to urge to buy and finally impulsive purchase. More precisely, the principal objective of this study is to empirically examine, advance and further the present understanding related to the role of store environment, consumer personality traits stimulating impulse buying. This issue is prominent in the area of impulse buying because it will enhance the marketers' understanding of such behavior and will guide them in using store environment and consumer personality traits. Furthermore, this study also makes an attempt to examine the influence of demographic variables on impulse buying tendency and to assess whether they act as mediating variables.

The paper has been organized as follows. After the introduction of impulse buying, a comprehensive review of literature on factors influencing impulse buying behavior has been evolved and hypotheses have been introduced. The next section provides description of research methodology - the sample, data collection process. Later under conclusive research phase, analysis with confirmatory factor analysis (CFA) and SEM has been detailed. The paper concludes by deliberating on the results arrived, discussion and conclusion and limitations of the study.

## **Conceptual Framework and Hypotheses Development**

The comprehensive model of impulse buying as proposed in this study comprises of six elements of store environment and personality traits of buying impulsiveness and impulse buying tendency and urge to buy.

### ***Impulse Buying***

Recognized as one of the most influencing factors in retailing, impulsive buying is an unplanned, spur-of-the-moment "urge to buy" instantly (Rook, 1987; Stern, 1962). It is non-reflective, wherein shopper purchases without engaging in information search and alternative evaluation. Shopper engaging in such buying is less likely to think the consequences before purchasing (Rook, 1987). According to Hodge (2004), impulsive shopping is "unplanned, decided on the spot, emanates from spontaneous, unforeseen and unplanned reaction to a stimulus. Emotional conflicts usually get kindled in this hedonically complex urge." In impulse buying individual mainly focuses on the

immediate gratification of its emotional need “urge to buy” rather than on functional need. Rook and Gardner (1993) define impulse buying as “rapid decision-making, and a subjective bias in favor of instant ownership.” Beatty and Ferrell (1998) reformulated the impulse buying definition “as a sudden and immediate purchase with no pre-shopping intentions either to buy the specific product category or to fulfill a specific buying task”.

### ***Store Environment***

Various studies have acknowledged that store environment factors like lighting, aroma, sound/music, presence of sales representative, crowd inside the store, store layout, color and display are vital elements that can stimulate the consumer desire to purchase spontaneously (Baker et al., 2002; Mattila & Wirtz, 2008; Rook & Fisher, 1995). Retail layout is defined as the pattern of arrangement of products (including their size and shape), shopping carts and aisles, and the spatial association among them. The store variables create a positive effect on the desire to purchase of shoppers (Kaltcheva & Weitz, 2006; Robert & John, 1982). Wood (1998) observed that around sixty percent of supermarket purchases and fifty-three percent of mass merchandise store purchases were created by in-store cues. Colour used inside the retail outlet is very significant for creating a positive effect on shopper’s impulse buying tendency. Past research illustrates that colour pattern and lighting inside the store impacted the shopping behavior of the consumer (Beverland et al., 2006; Chebat, Chebat, & Vaillant, 2001). Display is another important factor in the store environment. Various studies that analyzed the effects of prominent display reported a significant increase in sales (Dawson & Kim, 2009; Dholakia, 2000; Hultén & Vanyushyn, 2011). Ward, Bitner, and Barnes (1992) established that purchasers are influenced by a total configuration of a store and they do not consider individual elements of the store (Mattila & Wirtz, 2001). Most of past researches have examined the effect of an individual cue of the store environment, such as store layout (Ang, Leong & Lim, 1997), sales representative (Mattila & Wirtz 2008), sound/music (Beverland et al., 2006), lighting (Chebat, Chebat, & Vaillant, 2001), and aroma/scent (Mattila & Wirtz 2001; Chebat & Michon, 2003). While Baker et al. (2002) incorporated various elements - salespersons, store design and music perception, however, they only analyzed the individual elements and not the overall impact of store environment. Later on Mohan, Sivakumaran, and Sharma (2013) used light, music, salesperson and layout as store antecedent variables. The limitation of this study was that it ignored the other store environment variables like color, crowd inside store, display and aroma. Therefore, this paper describes store environment as the amalgamation of sound, aroma, lighting, layout, display, color, crowd and salespersons as antecedent variables.

### ***Store Environment and Impulse Buying Tendency (IBT)***

Various studies have analyzed the effects of display and have stated that eye-catching display/spectacle can significantly influence sales. Hultén and Vanyushyn (2011) explored the influence of in-store displays stating that these tools have a direct influence on buyers' impulsive behavior. The influence of retailing and exclusive displays on impulsive shopping behavior is universal phenomenon (Beatty & Ferrell, 1998; Dholakia, 2000; Hultén & Vanyushyn, 2011; Mattila & Wirtz, 2008; Wu, Chen, & Chien, 2013; Xiao & Nicholson, 2011). Sound or background music is a one of the most important variable in retail environment that impacts the purchasers' desire to connect in buyer-seller interactions. Other store environmental clues like smell/ aroma have also been observed to effect buying behavior (Beverland et al., 2006; Chebat, Chebat, & Vaillant, 2001). All these cues of the store create a positive relationship with impulse purchasing (Park & Lennon, 2006). Chang, Eckman, and Yan (2011) indicated that ambience of the store creates a positive emotion among the shoppers. This positive emotion uplifts consumer's pleasure, moods and fulfill hedonic desire, which ultimately influence their IBT. Babin and Attaway (2000) have also posited the positive effect of store ambience on the consumer mind that helps in reducing negative customer value.

According to Spies, Hesse, and Loesch, (1997), retail layouts augment shoppers' experience by helping them to quickly find what they desire. A good layout may reduce the perceived stress associated with shopping and thus make shopping more enjoyable (Baker et al., 2002). Various studies have also discussed the influence of social interaction between buyers and sales personnel in impulse purchasing. As per Stern (1962), such personnel facilitate the creation of urge among the prospective buyers. Store personnel influence store experience of customers (Jones, 1999). Often, subtle aspects in the employee's behavior can be associated with positive feeling for customers, for example being easily available for consumers or just a simple smile can greatly enhance customer experience. In all, it is hypothesized:

*H1: A good store environment has a significant positive effect on IBT.*

### ***Impulsive Buying Personality Traits***

Past studies signify that impulsive buying behavior is a buyer personality trait (Beatty & Ferrell, 1998; Verplanken & Herabadi, 2001). Clinical and developmental psychologists, education researchers, and criminologists have studied the general trait of impulsiveness and it has been considered as a basic human trait. Impulse buying may be a manifestation of "personality trait" associated with "lack of control". Many researchers indicated that lack of control or loss of self-control is an important dimension of impulsiveness for monitoring impulse (Vohs & Faber, 2007; Youn & Faber, 2000). Consumer's lack of self-



control connotes his/her inability to postpone gratification, which leads to impulse buying. According to Rook and Fisher (1995), "impulsive buyers are more likely to experience spontaneous buying stimuli; their shopping lists are more open and receptive to sudden, unexpected buying ideas." Satisfying hedonic desires through impulse buying has been an important topic of several researches (Piron, 1991; Rook, 1987; Dhar & Wertenbroch, 2000). Verplanken and Herabadi (2001) exhibited that cognitive aspects of shoppers were associated with low need to evaluate, and a lack of conscientiousness. The lack of planning and making thorough evaluations while purchasing products are few of the characteristics of impulse buyers, influencing their IBT. With all these, hypotheses formulated are:

*H2: Impulsive buying personality traits is significantly associated with IBT*

*H3: Impulsive buying personality traits is significantly and positively associated with impulse buying*

### ***Impulse Buying Tendency (IBT)***

According to psychologists, each and every human has a distinctive tendency to act impulsively. Several studies on consumer buying behavior exemplify that buyers differ in their impulsive shopping proclivity (Beatty & Ferrell, 1998; Rook, 1987; Rook & Fisher, 1995; Rook & Gardner, 1993). Rook (1987) defines "consumer impulsivity as a lifestyle trait." In addition, Rook (1987) express that "the data from this study suggest that people vary in their impulse buying proclivities. It is useful to think of consumer impulsivity as a lifestyle trait." Prior researchers also exhibited that consumers scoring high on IBT express more urges to buy and stimulate spontaneous purchase (Beatty & Ferrell, 1998; Dawson & Kim, 2009; Mohan, Sivakumaran, & Sharma, 2013). On the other side, demographic characters of the consumer such as age, gender, income, education and marital status do influence the shoppers' buying decision. Literature shows that there is a contradiction of finding in the relationship between gender and impulse purchasing; few studies imply that men are less impulsive than women (Dittmar, Beattie, & Friese, 1995) while others say that gender has no impact on impulsive purchasing (Kollat & Willett, 1967). A study by Cobb and Hoyer (1986) established that men show more impulsive buying tendency than women. In contrast, Verplanken and Herabadi (2001) reveal that IBT is not correlated with gender. On the basis of above discussion, the following hypotheses are constructed:

*H4: IBT of shoppers significantly influences urge to buy impulsively.*

*H5: IBT of shopper is positively associated with impulsive purchasing.*

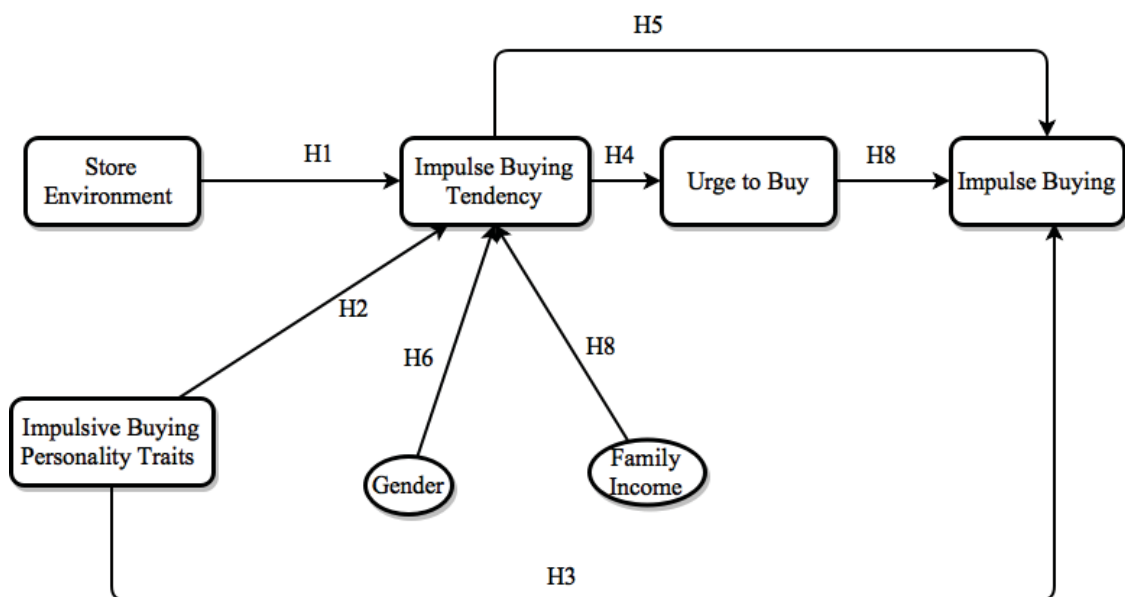
*H6: Gender of the respondents will influence IBT.*

*H7: Income of the respondents will influence IBT*

### ***Urge to Buy Impulsively and Impulse Purchasing***

Consistent with past studies on impulse buying, impulse purchasing has been used as a dependent variable. It includes both actual buying of product or gratification of the urge. If the shopper experiences more urges, it spurs the possibility of an impulse purchase (Beatty & Ferrell, 1998; Mohan, Sivakumaran, & Sharma, 2013; Weinberg & Gottwald, 1982). Previous studies on impulsive shopping imply that browsing-in-the-store generates urges to shop that is hard to control or regulate owing to the physical closeness of the product (Dholakia, 2000; Baumeister, 2002; Beatty & Ferrell, 1998; Mohan, Sivakumaran, & Sharma, 2013; Rook, 1987). According to the KPMG 2014 report approximately 50 percent individual related factors create the urge to explore, which lead to impulse buying. Therefore, the following hypothesis is being proposed.

*H8: Shoppers' urge to buy impulsively has a significant positive impact on impulse buying.*



**Figure 1.** Proposed hypothesized model



## Research Methodology

This research paper is an outcome of both exploratory and conclusive phases. Using multi-method research design, this study was cross-sectional in nature. The survey instrument comprises of statements that addressed retail store environmental features, IBT, urge to buy and impulsive buying personality traits. To examine buyers' perceptions of store environmental features, Mohan, Sivakumaran, and Sharma (2013) scale was modified to include music, light, layout and sales person. Other variables of store environment factor were adopted from different studies - colour (Chebat, Chebat, & Vaillant, 2001), crowd (Mattila & Wirtz, 2008). Beatty and Ferrell (1998) scale consisting of three items were used to measure consumers' urge to buy. To examine the impulsive buying personality traits, the scale developed by Rook and Fisher (1995) was used. A seven-point Likert's scale was used to calibrate the responses, where '1' and '7' signified "Strongly disagree" to "Strongly agree" respectively.

Survey method was used for collecting primary data during the period of January 2016. In total two hundred three-business school students took part in the survey. Sixty-eight percent of the sample consisted of male students and thirty-two percent female student. More than eighty percent of the sample lied between 21 and 30 years. Forty percent of them had a monthly family income in between INR 50,000 - 100,000 and approximately thirty-five percent respondents had more than INR 100,000.

## Data Analysis and Findings

Using AMOS 22.0, the collected data was analyzed applying a two-stage structural equation modeling approach as recommended by Anderson and Gerbing (1988). The measurement model was analysed with the help of confirmatory factor analysis, followed by testing the structural model using path analysis.

### *Measurement Model*

The proposed model comprised of two exogenous variables (store environment and Impulsive buying personality traits) and three endogenous variables (IBT, urge to buy and impulse buying). Being influenced by perceptions of sales person, crowd, layout, display, music & lighting and colour, store environment were used as a second order formative construct. This is in line with Jarvis, Mackenzie, and Podsakoff (2003) and Mohan, Sivakumaran, and Sharma (2013) who suggested incorporating second order formative construct under such conditions.

Results obtained from measurement model is presented in Table 1 that includes standardized factor loading, critical ratio, average variance extracted (AVE) and construct reliability.

**Table 1.** Measurement Model (CFA)

Factor and elements	Standardized Loading estimates	C.R.	Average Variance Extracted AVE	Construct Reliability CR
<b>Light &amp; Music</b>			0.78	0.92
<i>Well-lit store</i>	0.72	Fixed		
<i>Pleasant lighting</i>	0.65	11.68		
<i>The background music played</i>	0.69	10.62		
<i>Terrible music</i>	0.77	11.88		
<i>Pleasant music</i>	0.72	11.68		
<b>Sales person</b>			0.62	0.87
<i>Helpful employees</i>	0.90	Fixed		
<i>Well-dressed and groomed employees</i>	0.73	12.41		
<i>Store employees influence my buying decision</i>	0.66	10.75		
<i>Friendly employees</i>	0.84	15.07		
<b>Colour &amp; Aroma</b>			0.73	0.91
<i>Pleasing décor</i>	0.92	Fixed		
<i>Fashionable colors</i>	0.88	18.50		
<i>Pleasing colour scheme</i>	0.82	13.09		
<i>Pleasant odour</i>	0.78	14.62		
<b>Crowd</b>			0.54	0.82
<i>Crowd in the store stimulates me to purchase</i>	0.84	Fixed		
<i>Lot of customers in the store</i>	0.89	13.86		
<i>Store is a little too busy</i>	0.61	9.04		
<i>Fellow shoppers</i>	0.55	8.27		
<b>Layout</b>			0.57	0.73

<i>Easy to locate</i>	0.70	Fixed		
<i>Easy to move around</i>	0.81	7.55		
<b>Display</b>			0.56	0.72
<i>Exclusive displays</i>	0.65	Fixed		
<i>Attractive product displays</i>	0.84	4.87		
<b>Impulse buying tendency</b>			0.68	0.89
<i>I had not intended to buy</i>	0.70	Fixed		
<i>I am a person who makes unplanned purchases</i>	0.91	12.54		
<i>I buy it without considering the consequences</i>	0.83	11.36		
<i>Fun to buy spontaneously</i>	0.85	11.62		
<b>Urge</b>			0.66	0.85
<i>Sudden urges to buy</i>	0.90	Fixed		
<i>Tempted to buy many items</i>	0.87	17.21		
<i>I experience no sudden urge to buy</i>	0.64	-4.82		
<b>Impulse buying</b>			0.71	0.83
<i>Buying more than I had planned to buy</i>	0.90	Fixed		
<i>I spend more money than I had originally planned</i>	0.78	13.70		
<b>Impulsive buying personality traits</b>			0.55	0.88
<i>Buy things spontaneously</i>	0.78	Fixed		
<i>Buy things according to how I feel at that moment</i>	0.63	9.31		
<i>Carefully plan most of my purchases</i>	-0.52	-7.61		
<i>"I see it, I buy it"</i>	0.72	10.93		
<i>I am a bit reckless about what I buy</i>	0.70	10.63		
<i>"Just do it"</i>	0.83	13.00		
<i>I often buy things without thinking</i>	0.78	12.15		
<i>I feel like buying things on the spur-of-the-moment</i>	0.85	13.45		
<i>"Buy now, think about it later"</i>	0.78	12.13		

The factor loading for all the items were more than 0.50, average variance extracted (AVE) was also more than 0.50 and construct reliability values were greater than 0.70 indicating individual reliability of the constructs (Netemeyer, Bearden, & Sharma, 2003). After analyzing the reliability and validity of the model, goodness-of-fit statistics were checked for the proposed model to examine the fit of the model with the data. The ratio of chi square minimum to degree of freedom (CMIN/DF) was 2.12, which is lower than cut-off criterion of 3.00 (Hair et al. 2006), indicating a good fit between the postulated model and the data. Hair et al. (2006) suggested that other indices like goodness-of-fit index (GFI), comparative fit index (CFI), incremental fit index (IFI) and Tucker-Lewis index (TLI) value should be greater than 0.9. From the study, the following values were obtained for various fit indices: GFI (= 0.830), IFI (= 0.932), CFI (= 0.941), Normed Fit Index (NFI) (= 0.892) and TLI (= 0.948). Root mean square error of approximation (RMSEA) was found to be 0.085, which is less than 0.1 (Hair et al. 2006)

### ***Structural Model: Hypothesis Testing***

The proposed research model was empirically tested using SEM technique. The model includes two exogenous factors, three endogenous elements, and gender and family income as mediating variables. The endeavor was to discover the strength of the proposed model and acceptance of the stated hypotheses. The structural model had a good fit CMIN/DF = 1.836, root mean square error of approximation (RMSEA) = 0.064, comparative fit index (CFI) = 0.986, goodness of fit index (GFI) = 0.976, adjusted goodness of fit index (AGFI) = 0.933, normed fit index (NFI) = 0.971; incremental fit index (IFI) = 0.987; Tucker-Lewis index (TLI) = 0.972. All the indices were found to be above the recommended cut-off it implies that the proposed research model shows a good fit with the data. The final model along with the structural path coefficients is shown in Figure 2.

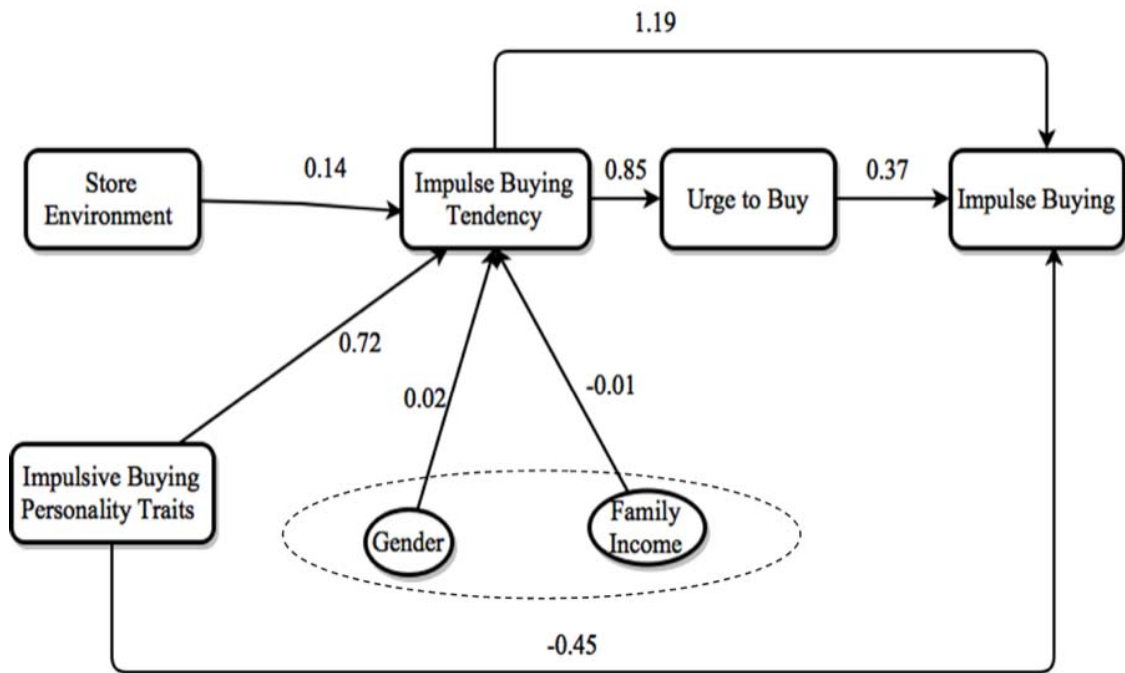


Figure 2. Structural Model

The hypotheses and corresponding results have been summarized in Table 2.

Table 2. Hypotheses and results

Hypotheses	Estimate $\beta$	t-value	P $\leq$	Result
A good store environment has a significant positive effect on IBT	.144	2.269	.023	Accepted
Impulsive buying personality traits is significantly associated with IBT	.719	15.493	.001	Accepted
Impulsive buying personality traits is significantly and positively associated with impulse buying	-.447	-1.326	.185	Not Accepted
IBT of shoppers significantly influences urge to buy impulsively	.850	3.328	.001	Accepted
IBT of shopper is positively associated with impulsive buying.	1.189	3.328	.001	Accepted
Gender of the respondents will influence IBT.	-.006	-.183	.855	Not Accepted
Family income of the respondents will influence IBT	.024	.742	.458	Not Accepted

Hypotheses	Estimate $\beta$	t-value	P $\leq$	Result
Urge to buy impulsively of shoppers has significant positive impact on impulse buying.	.366	2.796	.005	Accepted

Particularly, the findings of the study show that the overall perception of store environment significantly influences IBT of shopper ( $\beta=0.144$ ,  $p \leq 0.05$ ), supporting the first hypothesis ( $H_1$ ). In addition, it was also observed that impulsive buying personality traits exerts a significant effect on IBT (supporting  $H_2$ ). Though its direct impact on impulse buying was not significant. Therefore, the third hypothesis ( $H_3$ : impulsive buying personality traits have a positive effect on impulse buying) was rejected. Moreover, the study didn't find any impact of gender and family income on IBT. Hence, the hypothesis ( $H_6$  and  $H_7$ ) were not accepted. The results showed the positive effect of IBT on the urge to buy impulsively. Thus hypothesis four was accepted. Similarly, it was observed that urge to buy impulsively has a direct significant influence on impulse buying, thus  $H_8$  was accepted. Additionally, to examine the effects of store environment, impulsive buying personality, IBT and urge to buy traits on impulse buying, the direct, indirect and total effects of the predictor variables on the latent variables were decomposed and analyzed. In the proposed research model, the two exogenous variables explained sixty-two percent of total variation in IBT, fifty-two percent of total variation in urge to buy and thirty-five percent variation in impulse buying via urge to buy (Table 3)

**Table 3.** Direct, Indirect and Total Effects

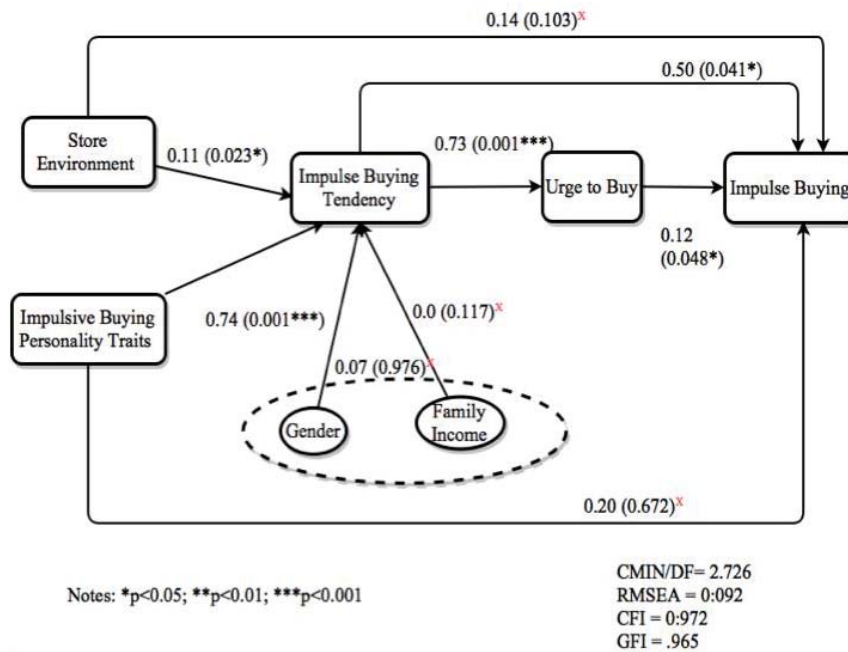
Predictor variables	Impulse buying tendency			Urge to buy Effect			Impulse Buying		
	Indirect	Direct	Total	Indirect	Direct	Total	Indirect	Direct	Total
Store Environment	-	.139	.139	.118	-	.118	.088	.130	.219
Impulsive buying personality	-	.722	.722	.611	-	.611	.458	.172	.630
IBT	-	-	-	-	-	-	.122	.513	.635
Urge to buy	-	.846	.846	-	-	-	.000	.144	.144
$R^2$			.63			.52			.35

The proposed research model explained significant (35 percent) variation associated with impulse buying via urge to buy. Most of the observed variables exhibited

significant direct and/or indirect effect on the latent variables. Among all predictor variables, IBT exhibited the strongest direct effect ( $\beta = 0.513$ ) with respect to the total effects of all the predictor variables on impulsive shopping, followed by impulsive buying personality ( $\beta = 0.630$ ). As expected, IBT shows a strong direct effect on such shopping ( $\beta = 0.513$ ), but when we look at indirect effect of impulsive buying personality on impulse buying, we notice that impulsive buying personality has strong direct effect on IBT ( $\beta = 0.722$ ). This is the main cause of impulsive buying personality exhibiting strong indirect effect. This signifies the presence of both direct and indirect effect of the variables on impulse buying through IBT.

### *Test of Mediator*

Examining the influence of IBT and urge, as mediators, this study adopted the technique suggested by Iacobucci, Saldanha, and Deng (2007). In the first instance, we examined the model through a direct-path between store environment and impulse buying and an indirect-path via impulse buying and urge. The model with the data was measured with the help of various fit indices. Since chi-square statistics is influenced by the sample size, we used CMIN/df to check the model's appropriateness. The following results were obtained: (CMIN/DF = 2.726, RMSEA = 0.092, CFI = 0.972, GFI = .965). This framework showed a good fit to the data. It was also observed that no direct path coefficients had significant values. This implies that the observed variables do not affect the latent variable directly. On the other hand, the coefficients for the indirect paths were all significant (Figure 3). This suggests the presence of some mediation effect. In the second step, the relative size of the mediated versus direct paths were explicitly computed by using the z-value formula  $z = x*y/(x^2 + y^2 + Sx^2 + Sy^2)^{1/2}$ , where x (0.24) is the unstandardized regression coefficient of store environment, standard error denoted by Sx (0.072) is the mediator, y (0.504) is the unstandardized regression coefficient and the corresponding standard error is Sy (0.033). With the help of the formula stated above, z-value (2.16,  $p \leq 0.01$ ) was obtained. This indicated that the indirect influence of independent variable (store environment) on the dependent variable (impulsive buying) through the mediator, is significantly different from zero. The finding of our paper is in the line with Iacobucci, Saldanha, and Deng (2007) who suggested the presence of full mediation model.



**Figure 3.** Structural Model (with direct and indirect effects)

## Discussion

Analysis of the model through SEM showed a good fit between the model and data. Five of the stated hypotheses were accepted while remaining three hypotheses were rejected. The results of this study reveal the fact that impulse buying is influenced by store environment through IBT and urge. However, there was no support for any direct impact of store environment on impulsive shopping.

The present paper made numerous contributions to the existing body of knowledge and on impulse buying literature. The research framework developed by Beatty and Ferrell (1998) considered and explained impulse buying behavior. However, their work didn't take into account the effect of store variables. In the same line Mohan, Sivakumaran, and Sharma (2013) extended Beatty and Ferrell study (1998) by adding "urge to buy" as a new construct. It established the positive relationship between store environment and urge to buy. Various other studies have identified the need of incorporating store level variables as most of the impulsive decisions are taken inside a store (Peck & Childers, 2006; Zhou & Wong, 2004).

Many western studies have found that most consumer decisions at the point of purchase are impulsive. (Dawson & Kim, 2010; Heilman, Nakamoto, & Rao, 2002). Hence, by extending Mohan, Sivakumaran, and Sharma (2013), the paper significantly adds to



the existing body of knowledge on impulsive shopping, by addressing the above-stated gap. The study is unique and pioneer in examining the combined effect of various store environment cues (i.e. sound, well-lit, layout, and sales representative, crowd, display, aroma) and impulsive buying personality traits along with IBT and urge to buy impulsively on impulsive shopping behavior. Previous researchers have taken into account different retail environment cues individually on the consumers' decision-making behavior. In contrary, this study pioneered by developing an impulse buying framework incorporating characteristics related to shoppers' impulsive personality as well as store environment. As in case of study by Mohan, Sivakumaran, and Sharma (2013), store environment is taken as a formative one in this research model too.

Gender differences are noticeably visible in the domain of consumer behavior specifically impulse buying. Few of the prominent studies observed that males tend to buy less frequently than females (Dittmar, Beattie, & Friese, 1995, 1996; Wood, 1998). The findings from this study are quite contrary to those of many other studies. The results suggested that there was no significant gender difference on IBT. Also, in line with previous research, income was found to have no effect on impulse buying (Kollat & Willett, 1967). The findings from the present research cemented this (no significant income difference was found on IBT). Similarly, association between impulsive buying personality and IBT is observed to be stronger; this indicates that personality traits are more important in determining the impulse tendency than income or gender. Finding from our study strongly suggests that the tendency of impulsive shopping is ingrained in personality.

The results also reveal that IBT significantly influences impulse buying. This in turn shows that as shoppers' IBT escalates, the occurrence of their impulsiveness increases. This finding is in line with the work of Rook and Fisher (1995), which highlighted the importance of IBT in identifying consumers' impulse buying behavior. Similarly, we find that urge to buy affects impulse buying behavior. As consumer feel more urge to buy, impulse buying increases. This finding is in line with Beatty and Ferrell (1998) and Mohan, Sivakumaran, and Sharma (2013) who show that consumer urge to buy influences impulse buying.

The most important outcome of our paper is that consumers' impulsive buying personality traits (internal cue) are alone not sufficient for impulse buying and that some external factors such as store environment, are also needed to create an urge to buy. These external cues act as a driver for impulsive buying. Retail store manager must understand the importance of these cues for encouraging shoppers to make extra purchases or unplanned purchases.

With store atmospherics getting into prominence, retail outlets of all formats including the conventional "mom and pop" stores have initiated efforts to create attractive store layouts and displays (Business Line, 2008). This is being endeavored to

create urge that shall result into immediate and profitable impulsive shopping. In the long-term, the same is expected to build loyalty among core customers. Accordingly, the companies invest large sum of amount in upgrading the stores formats aimed at extending 'desired experience' for shoppers. This contrasts with the traditional culture where retailers had been axing costs by underplaying the significance of store environmental factors. Wang (2004) observed that companies even didn't spare hygiene factors like temperature and lighting in the store. There are stances where they resort to switching off 'extra' light or 'unwanted' air-conditioning. Studies have pointed that such efforts eroded the possibility of impulsive shopping at the outlets leading to lose of patronage (Baker et al., 2002) and shoppers' loyalty (Sirgy & Samli, 1985). This necessitates the strategic and operational view of retailers on the store atmospheric factors. Instore variables not only need strategic planning and investment but also trigger actions on ongoing basis. Altering store layout, displays and merchandising gives shoppers reasons for visiting the outlets again, spending more time in perusing the products and offers. Eye-catching displays, customer-driving events, friendly sales force, enticing aromas, appropriate lighting and ease in vertical circulation inspire customers and lift their mood and momentum leading to buying without much mental deliberation.

It is equally desired that sales personnel at the store and not only punctual but proactive too in connecting with the shoppers. Their behavior has direct implication in soliciting the additional sales by creating urge among the shoppers for the products they may not have planned. This warrants special skills for which they must be trained on regular basis. These all generate impulsive desires (Mattila & Wirtz, 2008). Foregoing atmospheric variables may result in loss of impulsive shoppers.

The present study gives impetus to the retailers' strategy of creating impulsiveness. The study posits the relationship between impulse buying and impulse buying tendency. Retailers must develop marketing and communicational cues aimed at eliciting impulsive urges (Chien-Huang & Hung-Chou, 2012). It becomes pertinent for marketers and retailers to plan towards creating blissful shopping experience (Badgaiyan & Verma, 2014).

## **Conclusion and Limitations**

Despite being the fifth largest preferred retail destination and witnessing exponential growth, not many studies have been under taken to understand and comprehend Indian consumers' impulse buying behavior. This present paper contributes to the existing literature in many ways. This study develops an all-inclusive model incorporating, not only IBT, impulsive personality traits and urge to buy in evaluating impulse buying but also suggests considering the variables of store environment. This argument justifies deliberation not only because empirical results support constructs in influencing buying behavior, but also considering the driver of generating urge to buy.

Another significant finding is the revelation that gender has no impact on IBT, indicating that intrinsic factors have similar influence on both the genders in context of their effect on impulsive shopping.

Lastly, from the study we found that the store environment exhibits impressive direct effect on impulse buying (0.130). This is a good indicator for the retailers, since all store environment cues are under their mechanism. Since different segments of shoppers have varying expectations from retailers, they must conceptualize, store design & layout, display, music, light and sales person and implement these store environment variables keeping their target shoppers in consideration.

Every research is characterized by limitations, which define the boundary for its finding and its generalizability. The prominent limitation of this paper is the population from which the sample has been selected. The data pertains to only one emerging market India, therefore the findings of this paper may not be representative of young shoppers across the world. Hence, similar research could include data from customer groups from different emerging and developed economies. This will examine the validity and reliability of the finding. Also, the data was collected for the study from various types of retail environments and formats like grocery stores, super markets, departmental stores, shopping malls and company owned outlets. Further studies may assess the extent to which the impulsive behavior differs across different retail environments.

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# Interplay of Strategic Orientations, Innovativeness, and Industrial Sectors in Enhancing Innovation Performance

Colin C.J. Cheng  
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Chwen Sheu

*This study addresses two specific research questions: Does combining different types of strategic orientation enhance or impede innovation performance? How are these combinative effects influenced by service innovativeness and industrial sectors (operational or professional services)? A fuzzy-set qualitative comparative analysis was employed to analyze data collected from 164-paired B2B service firms. The statistical results suggest that not all combinations of strategic orientation contribute to innovation performance. The development of strategic orientation needs to be aligned with innovativeness and service offerings. Overall, the findings provide important implications for managing strategic orientation and service innovation activities.*

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## Introduction

To increase the effectiveness of innovation performance, many firms now engage in service innovation activities (Cui & Wu, 2015). Much of the focus of this literature is on understanding the antecedents and conditions of service innovation activities, such as network management (Rusanen, Halinen, & Jaakkola, 2014), partner selection (Tsou,

Cheng, & Hsu 2015), and resource integration (Koskela-Huotari et al., 2016). This study focuses on the effects of combining different types of strategic orientation on innovation performance, in B2B service firms, to yield high innovation performance, while considering the internal and external contingencies by addressing the following two research questions as suggested in the literature.

First, *does combining different types of strategic orientation enhance or impede innovation performance?* To improve and maintain their innovation performance, service firms employ strategic orientations to create the proper behaviors for conducting innovation activities through a deeply-rooted set of values and beliefs (Gatignon & Xuereb, 1997). Theory development and empirical studies of strategic orientations have, thus, focused on the effect of a single strategic orientation that enhances or inhibits innovation performance within a firm (e.g., Chen et al., 2016; Kumar et al., 2011; Storey & Hughes, 2013). However, the extant literature has not examined *combinative effects* of different types of strategic orientation that could help or hinder the development of effective service innovation programs (Rusanen, Halinen, & Jaakkola, 2014). Developing strategic orientations requires tremendous resource commitment, and managers should take an integrated approach to this endeavor (Baker & Sinkula, 2007; Koskela-Huotari et al., 2016). Thus, we first select three types of strategic orientation (market, interaction, and learning orientations) that are significantly associated with service innovation development (Chen et al., 2016; Kumar et al., 2011; Melton & Hartline, 2013). Then, based on the three strategic orientations, we examine the interaction effects of four different combinations/configurations.

Second, *how are these combinative effects influenced by innovativeness and industrial sectors?* The extant service innovation literature has focused primarily on effect of one particular contingent role, such as manufacturing vs. service firms (Wang, Zhao, & Voss, 2016), or environmental factors (Kumar et al., 2011). However, configuration theory challenges the extant literature and argues that, since different contingencies may lead to multiple configuration outcomes, a focus that shifts from the net effect of an individual contingent role to the analysis of various configurations related to performance would be necessary. In particular, each service firm is considered as a complex system of interdependent characteristics, in which competitive advantage frequently rests not only on internal characteristics of innovativeness being developed, but also on external characteristics of the industrial sector (Kirca, Jayachandran, & Bearden, 2005; Kumar et al., 2011). Thus, there is a clear need to better understand how different types of strategic orientation jointly affect innovation performance in the contexts of service innovativeness and industrial sector. To extend this research need, we build on the configuration theory by theorizing four strategic orientation configurations or combinations that consider three strategic orientations (market, interaction, and learning), with different levels of service innovativeness (high and low) and service industrial sectors (operational and professional), to produce high innovation performance.

The remainder of this article is organized as follows. The next section reviews the theoretical background, followed by the development of research hypotheses. Research method, including data collection and measures, is discussed. We propose the use of Fs/QCA to allow for simultaneous examination of the three types of strategic orientations. We conclude with the presentation of the statistical findings and the relevant managerial and research implications.

## Theoretical Background

### *Strategic Orientations in the Service Innovation Context*

Strategic orientation refers to the strategic directions and emphases implemented by a firm to create the proper behaviors for conducting business through a deeply-rooted set of values and beliefs (Gatignon & Xuereb, 1997). It provides the strategic advantage of differentiation and, thus, sustains a firm's service innovation performance (Storey & Hughes, 2013). In particular, the emphasis on service innovation has been closely linked to three types of strategic orientations: market orientation, interaction orientation, and learning orientation (Chen et al., 2016; Kumar et al., 2011; Melton & Hartline, 2013).

*Market orientation* refers to "the organizational culture that most effectively and efficiently creates the necessary behavior for the creation of superior value for buyers and thus, continuous superior performance for the business" (Narver & Slater, 1990). Most empirical studies provide support for the positive effect of market orientation on service innovation performance (Storey et al., 2016), because a market-oriented firm can better acquire, disseminate, and use market information to develop innovations that satisfy and retain existing customers, attract new customers and, as a result, achieve desirable levels of innovative performance. Following this line of thought, we expect that B2B service firms with strong market orientations will have better service innovation because they are better able to obtain and use information from business customers, and take timely actions based upon this information, to develop new services to meet their needs.

*Interaction orientation* refers to firms' abilities to interact with customers and obtain information from them to maintain profitable and long-term relationships (Ramani & Kumar, 2008). It establishes strong personal relationships through social interactions, and acts as an element of service business. Ramani and Kumar (2008) argue that it is through interactions that information is exchanged, knowledge is generated, and value is created. In the case of B2B services, business customers usually have long-term contracts with service providers, with repeated interactions with specific persons among the service providers (Davies, Brady, & Hobday, 2006). Through such interactions, the service providers have opportunities to develop new services to meet customer needs (Foss, Laursen, & Pedersen, 2011; Jarrett, 2013; Salomonson, Åberg, & Allwood, 2012).

*Learning orientation* refers to “organization-wide activity of creating and using knowledge to enhance competitive advantage” (Calantone, Cavusgil, & Zhao, 2002). It encourages the development of new knowledge for enhancing necessary capabilities to achieve competitive advantage and for encountering environmental changes. Previous research (Pesämaa et al., 2013) has indicated that a strong learning orientation leads to superior service innovation performance because employees in a service firm are highly motivated to gather, interpret, evaluate, and share with colleagues external information about customer needs and competitors, and internal information about organizational conditions, which build up advanced new services knowledge. In this line, B2B service firms with stronger learning orientations can influence employees’ values and behavior to collect useful internal and external information, to interpret, evaluate, and share information and, as a result, to create new services knowledge. This new services knowledge improves organizational capacities to develop new services.

### ***B2B Service Industrial Sectors***

Research in strategy suggests that strategic orientations have different effects on innovation performance, depending on internal and external contingencies (Kirca, Jayachandran, & Bearden, 2005; Kumar et al., 2011). Accordingly, the present study examines the contingency effects of service industrial sectors (as an external contingency) and service innovativeness (as an internal contingency).

While industrial sectors have been widely studied in the context of product and service innovation (e.g., Wang, Zhao, & Voss, 2016), there is less empirical research in the context of firms seeking service innovation in the B2B service sector, perhaps due to the breadth of the literature on B2B service. Based on the literature (Boyt & Harvey, 1997; Gebauer et al., 2010; Lay, Schroeter, & Biege, 2009; Malhotra & Morris, 2009; von Nordenflycht, 2010), this study classifies B2B service into two industrial sectors: operational and professional. Operational services refer to B2B service providers that take over customers’ maintenance and operating processes, through which the overall management of the operations and maintenance functions are accomplished (Davies, Brady, & Hobday, 2006), such as manufacturing equipment maintenance, or technical support. Lay, Schroeter, and Biege (2009) describe new operational services as resulting mainly through exploiting firms’ intangible assets, such as existing knowledge. Gebauer et al. (2010) further advocate that operational services are value-enabling services because they provide business customers the ability for operating and maintaining productions, such as systems upgrading and innovation in software-based services embedded in the productions. Thus, operational services are mostly tailored to individual business customers and help business managers go beyond the last problem they experienced by exploiting the existing expert knowledge.

In contrast, professional services refer to dealing with business customers that require professional knowledge (Malhotra & Morris, 2009), such as accounting services, consulting services, or solicitor referral services. Professional services contain a highly educated and professionalized workforce, providing customers with customized knowledge (Greenwood et al., 2005). The inputs of professional services are mainly the expert knowledge of the professional workforce, while their outputs consist of expert knowledge presented in the form of customized solutions for their customers (von Nordenflycht, 2010). Thus, professional services are knowledge-intensive (Malhotra & Morris, 2009), which yields competitive advantage mostly by exploring new knowledge and providing new services (von Nordenflycht, 2010).

As for the relationships between strategic orientations and B2B service industrial sectors, in B2B operational services, the value of the service is embedded in the interactions between firms and customers over a length of time (Boyt & Harvey, 1997; Davies, Brady, & Hobday, 2006), so it is crucial for firms to employ strategic orientations that emphasize the interaction of processes and delivery of service values during service operations. For B2B professional services, firms need to focus attention on developing new and differentiating existing service value propositions, to fulfill customers' expressed and unexpressed needs (Malhotra & Morris, 2009; von Nordenflycht, 2010). Therefore, the function and performance of strategic orientations could be situational, depending on the specific B2B service industrial sectors.

### ***Service Innovativeness***

Service innovativeness refers to the degree of newness of a new service (Tsai, Hsieh, & Hultink, 2011). It is an extent to which a new service differs from competing alternatives. Service innovativeness is an internal aspect of an organizational configuration, suggesting that strategic orientation may help or hinder the firm in adapting its innovation choice (Rubera & Kirca, 2012). To examine the role of service innovativeness in the B2B service innovation context, this study follows previous studies to operationalize the service innovativeness at high and low levels (Dotzel, Shankar, & Berry, 2013).

As for the relationships between strategic orientations and innovativeness, some studies find that different levels of innovativeness improve innovation performance, while others indicate they have a negative impact on innovation performance. For example, Cheng and Krumwiede (2012) indicate that when market orientation is complemented with a high level of innovativeness, it will be perceived as meeting and far exceeding the customer's expectations, and will deter innovation performance deterioration. Kibbeling, der Bij, and Weele (2013) suggest that the relationship between market orientation and innovation performance in supply chains is more positive at a high level of innovativeness than at a low level of innovativeness. These findings, therefore,

imply the need to better understand the conditions under which levels of service innovativeness in the B2B service context are more beneficial.

Figure 1 displays four configurations of market, interaction, and learning orientations, with high and low levels of service innovativeness, performed by operational and professional B2B service firms. Accordingly, four research hypotheses are developed in the next section.

		Service innovativeness	
		Low	High
Industrial sectors	Operational	Hypothesis 1: Market orientation Interaction orientation	Hypothesis 2: Interaction orientation Learning orientation
	Professional	Hypothesis 3: <i>Market orientation</i> <i>Learning orientation</i>	Hypothesis 4: Market orientation Interaction orientation Learning orientation

**Figure 1.** Configurations of strategic orientations, service innovativeness, and industrial sectors

## Hypotheses Development

Given their narrow range of services for a specific target market, B2B operational service firms with low levels of service innovativeness engage cautiously in existing service development rather than seeking new opportunities (Gebauer et al., 2010). They aim to outperform competitors, within their specific markets, by offering higher quality service to their customers (Davies, Brady, & Hobday, 2006). To do so, service firms with a low level of innovativeness need to possess market-linking capabilities (Dotzel, Shankar, & Berry, 2013). In particular, B2B operational service firms focus on satisfying their limited choice of markets (Davies, Brady, & Hobday, 2006). They focus on understanding and satisfying the needs of their current market, resulting in a strong emphasis on market information. As B2B operational service firms with low levels of service innovativeness focus mainly on market information, market orientation should be their primary strategic orientation (Kirca, Jayachandran, & Bearden, 2005).

Additionally, reporting requirements associated with heavy interactions with customers are likely to reduce resources for understanding customer needs (Chen et al., 2016; Foss, Laursen, & Pedersen, 2011), thus encouraging employee engagement in interactions with customers (Cui & Wu, 2015). According to Ramani and Kumar (2008),



interaction orientation is a critical factor for service firms, as it manages interactions with their customers and develops capabilities to allow them to react and respond to individual customer feedback, while simultaneously codifying the acquired market information. Overall, for B2B operational service firms with a low level of service innovativeness, market orientation and interaction orientation are likely to positively complement each other in creating high innovation performance. Therefore,

*H1: For firms performing in the B2B operational service industrial sector, a combination of interaction and market orientations with a low level of service innovativeness yields high innovation performance.*

In contrast to B2B operational service firms with a low level of service innovativeness, firms with a high level of service innovativeness actively seek opportunities for new service development (Cheng & Krumwiede, 2012). They offer a broad range of new services to a given target market and have relatively strong information processing and learning capabilities (Dotzel, Shankar, & Berry, 2013). They focus less on customer satisfaction, but employ information through interactions with customers (Foss, Laursen, & Pedersen, 2011) to provide innovative solutions to current and new customers. Thus, interaction orientation enables firms with high levels of service innovativeness to engage in superior innovation exploration, resulting in high innovation performance.

In addition, firms with high levels of service innovativeness that need innovative solutions to market needs, require profound new knowledge. Under this circumstance, learning orientation is the major force capable of doing so (Melton & Hartline, 2013; Pesämaa et al., 2013). Therefore, in the B2B operational service industrial sector, firms with high levels of service innovativeness that combine interaction orientation with learning orientation should yield high innovation performance. Thus,

*H2: For firms performing in the B2B operational service industrial sector, a combination of interaction and learning orientations with a high level of innovativeness yields high innovation performance.*

If service firms with low levels of service innovativeness operate in the professional sector, a combination of market orientation and learning orientation becomes more important for innovation performance. Dotzel, Shankar, and Berry (2013) indicate that weak service innovativeness leads to multiple and similar choices for customers. As a result, professional service firms must monitor and respond to existing markets' changing needs and preferences to ensure that their target customers prefer their service offerings over those of their competitors (von Nordenflycht, 2010). As such, market orientation



should be appropriate for professional service firms with a low level of service innovativeness.

While market orientation is important for service firms with low levels of service innovativeness in the professional sector, the role of learning orientation must also be analyzed to identify the relationship between service innovation and market orientation (Melton & Hartline, 2013). Especially, as professional service firms engage primarily in exploring new services (von Nordenflycht, 2010), they need to develop learning methods for different types of innovation. To do so, professional service firms should develop an orientation related to learning and, thereby, form a basis for innovation processes innovation, as well (Pesämaa et al., 2013). Accordingly, professional service firms with low levels of service innovativeness are more likely to benefit from leveraging market orientation in combination with learning orientation (Melton & Hartline, 2013), resulting in high innovation performance. Thus,

*H3: For firms performing in the B2B professional service industrial sector, a combination of market and learning orientations with low levels of innovativeness yields high innovation performance.*

Finally, as firms with low levels of service innovativeness mainly seek ways to fulfill existing market needs and to diversify new services, they are likely to be at risk of overlooking new service development opportunities from outside their current business domain (Salomonson, Åberg, & Allwood, 2012). However, Chen et al. (2016) find that interaction orientation stimulates market-related capabilities (e.g., market orientation), which encourage firms to explore radical innovations (namely, a high level of service innovativeness). Interaction-oriented firms also overcome the myopia induced by a strong market orientation toward customers (Chen et al., 2016). In addition, garnering breakthrough knowledge from interactions with customers (interaction orientation) and maintaining organizational learning (namely, learning orientation), may help firms improve the outcomes of innovation (Foss, Laursen, & Pedersen, 2011; Cui & Wu, 2015). Furthermore, Baker and Sinkula (2007) suggest that learning orientation enhances the quality of market-oriented behaviors, by creating market-oriented processes that are better at producing new products/services. Overall, the literature appears to suggest that, for the better effective performance of innovation, professional service firms focusing on a high level of innovativeness appear to depend on combining market, interaction, and learning orientations. Therefore,

*H4: For firms performing in the B2B professional service industrial sector, a combination of market, interaction, and learning orientations with a high level of innovativeness yields high innovation performance.*

## **Research Method**

### ***Data Collection***

The sampling frame consisted of 1,500 top B2B service firms operating in Taiwan that engage in B2B services with their customers around the world, as compiled by the China Credit Information Service. To ensure the competence of informants, we followed previous studies (e.g., Storey & Hughes, 2013) to focus on firms that had actually recently launched B2B new services and to target general managers, CEOs, or people in similar high-level positions as informants. In total, we identified 501 general managers based in Taiwan and asked them to complete the questionnaire, which was embedded in the email. With two-round reminders via phone and email, 185 questionnaires were completed and acceptable.

The paired questionnaires were then sent to the named international B2B firms. The final sample consisted of 164 firms (328 questionnaires) and resulted in a response rate of 32.7%, a rate that is comparable to previous B2B survey (Candi & Kahn, 2016). To ensure the truth of the response data, we contacted each respondent by phone to confirm that they had completed the questionnaire. About 85% of respondents were general managers and the rest were senior managers. On average, respondents have worked in their current positions for 9.6 years. The average experience of respondents was 14.3 years in the B2B service industry, suggesting the subject competence of the respondents. The sample consisted of IT consulting services (26.8%), financial services (25.6%), tourism and travel services (22.6%), management consulting services (21.3%), and others (3.7%). The number of firm employees varied between 61 and 7,269, with 79.8% of firms having more than 200 employees.

### ***Non-response and Common Method Bias***

Non-response bias was assessed by randomly selecting 40 firms that did not respond, for their firm-level attributes (age and size). The t-test results showed no significant difference (99% confidence interval) between these two groups, indicating no systematic differences between non-respondents and respondents (Armstrong & Overton, 1977).

This research design involves cross-sectional data, which tend to be vulnerable to common method bias. To alleviate potential concerns, we first performed confirmatory factor analysis by examining a single-factor model in which all items were loaded onto

one factor to check for the presence of common method bias (Podsakoff et al., 2003). We found that fit indices for the single factor model were poor fit (comparative fit index = 0.356, root mean squared error of approximation = 0.143). In addition, Harman's one-factor test was also used. The results showed that the first factor explained only 19.41% of the total variance. No single factor emerged that could account for the majority of the covariance in the measures. Therefore, both results indicated that common method bias was unlikely to be a major concern.

### ***Measures***

All constructs were measured by multiple-item scales (see the Appendix). The scales were adopted from previous studies and modified for the unique characteristics of B2B service. A double-translation method was used to translate items in English into Mandarin. Once the initial items were developed, two pilot tests were performed to ensure the measurement was reliable and valid (Churchill, 1979). First, four academics and 15 experienced senior managers were interviewed to detect ambiguous questions, check the face and content validity of the measurement scales, and certify the wording of the items. Second, refined scales were tested using a sample of 42 senior managers with work experience in B2B service industries. Some minor adjustments were then made regarding wording and formatting.

All items were measured with a 5-point Likert scale, with end points of "strongly disagree" and "strongly agree". Market orientation was assessed using six items from Baker and Sinkula (2007), interaction orientation with 13 items from Ramani and Kumar (2008), and learning orientation with 10 items from Sinkula, Baker, and Noordewier (1997). The measures for service innovativeness were adapted from previous studies with four items (Salomo, Talke, & Strecker, 2008; Cheng & Huizingh, 2014). To measure service industrial sectors, we asked the respondents, by phone, to indicate which service industrial sectors they belonged to. For innovation performance, we captured each firm's innovation profit margin (%) acquired from a commercial database provided by the China Credit Information Service. A firm's innovation profit margin reflects profitability of its service innovativeness. As for control variables, this study included firm age, firm size, and environmental uncertainty, all of which were viewed as control variables because their effects on service innovation performance have been documented (Cheng & Krumwiede, 2012).

## **Analysis and Results**

### ***Reliability and Validity***

For reliability, Cronbach's alpha values for all constructs were well above the threshold value of 0.7 that Nunnally (1978) recommended. To refine the measures, a principal component analysis was conducted with varimax rotation, and evaluation of the eigenvalues was used to identify the number of factors to retain. All initial eigenvalues were greater than one. The remaining items explained 67.2% of the variance, and all items loaded on the right factor, generally with high factor loadings. Throughout this process, the items loaded as expected.

For the measurement models, the results of confirmatory factor analysis indicated that all factor loadings were significant ( $p < 0.01$ ), and all were well above the recommended value of 0.5. To establish construct validity, we examined both convergent and discriminant validity. Composite reliability was an indicator of the shared variance among the observed variables used as an indicator of a latent construct (Fornell & Larcker, 1981). The results of all indicators exceeded the usual 0.70 benchmark (Hair et al., 2010).

Table 1. Descriptive statistics, correlations, and AVEs

Constructs	Mean	SD	1	2	3	4	5	6	7	8	9
1 Market orientation (1-5)	3.63	.82	<b>.79</b>								
2 Interaction orientation (1-5)	3.48	.74	.18*	<b>.79</b>							
3 Learning orientation (1-5)	3.75	.86	.20*	.14	<b>.81</b>						
4 Service innovativeness (1-5)	3.05	.53	.19*	.22*	.29**	<b>.81</b>					
5 Industrial sectors (operational, 1/0)	.45	.37	.21*	.24*	.18*	.20*	-				
6 Innovation profit margin (%)	4.46	12.14	.17*	.09	.32**	.25*	.13	-			
7 Firm size (size category, 1-5)	3.83	1.63	.01	.02	.04	.01	.03	.12	-		
8 Firm age (age category, 1-5)	3.36	1.58	.03	-.01	.05	.12	.01	.11	.23*	-	
9 Environmental uncertainty (1-5)	3.57	.69	.21*	.24*	.32**	.34**	.04	-.18*	.01	.02	<b>.82</b>

SD: standard deviation; Bold figures on the diagonal are the square root of the AVE; \*  $p < .05$ ; \*\*  $p < .01$

Discriminant validity was assessed in two approaches. First, for each construct the value of the square root of each average variance extracted (AVE) was greater than the values of the inter-construct correlations. Second, the confidence interval did not include 1.0 by plus or minus two standard errors around the correlation between the constructs (Anderson & Gerbing, 1988), and the Chi-square test between any two constructs was significant ( $p < 0.001$ ). Table 1 shows descriptive statistics, correlations, and the square root of AVE of constructs.

### *Hypotheses Testing*

This study used a fuzzy set qualitative comparative analysis (Fs/QCA), an analysis of set relationships with the ability to identify the conditions that lead to a given outcome (Ragin, 2008). The main reason to use this approach is because traditional multivariate techniques are frequently less adept at capturing complex systems of interdependent variables among configuration variables (Woodside, 2013). Several recent studies suggest

that using Fs/QCA in organization, strategy, and environment settings can offer new insights into causal interplay issues (e.g., Frambach, Fiss, & Ingenbleek, 2016; Fiss, 2011; Woodside, 2013).

All variables were converted into sets, namely data calibration (Fiss, 2011). A value of 5 indicated full membership, while a value of 1 indicated full non-membership, and a value of 3 indicated the crossover point. For example, market orientation was initially measured using Likert scales, so we employed the direct method for calibrating fuzzy sets (Ragin, 2008), based on theoretical anchors (Ordanini, Parasuraman, & Rubera, 2014). In contrast, with no external thresholds, we based metrics use on the average use of metrics by the firm in each category, with the thresholds based on sample quartiles. For example, we calibrated the firm's innovation profit margin using 5%, 0%, and -5% as thresholds for full and non-full membership crossover points, respectively.

Second, after calibrating the measures, we ran a test for necessity, in which no condition passed the consistency threshold of 0.90, the minimum acceptable raw consistency was 0.80 (Ragin, 2008), and proportional reduction in consistency values was 0.75 (Fiss, 2011) for a necessary condition. The results presented in Table 2 show that the four configurations are sufficient for achieving high innovation performance (raw consistency cutoff 0.92 and proportional reduction in consistency value cutoff 0.81). As for overall coverage, the four configurations identified account for 68% of membership in the outcome, suggesting acceptable fit. In addition, all configurations show high consistency values between 0.90 and 0.94, with the overall solution consistency at 0.90. All analyses used the Fs/QCA 2.5 software package.

Table 2. Results of configurations for enhancing innovation performance

	Configuration			
	1	2	3	4
<b>Strategic orientations</b>				
Market orientation	●		●	●
Interaction orientation	●	●		●
Learning orientation		●	●	●
<b>Service innovativeness</b>				
High	□	●		●
<b>Industrial sectors</b>				
Operational	●	●		□
<b>Firm characteristics</b>				
Firm size (large)	□		□	□
Firm age		□	□	
<b>Goodness-of-fit</b>				
Raw coverage	0.43	0.42	0.39	0.44
Unique coverage	0.08	0.07	0.06	0.09
Consistency	0.91	0.93	0.90	0.94
Solution consistency	0.90			
Solution coverage	0.68			

Note: Black circles indicate the presence of conditions, and crossed-out circles indicate their absence. Blank spaces indicate a don't care situation. Large circles indicate core conditions; small circles, peripheral conditions.

The results indicate that Hypothesis 1 combines a low level of service innovativeness with the operational service industrial sector. In this setting, the presence of market and interaction orientations dominates, suggesting that the finding is consistent with Hypothesis 1. In addition, Hypothesis 2 confirms that a high level of service innovativeness in the operational service industrial sector, that combines interaction and learning orientations, would yield high innovation performance. Similarly, the findings provide support for Hypothesis 3. Namely, a low level of service innovativeness in the professional service industrial sector would yield high innovation performance, if firms perform market and learning orientations. Finally, Hypothesis 4 is supported; indicating a high level of service innovativeness in the professional service industrial sector would combine market, interaction, and learning orientations.

### *Findings*

Overall, there is no one particular strategic orientation that dominates in all four configurations to yield high innovation performance, while a combination of any two strategic orientations does. Specifically, without considering configuration 4 (a high level of innovativeness in the professional service industrial sector), market orientation is part of configurations 1 and 3 (a low level of innovativeness in the operational and professional service industrial sectors), and is absent in configuration 2 (a high level of innovativeness in the operational service industrial sector). In contrast, interaction orientation is part of configurations 1 and 2 (high and low levels of innovativeness in the operational service industrial sector), and is absent in configuration 3 (a low level of innovativeness in the professional service industrial sector). On the other hand, learning orientation is part of configurations 2 and 3 (a high level of innovativeness in the operational service industrial sector, and a low level of innovativeness in the professional service industrial sector), and is absent in configuration 1 (a low level of innovativeness in the operational service industrial sector).

## **Conclusions and Discussion**

Building on configuration theory, this study examines four sets of configuration that interplay: market, interaction, and learning orientations, high/low levels of service innovativeness, and operational/professional B2B service industrial sectors, and examines their impact on innovation performance. The findings provide important implications for managing strategic orientation and service innovation activities.

First, by using the Fs/QCA, our four sets of configurations allow for simultaneous examination of the three types of strategic orientations, and show that they have



differential contingent impacts on innovation performance. The contrasting effects improve our understanding of the distinct internal (service innovativeness) and external (industrial sectors) contingencies underlying combinative effects of market, interaction, and learning orientations. In particular, the findings demonstrate the importance of the combinative effects of market, interaction, and learning orientations as a configurational approach for firms to use, rather than as a unidimensional approach commonly used in previous studies (e.g., Kirca, Jayachandran, & Bearden, 2005; Chen et al., 2016; Melton & Hartline, 2013). In addition, contrary to the extant literature (e.g., Cheng & Krumwiede, 2012; Ramani & Kumar, 2008), market, interaction, or learning orientation does not significantly contribute to innovation performance individually. A possible explanation is that previous findings that use regression analysis may only partially explain the net effect of a single strategic orientation associated with the innovation performance, and are likely to ignore the combinative effects of different types of strategic orientation.

In short, this study suggests contingency theory as a useful theoretical lens with potential for better understanding combinative effects of strategic orientations. Furthermore, many of the high-innovation performance firms do not belong to any of the four configurations, which are highly context specific. The findings imply that simply copying the practices of high innovation performance firms may not lead to similar outcomes (Ordanini, Parasuraman, & Rubera, 2014).

Second, in the past the literature has assumed that all B2B service firms offer identical services with no consideration of the contingency effect of service offerings (e.g., Lay, Schroeter, & Biege, 2009; Salomonson, Åberg, & Allwood, 2012). Our finding raises awareness of the relative benefits of pursuing combinative effects of strategic orientations under operational and professional B2B service industrial sectors. Apparently, adding the service industrial sectors consideration offers additional insights that would not otherwise have been revealed. For example, market orientation is the one strategic orientation that is most widely studied (Kirca, Jayachandran, & Bearden, 2005), yet our findings suggest that combination effects of market orientation and other types of strategic orientation (interaction or learning) do not always make significant contributions to innovation performance under operational or professional B2B service sectors. The statistical results enrich the literature by clarifying the contingency effect of strategic orientations across two different B2B service industrial sectors. This finding, which has not been accounted for by prior research, may also help reconcile some of the inconsistent findings in the strategic orientation literature (Kirca, Jayachandran, & Bearden, 2005) that focus primarily on the performance of strategic orientations without considering the effect of service offerings. Furthermore, it is worth noting that combinative effects of interaction and learning orientations seem beneficial for the B2B operational and professional service firms with a high level of service innovativeness. These findings add new insights to the radical innovation literature: combining effects of interaction and learning orientations



are more essential for service firms to create radical innovation (a high level of innovativeness) than incremental innovation (a low level of innovativeness).

Third, by taking the firm's perspective to examine internal (service innovativeness) and external (B2B service industrial sectors) contingencies needed for innovation, this study complements prior studies that have primarily focused on customers, and answers the call for examining the firm conditions fitting for innovation performance (Cui & Wu, 2015). It provides a better understanding of integrating the firm's co-innovation activities with its internal and external organizational factors through the perspective of strategic orientations. In addition, our study goes beyond the level of individual employees to examine broader organizational levels of service innovativeness and service industrial sectors required for co-innovation development.

### ***Managerial Implications***

The empirical findings also have a possible implication for managers. As service innovation activities have been playing a significant role in enhancing firms' innovation performance (Storey et al., 2016), firms face the decision as to how to optimally increase innovation performance with limited resources. Our findings provide guidelines for this decision. To decide how to engage in service innovation activities, firms need to simultaneously assess their business customers' orientations and their innovation strategies (high/low levels of innovativeness). Firms also need to be aware of the potential contingency effects of operational/professional services, and find ways to maximize or minimize this effect. Especially, firms with low levels of service innovativeness are found to benefit from market orientation across the operational and professional service sectors, whereas firms with high levels of service innovativeness benefit from interaction and learning orientations. On the other hand, firms in the operational service sectors require focusing on interaction orientation, while firms in the professional service sectors should focus on market and learning orientations.

### ***Limitations and Future Research***

Finally, this study is subject to several limitations and leaves some areas in need of further research. First, this study tests the role of strategic orientations in the B2B service context. Research in other settings (e.g., business-to-customer) could expand the research scope of strategic orientations. Another limitation of this study is that the survey depended upon only one key informant of each firm. Future works could enhance reliability of the data by using multiple informants. Finally, this study focuses on B2B service firms in Taiwan. In the context of growing markets, the very essence of innovation performance and the roles of strategic orientations may significantly differ from the Taiwanese setting, potentially leading to significantly different success processes. Future

research should also survey companies in other countries or regions to gain a more comprehensive view of successful configurations in specific market contexts.

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## Appendix

### Measurement items

Market orientation (Cronbach's $\alpha$ = .90; Composite Reliability = .91; AVE = .63)	Factor loading
We are slow to detect changes in our customers' service preferences	.75
We frequently review the likely effect of changes in our business environment on customers	.78
When something important happens to a major customer or market, the whole firm is informed about it within a short period	.83
When one department finds out something important about competitors, it is slow to alert other departments	.76
For one reason or another, we tend to react slowly to changes in our customers' service needs	.81
Several departments get together periodically to plan a response to changes taking place in our business environment	.84
<b>Interaction orientation (Cronbach's <math>\alpha</math> = .95; Composite Reliability = .96; AVE = .62)</b>	
We believe that each customer cannot be satisfied with the same set of services	.84
We consciously seek to identify and acquire new customers on an individual basis	.79
We believe that the reactions of customers to services should be observed at the individual customer level	.75
We have systems in place that record the transactions of each customer	.74
We can identify all transactions pertaining to each individual customer	.83
We analyze previous customer transactions at the individual customer level to predict future transactions from that customer	.81
In our firm, all customer interfaces gather transaction information on individual customers at all times	.77
We encourage customers to share opinions of our services with their firms	.72
We encourage customers to share opinions of our services with other customers	.80
We encourage customers to interactively participate in designing services	.85
We have an excellent idea of what each individual customer has been contributing to its profits	.75
We predict what each individual customer will contribute to its profits in the future	.78
We compute the revenue generated as a result of every service directed at an individual customer	.76
<b>Learning orientation (Cronbach's <math>\alpha</math> = .93; Composite Reliability = .95; AVE = .65)</b>	
Our employees view themselves as partners in charting the direction of the firm	.80
We place a high value on open-mindedness	.84
We encourage employees to "think outside of the box"	.83
An emphasis on constant innovation is a part of our firm culture	.79
We basically agree that our firm's ability to learn is the key to our competitive advantage	.81
The basic values of our firm include learning as a key to improvement	.85
Learning in our firm is seen as a key commodity necessary to guarantee firm survival	.82
In our firm, there is a well-expressed concept of who we are and where we are going as a business	.75
Our employees are committed to the goals of our firm	.78
We are not afraid to reflect critically on the shared assumptions we have about our customers	.77
<b>Service innovativeness (Cronbach's <math>\alpha</math> = .90; Composite Reliability = .89; AVE = .66)</b>	
The majority of our service innovations	.81
Are based on substantially different core technologies/procedures/concepts	.81
Involve technologies/procedures/concepts that make old technologies/procedures/concepts obsolete	.80
Use new technologies/procedures/concepts that permit quantum leaps in performance	.78
Use technologies/procedures/concepts that have an impact on or cause significant changes in the whole industry	.86
<b>Environmental uncertainty (Cronbach's <math>\alpha</math> = .88; Composite Reliability = .86; AVE = .67)</b>	
How difficult is it to forecast the sales in markets?	.85
To what extent do changes in the trade policies of markets influence sales?	.78
How difficult is it to forecast the competitive situations in markets?	.82

Note: AVE: average variance extracted

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# The Moderating Effect of Emotional Intelligence on Loan Officers' Judgments and Decisions

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*The purpose of this study is to determine whether emotional intelligence (EI) is a moderating variable in loan officers' information processing. To answer the research question, an experimental investigation was conducted and participants' judgments and decisions were examined in light of three methods of disclosing contingencies. Participants indicated their judgments and decisions in regard to the following four variables: the overall risk rating, the overall trend rating, the loan granting decision and the interest rate decision. Three different types of disclosure of contingencies were used as independent manipulated variables. Results regarding the impact of EI as a moderating variable, whether in relation to disclosure method and loan officers' judgments or the relationship between their judgments and decisions, do not indicate that loan officers' EI has a significant moderating effect on these relationships.*

**Keywords:** Contingent liabilities, loan officers, decision process, emotional intelligence, IAS 37, IAS 37 exposure draft, IFRS.

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## Objective

This study concerns the decision process of professional financial statement users. It focuses on loan officers because of the important role they play in allocating capital to organizations, especially small and medium-sized businesses. Our objective is to determine whether emotional intelligence (EI) acts as a moderating variable in loan officers' information processing and moderates risk perception and credit-granting decisions. This objective is addressed in light of a change in accounting standard in Canada and analyzes and compares the impact of methods of disclosing accounting contingencies. Thus, the results of our study will be meaningful to academics and practitioners interested in business, management and organizational decisions and will improve understanding of the decision process of sophisticated financial statement users.

Changes such as greater uncertainty and instability in financial and business environments, combined with unprecedented changes in accounting standards, have contributed to the increasing complexity of the decision process of professional users, including loan officers. Some studies have concluded that accounting information disclosure methods can influence the judgments and decisions of professional financial statement users through functional fixation, regardless of the user's level of professional sophistication. According to Neuert and Hoeckel (2013), even though scholars have examined how different factors like personality traits and problem characteristics influence the decision-making process, there is a lack of empirical studies in this research area. It therefore seems relevant to investigate whether variables other than those already studied in the literature have an impact on loan officers' decision process.

Although traditional economic models on decision-making minimize the influence of emotions and assume that the beliefs and choices of economic agents follow rational principles to maximize their anticipated utility, studies in the field of psychology have concluded that emotions can influence the judgments and decisions of individuals and that emotional regulation can play a role in financial decisions. The research to date shows that individuals who more easily identify the emotions that convey information on a situation and context and manage the emotions that can have disorganizing effects are in a better position to respond to the adaptation requirements of the external environment, such as decision-making.

Our research question is the following: Does loan officers' EI moderate their judgments and decisions when they analyze information on accounting contingencies? To answer this query, we conduct an experimental study to analyze respondents' judgments and decisions further to the administration of questionnaires pertaining to three methods of disclosing contingencies in regard to a Canadian firm. The recognition and disclosure methods are those prescribed by three standards for accounting for provisions: 1) the Canadian Section 3209 standard; 2) IAS (International Accounting Standard) 37, in effect

since 2011; 3) the international standard proposed in the Exposure Draft of Proposed Amendments to IAS 37. Each experimental group was assigned a disclosure method in the foregoing order (G1, G2 and G3 respectively). The results obtained in terms of EI as a moderating variable, whether in the relationship between disclosure of contingencies and loan officers' judgments, or between the loan officers' judgments and decisions, do not indicate that loan officers' EI has a significant moderating effect in these relationships. The following section presents the theoretical framework and the motivation behind the study.

## **Background and Motivation**

The process used by North American financial institutions to assess loan applications generally requires loan officers to study the overall risk rating (ORR) and overall trend rating (OTR) before making a decision on whether to grant or deny the loan (Treacy and Carey, 1998). The approval or denial of a loan requires a thorough risk assessment based on quantitative and qualitative information (Jankowicz and Hisrich, 1987). Lipshitz and Shulimovitz (2007) allude to financial and non-financial factors, the latter being non-rational factors, according to the classical economic perspective. The approval or denial of a loan is a difficult decision, especially in the case of new clients, where information asymmetries between the account manager and the borrower can be extensive and conceal critical information (Deakins and Hussain, 1994). According to Wilson et al. (2007), the decisions of loan officers require more than the application of their institution's standards and procedures: loan officers must have considerable knowledge, aptitudes and personal qualities. Loan officers' and financial institutions' beliefs, policies and values contribute to judgment formation through a process driven by objective as well as subjective factors (Wilson et al., 2007).

The issue of the influence of disclosure in the notes to the financial statements versus full recognition in the income statement and balance sheet has been examined in an experimental context by a number of researchers (for example, in reverse chronological order, Lagrange, Viger and Anandarajan, 2015; Viger, Belzile and Anandarajan, 2008; Elliot, 2006; Belzile, Fortin and Viger, 2006; Viger et al., 2004; Hirst, Hopkins and Wahlen, 2004; Anandarajan, Viger and Curatola, 2002; Maines and McDaniel, 2000; Hopkins, Houston and Peters, 2000; Ben Amar and Viger, 2000; Hirst and Hopkins, 1998; Bamber and Stratton, 1997; Hopkins, 1996; Sami and Schwartz, 1992; Gul, 1987). They all came to the same conclusion, namely that information presentation in the form of recognition significantly affected readers' perceptions and decision-making relative to presentation in the form of disclosure. Viger, Belzile and Anandarajan (2008) attributed this to readers being functionally fixated on up-front numbers reported in the financial statements.

Scores of studies on loan officers' decision process have been carried out over the past decades. They examine the impact of several factors that influence loan officers' judgments and decisions but do not take EI into account as a factor in these actors' information processing or decision-making. These factors can be classified into four groups: 1) information characteristics (Trönnberg and Hemlin, 2014; Durocher and Fortin, 2009; Bonfirm, 2009; Viger, Belzile and Anandarajan, 2008; Bruns and Fletcher, 2008; Wilson et al., 2007; Grunert, Norden and Weber, 2005; Loffler, 2004; Mason and Stark, 2004; Catusus and Gröjer, 2003; Treacey and Carey, 2000; Boot, 2000; Hedelin and Sjoberg, 1993; Sami and Schwartz, 1992; Rodgers, 1991; Klammer and Reed, 1990; Biggs et al., 1985; Casey, 1980), 2) loan officers' functional characteristics (Ottavia et al., 2011; Bruns et al., 2008; Andersson, 2004; Andersson, 2001), 3) loan officers' personal characteristics (Trönnberg and Hemlin, 2014; Hensman and Sadler-Smith, 2011; Lipshitz and Shulimovitz, 2007; Meyers, 2002) and 4) organizational and situational factors (Beck et al., 2011; Berger and Black, 2011; Hertzberg, Liberti and Paravisini, 2010; Hernandez-Canovas and Martinez-Solano, 2010; Berger et al., 2005; Jiménez and Saurina, 2004; Frame, Srinivasan and Woosley, 2001; Degryse and Van Cayseele, 2000; Anderson and Fraser, 2000).

After Canada made the transition to International Financial Reporting Standards (IFRS) in 2011, serious challenges ensued for loan officers and other financial information users, notwithstanding the positive impact of accounting quality on the financial reporting of Canadian financial institutions (Nulla, 2014). Despite their many similarities, IFRS and the former generally accepted accounting principles (GAAP) differ more or less significantly in some details (Hague, 2005), especially recognition and disclosure of contingencies. Since financial information and its interpretation are major factors in loan officers' decision-making, the change in accounting standards is likely to affect loan officers' information environment.

According to Section 3290, a contingent liability should be recorded if there is a high probability of occurrence and the amount of the loss thereon can be estimated with a high degree of certainty. In essence, the understanding is that the amount to be recorded should be based on a reasonable estimate of the amount likely to be paid and disclosed with other current liabilities in the balance sheet. Under IAS 37, contingent liabilities are recorded when the probability of a contingent loss is greater than 50 percent. The significant difference is that the estimated contingent liability be shown as a separate item in the balance sheet. The measurement of the loss is the amount the entity would rationally pay at the measurement date to be relieved of the liability. Although this stipulation differs from Canadian GAAP, the difference may be temporary given that Canadian GAAP is in a state of transition and may be changed to ensure conformity with IAS.

The results of the current study could help improve knowledge about the decision process of professional financial statement users, specifically loan officers, by bridging traditional decision-making models used in accounting studies and the psychology

literature on EI. The literature review presented in the next section explains our selection of EI as a personal characteristic.

## Literature Review

This section discusses the literature supporting the role of emotions in the decision-making process and EI theory.

### *The role of emotions*

Traditional economic models on decision-making minimize the influence of emotions and assume that the beliefs and choices of economic agents follow rational principles, allowing them to maximize their anticipated utility (Camerer, 2003). However, Simon's (1976) concept of bounded rationality calls this approach into question by highlighting the existence of decision biases that lead to sub-optimal decisions (Charreaux, 2005). In decision makers, this concept has an effect through the specific selection of part of the information. Such focus on a limited amount of information may be due to lack of time or information processing constraints. As a matter of fact, emotions play an important role in behavioral bias (Grennwich, 2005), including decision bias. Biases, especially emotional ones, lead investors away from making the best decision based on substantive rationality (Ansiu et al., 2011). Neuert and Hoeckel (2013) showed that cognitive style or intuitive/rational behavior can influence decision-making efficiency depending on the structure of the decision-making task. They further state that rational behavior in decision-making processes is not always the best course of action for greater decision-making efficiency. Studies have pointed out that emotions influence several types of judgments, including risk assessment (Gasper and Clore, 2000; Johnson and Tversky, 1983). According to Mikolajczak (2009), emotions help detect danger, prepare the body to face situations, accelerate and direct decision-making, guide social interactions and improve recollection of important events. Emotions serve to inform, enable action and support decisions.

Seo and Barrett (2007) observed that investors who display more intense emotions perform better. Xu (2010) noted that pride and guilt experienced by managers influence their strategic decision-making, given that strong feelings of guilt are associated with greater integrity, lower risk taking and quicker problem solving, while higher levels of pride produce the opposite results.

Referring to neuro-economic research, Sullivan (2011) indicates that emotions can influence financial decisions. One such study, conducted by Levav and Argo (2010), found that participants who were gently touched on the shoulder by a woman were more

inclined to take greater risks than those who were not touched. Kuhnen and Knutson (2011) demonstrated that participants who viewed an image associated with a negative emotion made less risky investment decisions than those who viewed a neutral image. In a study of the decision process of market analysts at four large London investment banks, Fenton-O'Creevy et al. (2010) concluded that the analysts' emotions, and their regulation, played a key role in their decision process. Delgado-Garcia et al. (2010) described how Spanish bank managers with somewhat negative emotional traits took less risky decisions.

Other research based on neurological observations also supports the role of emotions in the decision process. Studies by the neurologist Damasio (1994) emphasized that emotions are as important to decision-making as knowledge and reasoning are. Elliot, one of the author's patients, was a successful business man until he suffered from a brain tumor and had it removed; after the surgery, he could no longer make rational decisions because it affected the neural connections with the amygdala brain structure responsible for assigning emotional meanings to the outside world's stimuli. Because of this lack of connection, he was unable to weigh the various options, despite being able to discuss the pros and cons of different scenarios. According to Lazarus (1993), emotions can give meaning to adaptation imperatives and direct behavior. Acting somewhat like a radar, they signal an opportunity or a threat.

Emotions assist individuals in prioritizing objectives and actions from among a multitude of stimuli, supporting the cognitive process in its navigation of a complex and unpredictable environment (Oatley and Johnson-Laird, 1987; Winkielman, Zajonc and Schwarz, 1997). However, some emotions such as anxiety and anger can have disorganizing effects if they are not acknowledged and taken into account in the search for an appropriate response to adaptation demands. Some authors have described the differences between individuals who can or cannot recognize their emotional state (Frijda, 1986; Heelas, 1986; Lane, 2000; Levy, 1984; Sartre, 1962). Lambie (2007) indicates emotions are determinants of the actions of individuals who are unaware of their emotional state. However, unable to take emotions into account in their reasoning process, they temper their ability to control the undesirable actions arising from some emotions. Conversely, individuals who are aware of their emotions can be fully rational given their ability to decide which actions to take based on their emotional state (Lambie, 2007). How should emotional awareness be recognized and viewed? EI theory can be used to study this personal trait.

### ***Emotional Intelligence (EI)***

Wechsler (1975) defined intelligence as "the capacity of an individual to understand the world about him and his resourcefulness to cope with its challenges" (p. 139). Given that emotions are a main resource, emotional intelligence can be seen as the capacity to understand and adapt to situations based on their emotional meaning. It involves the



ability to identify, understand, manage and utilize one's own emotions as well as the emotions of others. According to Petrides and Furnham (2001), EI is relevant to the study of emotions because it supports the notion that individuals who are aware of their emotions and can regulate them and who can understand their own emotions as well as those of others are generally happier and more successful in their endeavors. Goleman (1995) suggests that EI may play a role in the decision process because individuals with greater EI are able to better associate emotional experiences with thoughts and actions. Emmerling and Cherniss (2003) argue that individuals with low EI are more likely to produce desirable social responses and be influenced when forming a judgment. However, those with greater EI are less subject to this type of bias.

There are many approaches to the study of EI. The one we chose is the personality trait, based on Petrides and Furnham's (2001) model. Trait EI defines EI as a constellation of emotion-related dispositions capturing the extent to which individuals identify, understand, regulate and utilize their own emotions and those of others (Mikolajczak, 2009).

To study the role of EI in financial decision-making, trait EI was selected because it concerns the individual's typical rather than maximum performance. According to Bodarwé (2008), typical performance appears more promising in terms of predictive validity because there is no guarantee that people will put theoretical knowledge into practice. An individual can know the strategies that are effective in dealing with negative situations and even mobilize them if asked to, but may not spontaneously put them into action. According to Jacques et al. (2009), personality traits have been used to predict a variety of perceptions and outcomes. The theory of trait IE states that personality traits are stable and produce fairly predictable behavioral patterns.

Petrides (2011) proposes a list of facets and factors of EI compiled from content analyses carried out on all existing EI models (Bar-On, 1997; Mayer and Salovey, 1997; Goleman, 1995) and aggregating all personality aspects related to affect. Petrides and Furnham (2006) state that trait EI questions are characterized by the temporal stability of their results and their relationship to the basic dimensions of personality. Accordingly, EI can be incorporated in the various theories of psychology rather than treated as a new concept detached from the existing body of scientific knowledge (Petrides, 2010).

As shown in Table 1, Petrides and Furnham's (2001) model consists of 15 facets derived from an analysis of earlier EI models and related constructs such as alexithymia, affective communication, emotional expression and empathy (Petrides, 2009) as well as assertiveness (Goleman, 1995), elements of social intelligence (Thorndike, 1920), personal intelligence (Gardner, 1983) and ability EI (Mayer and Salovey, 1997). As trait EI relates to behavioral tendencies and self-perceived abilities, it is relevant to use in personality frameworks (Petrides and Furnham, 2001). The 15 facets are classified under four factors (Mikolajczak et al., 2007). The first factor, well-being, consists of happiness, self-esteem

and optimism scales and is aimed at assessing the individual's general affective state. The second factor, self-control, assesses how effectively individuals regulate their emotions, impulses and stress, and is associated with self-regulation. The third factor, emotionality, refers to emotional expression and indicates the subject's tendency to perceive his or her own emotions and the emotions of others. The last factor, sociability, is the use of emotional competencies in a social context. The authors added two further aspects to the model under the Other category, and these aspects are incorporated in the overall EI score.

Experimental studies have demonstrated the impact of trait EI on judgments and decisions. Fallon et al. (2014) found that, regardless of stress level, individuals with a high level of trait EI are better at searching for information than those with lower trait EI. The results in Fallon et al. (2014) confirm the role of trait EI in the decision process through its significant impact on acquisition, i.e. the first stage of information processing. Durgut, Gerekan and Pehlivan (2013) indicate that components of the first three dimensions of trait EI are significantly and positively correlated to student success and that trait EI influences the academic success of accounting students. Ansiau et al. (2011) conclude that the more individuals learn how to manage their emotions, the lower their aversion to loss is. In addition, the more they learn to use their emotions, the greater their cognitive flexibility, and the more they can assess their own emotions, the less prone they are to optimism bias. These results indicate that higher levels of EI are related to more effective decision-making. The results of Telle, Senior and Butler (2011) show that individuals with higher levels of trait EI are less influenced by emotional indices, resulting in improved decision-making. Di Fabio and Palazzeschi (2008) suggest that individuals with less developed trait EI have more problems related to lack of information in their decision process and the search for information, mainly because of their inability to use their emotions in the problem-solving process and when searching for information for decision-making purposes.

**Table 1.** Factor Structure of EI (Petrides and Furnham, 2001)

<b>FACTORS</b>		<b>High scorers perceive themselves as...</b>
<b>WELL-BEING</b>	Self-esteem	Successful and self-confident
	Trait happiness	Cheerful and satisfied with their lives
	Trait optimism	Confident and likely to look on the bright side of life
<b>SELF-CONTROL</b>		
<b>SELF-CONTROL</b>	Emotion regulation	Capable of controlling their emotions
	Stress management	Capable of withstanding pressure and regulating stress

	Impulsiveness (low)	Reflective and less likely to give in to their urges
<b>EMOTIONALITY</b>	Emotion perception (self and others)	Clear about their own and other people's feelings
	Emotion expression	Capable of communicating their feelings to others
	Relationship skills	Capable of having fulfilling personal relationships
	Empathy	Capable of taking someone else's perspective
<b>SOCIABILITY</b>	Social competence	Accomplished networkers with excellent social skills
	Emotion management (others)	Capable of influencing other people's feelings
	Assertiveness	Forthright, frank, and willing to stand up for their rights
<b>OTHER</b>	Adaptability	Flexible and willing to adapt to new conditions
	Self-motivation	Driven and unlikely to give up in the face of adversity

## Hypotheses

The goal of this study is to examine whether loan officers' EI moderates the relationship between the disclosure method for contingencies and loan officers' judgments (ORR and OTR) and between their judgments and decisions (LOAN and RATE).

In view of the method of disclosure of contingencies assigned to each experimental group, we expect that participants assigned to G3 will predict higher future net revenues and a more positive capital structure than those assigned to G1 and G2 (since G3 had a lower expense related to contingent liabilities), and that this prediction will contribute to more favorable judgments and decisions for G3 than for G1 and G2. These expectations are based on the results of a number of studies, including Viger, Belzile and Anandarajan (2008), which confirmed the anticipated effect of functional fixation, even in professional

financial statement users. According to functional fixation, the choice of presenting the information by recognizing it in earnings or disclosing it through a footnote can lead to different judgments and decisions, given that information disclosed in a footnote is not taken into account by users who hold on to their interpretation of net income based on the income statement, which they acquired before reading the footnote information (Hirshleifer and Teoh, 2003).

Financial decision-making following an application for financing creates a scenario in which information is difficult to acquire and the decision-making process is often fraught with uncertainty; as a result, negative emotions can come to the fore. According to Morin, Aubé and Johnson (2015), those who make the best of the situation understand the meaning of their emotions enough to adapt effectively to the situation. However, loan officers with low EI resort to defensive strategies by protecting themselves through functional fixation, which allows them to remain in their comfort zone and hold on to their interpretation of information considered to be reassuring and conventional. Conversely, loan officers with higher EI count on their ability to identify, understand, manage and use their emotions and those of others and are thereby able to formulate the best judgments by mitigating, to the extent possible, the disorganizing effects triggered by some emotions. We therefore expect that the functional fixation predicted in participants could be moderated in the loan officers with higher EI. Thus, notwithstanding the expectation that G3 participants will be more favorable in their judgments and expectations than G1 and G2, these judgments and decisions are expected to be less favorable as EI increases.

Hence, our first two hypotheses center on the moderating effect of loan officers' EI (represented by facets related to self-control, i.e. perception and management of emotions and stress management) in the relationship between the contingencies disclosure method and judgments about the organization's overall risk rating (ORR) and overall trend rating (OTR):

*H1: The impact on ORR judgment, based on the method used to disclose information on contingencies, varies by EI level, as measured by the TEIQue.*

*H2: The impact on OTR judgment, based on the method used to disclose information on contingencies, varies by EI level, as measured by the TEIQue.*

Once loan officers form judgments about ORR and OTR, it is appropriate to investigate whether they incorporate them in a coherent manner in their loan granting decision and their determination of the interest rate. Lack of consistency with prior decisions and judgments could be moderated by loan officers' superior ability in the areas listed as the factors and facets of Petrides and Furnham's (2001) EI model. This part of the

decision process is highly critical since loan officers must put their judgments about ORR and OTR into action via loan granting and interest rate decisions, which they must then communicate to all stakeholders. This situation could expose loan officers to various emotions brought on by institutional requirements (credit director's approval, expectations of the local institution's executive director) and dealing with borrowers' expectations and their own interests given their decision's potential impact on their salary, job security and well-being in the workplace. These scenarios require implementing the facets and factors of emotional sensitivity (perception of others' emotions, relationship skills and empathy) and sociability (social competence, management of others' emotions and assertiveness).

For the four hypotheses on decision-making, we expect that the decisions of participants with high EI (measured by overall score) will be more consistent with their prior judgments than those of participants with a lower level of EI. The hypotheses are the following:

*H3: The ORR judgment's impact on the loan granting decision varies by EI level, as measured by the TEIque.*

*H4: The OTR judgment's impact on the loan granting decision varies by EI level, as measured by the TEIque.*

*H5: The ORR judgment's impact on the interest rate decision varies by EI level, as measured by the TEIque.*

*H6: The OTR judgment's impact on the interest rate decision varies by EI level, as measured by the TEIque.*

## **Methodology**

### ***Sample***

We used bank loan officers to represent the subjects in our experiment. The sample represented financial institutions in the province of Quebec. Approximately 49 percent of our subjects responded. This is a relatively large response rate for this type of experimental study and compares favorably with other studies. Almost seventy percent (120/176) of those who participated in the study had at least an undergraduate degree, while 10 percent (18/176) and 22 percent (38/176) held a master's or a doctorate degree respectively. Thirty-three percent (58/176) had 15 years of experience or more, while 19 percent (34/176) had 10 to 14 years, 18 percent (31/176), 5 to 9 years, and 30 percent (53/176), less than five years. Sixty-three percent (108/170) of the respondents had personal lending authority under \$150,000; 18 percent (29/170) had between \$150,000 and

\$225,000, and 19 percent (33/170), over \$225,000. Eighty-nine percent (156/175) had professional certification, 69 percent (120/175) were not confined to one area of specialty, and 57 percent (100/175) were male.

### *Measure of Emotional Intelligence*

Trait EI was measured through the French version of the Trait Emotional Intelligence Questionnaire (TEIQue) (Petrides and Furnham, 2003; French adaptation by Mikolajczak et al., 2007). We used the short version (TEIQue-SF). This version comprises 30 items rated on a seven-point scale (strongly agree to strongly disagree). Previous studies have argued in favor of its reliability, validity and usefulness (Austin et al., 2007; Chamorro-Premuzic, Bennett and Furnham, 2007; Sevdalis, Petrides and Harvey, 2007). The short version was used here on account of time constraints. It assesses 15 subscales and provides a global trait EI score as well as scores on four specific factors (well-being, self-control, emotionality and sociability). We chose the TEIQue to measure trait EI for three specific reasons: first, it provides comprehensive coverage of the trait EI sampling domain; second, its psychometric properties are excellent and its four-factor structure shows practical identity across languages (Mikolajczak et al., 2007); and third, it has demonstrated discriminant validity in relation to personality and could be isolated in both Big Five and Giant Three personality factor spaces (Petrides, Pita and Kokkinaki, 2007).

To identify the underlying structure of the TEIQue's items, we used the principal axis factoring method with orthogonal rotation of the factors in order to simplify their interpretation. We found a solution with four factors, quite similar to those found by Mikolajczak and her team, explaining 34% of the total variance, after seven iterations. The items related to self-control (perception and management of emotions and stress management) constitute the moderating variable for the first two hypotheses. Its Cronbach's alpha (0.739) was used as a reliability statistic. For the last four hypotheses, the EI overall score was based on 30 test questions (Cronbach's alpha: 0.861).

The scores obtained for EI level were classified into three groups (low, mid and high) according to their percentile ranks. For each question, participants were asked to indicate their response on a 7-point Likert scale, 1 being Strongly Disagree and 7, Strongly Agree. For interpretation purposes, results were calculated out of a total of 10. Regarding the self-control factor, on a total of 10, 54 participants constitute the low group with an average of 5.83 (standard deviation = 1.07), 46 constitute the mid group with an average of 7.48 (standard deviation = 0.31) and 71 participants constitute the high group with an average of 8.62 (standard deviation = 0.51). The overall average of three groups is 7.43 (standard deviation = 1.37). Regarding the overall score, on a total of 10, 53 participants constitute the low group with an average of 7.13 (standard deviation = 0.54), 56 constitute the mid group with an average of 8.01 (standard deviation = 0.17) and 55 participants constitute the high group with an average of 8.73 (standard deviation = 0.30). The overall



average of three groups is 8.33 (standard deviation = 0.75). Although the EI measure has good consistency, EI scores demonstrate low variability after the classification into three groups (low, mid and high). When scores between subjects do not vary widely or sufficiently, we might expect difficulties observing their differences based on low and high EI score.

### ***Procedure***

All the loan officers in the sample received descriptive information on a hypothetical company named ABC Inc. The package included a standard auditor's report and a complete set of financial statements and other relevant information relative to a loan application. The loan officers were asked to review the documents, perform a financial analysis and make a decision under a designated lending authority. Given that the requested loan was \$600,000, the loan officer's recommendation was conveyed for approval and decision to a senior officer with greater lending authority. As shown in table 2, the sample was categorized into three groups.

The first group received statements that followed the Canadian standards by recording the liability based on a reasonable estimate of the amount most likely to be paid, but without presenting it separately from other liabilities or disclosing any probability of the contingency occurring. The other two groups were given information that followed current and proposed IAS 37 by disclosing the contingency event's probability and presenting the contingent liability separately. The difference between current IAS 37 and the exposure draft is in the recording method. However, even if net income is different under the IAS 37 exposure draft versus the current IAS 37, the information provided in the note according to the IAS 37 exposure draft allows for the reconciliation of net income disclosed according to IAS 37. Thus, the information is available but is located in a different place. Any differences between the three types of disclosures should be due to the reporting and disclosure methods.

## **Discussion of Results**

### ***Preliminary Checks***

We initially used manipulation checks to ensure the loan officers understood the information presented to them. The manipulation checks included asking questions about the probability of the contingent liabilities being paid and whether contingent liabilities would be paid separately. In order to check whether the participants had actually perused the income statements, the participants were asked the extent to which net income had varied between 2009 and 2010. Those who failed the manipulation check were eliminated.



**Table 2.** Experimental Design

	<b>Experimental Groups</b>			
	<b>Group 1 (G1)</b>	<b>Group 2 (G2)</b>		<b>Group 3 (G3)</b>
<b>Experimental material</b>	Each participant received an experimental package that included descriptive information on ABC Inc., a standard auditor's report, and a complete set of financial statements for two fiscal periods (including all financial statements and accompanying notes and main financial ratios).			
<b>Financial statement presentation format, especially in regard to contingent liabilities</b>	<b>CICA Handbook</b> A contingent liability must be recorded if 1) it is probable that an event causing a loss will occur, and 2) the amount of the contingent loss can be appraised with a degree of certainty. The amount to be recorded should be based on a reasonable estimate of the amount most likely to be paid.	<b>IFRS in effect since January 1, 2011 (IAS 37)</b> Contingent losses are recorded as liabilities when the likelihood of such losses is greater than fifty percent, among other conditions. The most likely amount necessary for settling the obligation at the closing date must be recorded.		<b>IASB's IAS 37 exposure draft</b> Contingent losses are recorded as liabilities when the elements meet the definition of a liability, irrespective of the probability. The measurement would be the amount that the entity would rationally pay at the measurement date to be relieved of the liability.
<b>Disclosure of the probability of occurrence</b>	No	Yes. A 70% probability of occurrence is disclosed in both G2 and G3.		
<b>Separate liability</b> regarding the lawsuit	No	Yes. The information available concerning the measurement of the provision expense for the dispute is the same for experimental groups 2 and 3.		
<b>Recent results and main ratios</b>	<b>2010</b>	<b>2009</b>		<b>2010</b> <b>2009</b>
• Net income	\$104,747	\$149,448		\$200,355      \$149,448
• Increase in revenue (%)	18.11%	14.57%		18.11%      14.57%
• Working capital ratio	1.93	2.53		2.34      2.53
• Gross profit margin	2.18%	3.68%		4.17%      3.68%
• Return on shareholders' equity	14.18%	23.46%		23.97%      23.46%
• Earnings per share	\$0.70	\$0.99		\$1.34      \$0.99
• Capitalization ratio (Equity/asset)	48.81%	56.34%		55.95%      56.34%
• Dividends/share	\$0	\$0.17		0%      \$0.17
• Cash flows	Cash flows from operating activities and total cash flows are identical for the three experimental groups.			

Second, we examined the demographic characteristics (see Table 3) of the subjects randomly assigned to each group. The demographic characteristics tested in regard to educational background, level of experience, personal lending authority, professional title, area of specialization and gender were not significant.

The third manipulation check was to test for non-response bias. No significant difference was found between early and late respondents for all demographic variables (using both full and reduced samples).

The fourth and last check was to test whether the experimental groups were equivalent in terms of loan officers' EI level and emotional disposition. Control variables were the facets of the first factor (well-being) in Petrides and Furnham's (2001) model, consisting of traits related to disposition and behavior, i.e., happiness, self-esteem and optimism. These scales are used to assess the individuals' affective state.

Table 4, Panel A indicates that G1 participants scored an average of 8.83 on the EI well-being factor out of a total of 10 (standard deviation = 0.99), while G2 scored an average of 8.72 (standard deviation = 1.05), and G3, 8.95 (standard deviation = 0.87). ANOVA results presented in Table 4, Panel A show no significant differences between the three experimental groups in terms of the EI well-being factor ( $p = 0.429$ ). Thus, the participants in each experimental group did not differ from those in other experimental groups in terms of emotional disposition. The results of this study were not influenced by variations within this EI variable.

Table 4, Panel B presents the results of the ANOVA conducted to ascertain nonresponse bias between the two respondent cohorts (before/after follow-up). The goal was to check if participants' emotional dispositions varied between both cohorts. Results indicate no statistical difference between the cohorts in terms of EI levels measured by the well-being factor ( $p = 0.334$ ).

### *Test Results for Hypotheses*

Concerning ORR judgment, loan officers with low EI awarded an average rating of 3.09 (standard deviation = 0.52), while those with mid and high EI gave average ratings of 3.07 (standard deviation = 0.39) and 3.11 (standard deviation = 0.60) respectively. ANOVA results (Table 5, Panel A) indicate no significant differences in a comparison of the three groups ( $p = 0.839$ ). EI level does not affect ORR judgments. Based on the F-test (Table 5, Panel B), we cannot conclude that an interaction effect exists; in other words, EI level has no effect on ORR judgment regardless of the method used to disclose the information ( $p = 0.526$ ). Hence, the impact of the method for disclosing contingencies on judgments about ORR is not influenced by loan officers' EI level. H1 is not supported.

As for OTR judgments, we note that loan officers with a low level of EI gave OTR an average of rating of 2.28 (standard deviation = 0.79), those with mid EI, an average rating of 2.24 (standard deviation = 0.79), and those with high EI, an average rating of 2.04 (standard deviation = 0.79). ANOVA results (Table 6, Panel A) fail to show any significant

**Table 3.** Demographic Variables: Comparison by Experimental Group

Educational Background:	Group				Pearson $\chi^2$	p-value
	Response	G1	G2	G3		
What is your highest education level?	1	3	1	0	12.375	0.135
1. High school	2	6	3	2		
2. General and vocational college	3	27	34	37		
3. Bachelor's degree	4	8	2	6		
4. Master's degree	5	8	10	15		
5. Doctorate degree	Total	52	50	60		
6. Other					Levene statistic for homogeneity of variance = 0.465 (p-value = 0.629)	
Level of Experience:	Group				Pearson $\chi^2$	p-value
	Response	G1	G2	G3		
How many years of experience do you have in commercial bank lending?	1	21	11	15	9.686	0.139
1. Less than 5 years	2	4	12	14		
2. 5 to 9 years	3	12	8	12		
3. 10 to 14 years	4	15	19	19		
4. 15 years or more	Total	52	50	60		
				Levene statistic for homogeneity of variance = 1.185 (p-value = 0.308)		
Personal Lending Authority:	Group				Pearson $\chi^2$	p-value
	Response	G1	G2	G3		
What is your personal lending authority?	1	22	19	22	1.606	0.991
1. Under \$125,000	2	10	13	16		
2. Under \$150,000	3	6	5	6		
3. Under \$200,000	4	3	2	4		
4. Under \$225,000	5	9	10	10		
5. \$225,000 or more	Total	50	49	58		
				Levene statistic for homogeneity of variance = 0.097 (p-value = 0.908)		
Professional Title:	Group	N	Yes	No	Pearson $\chi^2$	p-value
Do you have a professional title? `	1	52	6	46	0.105	0.949
Yes/No	2	50	5	45		
If yes, please specify _____	3	59	7	52		
	Total	161	18	143		
Area of Specialization:	Group	N	Yes	No	Pearson $\chi^2$	p-value
Are you specialized in any particular industry or industries? Yes/No	1	51	14	37	1.422	0.491
If yes, please specify _____	2	50	19	31		
	3	60	18	42		

	Total	161	51	110		
<b>Gender:</b>	Group	N	Male	Female	0.581	0.748
Male/Female	1	51	30	21		
	2	50	30	20		
	3	60	32	28		
	Total	161	92	69		
Group 1: Canadian GAAP		Group 2: Newly adopted IFRS		Group 3: Proposed IFRS exposure draft		

**Table 4.** Emotional Intelligence: Participants' Profile and Test for Non-response Bias

<b>Panel A</b>	Group	N	Mean /10	Std Dev.	F	p-value
Level of Emotional Intelligence	1	56	8.83	0.99	0.851	0.429
Factor: Well-being	2	56	8.72	1.05		
	3	61	8.95	0.87		
	Total	173	8.84	0.97		
Levene statistic for homogeneity of variance = 0.694 (p-value = 0.501)						
<b>Panel B</b>		N	Mean	Std Dev.	t	p-value (two-way)
Level of Emotional Intelligence	Early <sup>1</sup>	123	8.79	0.95	-0.969	0.334
Factor: Well-being	Late <sup>2</sup>	50	8.95	1.02		
Levene statistic for homogeneity of variance = 0.357 (p-value = 0.551)						

<sup>1</sup> Early means participants who responded to the first request.

<sup>2</sup> Late means participants who responded after the follow-up.

differences in a comparison of the three groups ( $p = 0.307$ ). EI level does not influence judgments about OTR. The F-Test (Table 6, Panel B) does not indicate an interaction effect between EI level and OTR judgment, regardless of disclosure method ( $p = 0.847$ ). Therefore, the impact of the method used to disclose contingencies on judgments about OTR is not affected by loan officers' EI level. H2 is not supported.

Table 7 presents the logistic regression on the loan granting decision with ORR as the independent variable. According to the statistical results, EI levels represented by overall score do not help explain the loan granting decision ( $p = 0.572$ ). In addition, the results are not strong enough to conclude that an interaction effect exists between ORR judgment and EI level ( $p = 0.516$ ). EI therefore has no effect on the loan granting decision regardless of ORR group. Thus, the impact of ORR judgment on the loan granting decision is not influenced by EI level. H3 is not supported.

Table 8 presents the logistic regression on the loan granting decision with OTR as the independent variable. Results indicate that EI level represented by overall score does

not help explain the loan granting decision ( $p = 0.705$ ). We observe that the results are not strong enough to support the presence of an interaction effect between OTR judgment and EI level ( $p = 0.574$ ). EI level does not affect the loan granting decision, regardless of OTR group. Therefore, the impact of OTR judgment on the loan granting decision is not influenced by the loan officers' EI level. H4 is not supported.

**Table 5.** Impact of the Characteristics of Information Disclosure on Overall Risk Rating (ORR) Judgment Using the EI Moderating Variable

<b>Panel A: Impact of EI Level on Overall Risk Rating (ORR)</b>	EI Level <sup>1</sup>	N	Mean	Std Dev.	F (p-value)
On this scale, circle the number corresponding to your assessment of ABC Inc.'s overall risk rating (on a 6-point Likert scale where 1 indicates low risk and 6 indicates high risk)	Low	54	3.09	0.52	0.176 (0.839)
	Mid	46	3.07	0.39	
	High	71	3.11	0.60	
	Total	171	3.09	0.52	

Levene statistic for homogeneity of variance = 2.069 (p-value = 0.042)<sup>2</sup>

<b>Panel B: Overall Risk Rating (ORR) Interaction Effect Between Group (1, 2 or 3) and EI Level (low, mid or high)</b>	Group and EI level <sup>1</sup>	N	Mean	Std Dev.	F (p-value)
On this scale, circle the number corresponding to your assessment of ABC Inc.'s overall risk rating (on a 6-point Likert scale where 1 indicates low risk and 6 indicates high risk)	1-Low EI	18	3.17	0.62	0.801 (0.526)
	1-Mid EI	18	3.11	0.32	
	1-High EI	20	3.10	0.45	
	1-All	56	3.13	0.47	
	2-Low EI	18	3.11	0.32	
	2-Mid EI	14	2.93	0.27	
	2-High EI	22	3.23	0.69	
	2-All	54	3.11	0.50	
	3-Low EI	18	3.00	0.59	
	3-Mid EI	14	3.14	0.53	
	3-High EI	29	3.03	0.63	
	3-All	61	3.05	0.59	
	Total	171	3.09	0.52	

Levene statistic for homogeneity of variance = 2.069 (p-value = 0.042)

<sup>1</sup> The scores obtained for EI level were classified into three groups (low, mid or high) according to their percentile ranks.

<sup>2</sup> Analysis of variance (ANOVA) was valid even though homogeneity of variance produced a marginal result (Levene's test = 0.042) considering that the data were normally distributed relative to the dependent variable, the sample was large, the experimental groups were equivalent in terms of their respondents and two factors were used (disclosure method and EI).

\*\*\* Significant at 0.01

\*\* Significant at 0.05

\* Significant at 0.10

**Table 6.** Impact of the Characteristics of Information Disclosure on the Overall Trend Rating (OTR) Judgment Using the EI Moderating Variable

<b>Panel A: Impact of EI Level on Overall Trend Rating (OTR)</b>	EI Level <sup>1</sup>	N	Mean	Std Dev.	F (p-value)
On this scale, circle the number corresponding to your evaluation of ABC Inc.'s overall trend rating [positive (1), stable (2) or negative (3)].	Low	54	2.28	0.79	1.189 (0.307)
	Mid	46	2.24	0.79	
	High	69	2.04	0.79	
	Total	169	2.17	0.79	

Levene statistic for homogeneity of variance = 0.791 (p-value = 0.612)

<b>Panel B: Overall Trend Rating (OTR) Interaction Effect Between Group (1, 2 or 3) and EI level (low, mid or high)</b>	Group and EI level <sup>1</sup>	N	Mean	Std Dev.	F (p-value)
On this scale, circle the number corresponding to your evaluation of ABC Inc.'s overall trend rating [positive (1), stable (2) or negative (3)].	1-Low EI	18	2.33	0.77	0.345 (0.847)
	1-Mid EI	18	2.22	0.65	
	1-High EI	20	2.20	0.83	
	1-All	56	2.25	0.74	
	2-Low EI	18	2.44	0.78	
	2-Mid EI	14	2.50	0.85	
	2-High EI	22	2.36	0.79	
	2-All	54	2.43	0.79	
	3-Low EI	18	2.06	0.80	
	3-Mid EI	14	2.00	0.88	
	3-High EI	27	1.67	0.62	
	3-All	59	1.86	0.75	
	Total	169	2.17	0.79	

Levene statistic for homogeneity of variance = 0.791 (p-value = 0.612)

<sup>1</sup> The scores obtained for EI level were classified into three groups (low, mid or high) according to percentile ranks.

\*\*\* Significant at 0.01

\*\* Significant at 0.05

\* Significant at 0.10

In terms of the relationship between ORR judgment and the decision on the rate, loan officers with low EI established the premium at 2.00 on average (standard deviation = 0.90), while those with mid EI requested an average of 1.75 (standard deviation = 0.67) and those with high EI, an average of 1.89 (standard deviation = 0.91). ANOVA results (Table 9, Panel A) indicate no significant difference in a comparison of the three groups ( $p = 0.234$ ). EI level does not influence the interest rate decision. The F-test (Table 9, Panel B) is not conclusive regarding an interaction effect, i.e. EI level does not affect the interest rate decision, regardless of ORR judgment ( $p = 0.944$ ). Therefore, the impact of the ORR

judgment on the interest rate decision is not influenced by loan officers' EI level. H5 is not supported.

**Table 7.** Regression on the Decision to Grant the Loan<sup>4</sup>

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Logistic Regression using ORR<sup>1</sup> Judgment and EI<sup>2</sup>  
Probability (Decision<sub>i</sub> = yes) =  $\beta_0 + \beta_1 (\text{ORR}_i) + \beta_2 (\text{E.I.}_i) + \epsilon_i$

Variable	Expectation	Coefficient	p-value
Intercept		2.028	
ORR	-	-2.721	0.001*** <sup>3</sup>
EI			0.572 <sup>3</sup>
EI x ORR			0.516 <sup>3</sup>
Test for $\beta_1$ to $\beta_2 = 0$	Chi-square = 32.885	$p < 0.001$	
Hosmer and Lemeshow	Chi-square = 0.000	$p = 1.000$	Classification = 83.6%

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<sup>1</sup> Overall risk rating judgment (on a 6-point Likert scale where 1 indicates low risk and 6 indicates high risk).

<sup>2</sup> The global EI score is used for this regression.

<sup>3</sup> One-tailed p-value.

<sup>4</sup> The decision to grant the loan is measured by Yes (1) or No (0).

\*\*\* Significant at 0.01

\*\* Significant at 0.05

\* Significant at 0.10

**Table 8.** Regression on the Decision to Grant the Loan<sup>4</sup>

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Logistic Regression using the OTR<sup>1</sup> Judgment and EI<sup>2</sup>  
Probability (Decision<sub>i</sub> = yes) =  $\beta_0 + \beta_1 (\text{OTR}_i) + \beta_2 (\text{EI}_i) + \epsilon_i$

Variable	Expectation	Coefficient	p-value
Intercept		0.619	
OTR	-	1.327	0.062* <sup>3</sup>
EI			0.705 <sup>3</sup>
EI x OTR			0.574 <sup>3</sup>
Test for $\beta_1$ to $\beta_2 = 0$	Chi-square = 16.747	$p = 0.005$	
Hosmer and Lemeshow	Chi-square = 0.000	$p = 1.000$	Classification = 78.5%

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<sup>1</sup> Overall trend rating (OTR) judgment (positive [1], stable [2] or negative [3]).

<sup>2</sup> The EI global score is used for this regression.

<sup>3</sup> One-tailed p-value.

<sup>4</sup> The decision to grant the loan is measured by Yes (1) or No (0).

\*\*\* Significant at 0.01

\*\* Significant at 0.05

\* Significant at 0.10

**Table 9.** Impact of the Overall Risk Rating (ORR) on the Interest Rate Premium Decision Using the EI Moderating Variable

<b>Panel A: Interest Rate Premium EI Level Impact</b>	EI Level <sup>1</sup>	N	Mean	Std Dev.	F (p-value)
Please indicate the appropriate rate you would ask for the loan requested, considering that the repayment of principal is a fixed monthly installment and the interest is variable and calculated on the basis of the premium added to the preferential rate in effect at your institution (whether or not you recommend the loan).	Low	50	2.00	0.90	1.468 (0.234)
	Mid	56	1.75	0.67	
	High	54	1.89	0.91	
	Total	160	1.88	0.83	

Levene statistic for homogeneity of variance = 0.903 (p-value = 0.516)

<b>Panel B: Interest Rate Premium Interaction Effect Between ORR (2, 3 or 4) and EI Level (low, mid or high)</b>	ORR <sup>2</sup> — EI Level <sup>1</sup>	N	Mean	Std Dev.	F (p-value)
Please indicate the appropriate rate you would ask for the loan requested, considering that the repayment of principal is a fixed monthly installment and the interest is variable and calculated on the basis of the premium added to the preferential rate in effect at your institution (whether or not you recommend the loan).	2-Low EI	6	1.33	0.38	0.188 (0.944)
	2-Mid EI	5	1.01	0.35	
	2-High EI	4	1.33	0.54	
	2-All	15	1.22	0.41	
	3-Low EI	36	1.95	0.93	
	3-Mid EI	41	1.74	0.61	
	3-High EI	42	1.85	0.94	
	3-All	119	1.84	0.83	
	4-Low EI	8	2.72	0.56	
	4-Mid EI	10	2.18	0.74	
	4-High EI	8	2.41	0.69	
	4-All	26	2.42	0.68	
	Total	160	1.88	0.83	

Levene statistic for homogeneity of variance = 0.903 (p-value = 0.516)

<sup>1</sup> The scores obtained for EI level were classified into three groups (low, mid or high) according to their percentile ranks.

<sup>2</sup> Considering that none of the respondents assigned ORR values of 1 and 6 and only a few responded with ORR values of 5, the results of three groups corresponding to ORR judgments of 2, 3 and 4 are presented.

\*\*\* Significant at 0.01

\*\* Significant at 0.05

\* Significant at 0.10

As for the relationship between the OTR judgment and the interest rate decision, the results listed in Table 10, Panel A indicate that loan officers with low EI established the premium at 2.00 on average (standard deviation = 0.90), while those with mid EI requested an average of 1.75 (standard deviation = 0.67) and those with high EI, an average of 1.89 (standard deviation = 0.92). ANOVA results indicate no significant difference in a comparison of the three groups ( $p = 0.409$ ). EI level does not influence the interest rate decision. The F-test (Table 10, Panel B) is not conclusive in regard to an interaction effect, meaning that EI level does not impact the interest rate decision regardless of OTR judgment ( $p = 0.229$ ). Therefore, the impact of the OTR judgment on the interest rate decision is not influenced by loan officers' EI level. H6 is not supported.

## Conclusion

The decision process of professional users, including loan officers, has become more complex because of greater uncertainty and instability in financial and business environments and Canada's accounting standards shift to IFRS. Since previous studies have concluded that the judgments and decisions of professional financial statement users, including loan officers, can be influenced by some factors despite the users' level of professional sophistication, it seemed important to investigate whether variables other than those already examined in the literature influence loan officers' decision process. The goal of this study was to determine whether EI acts as a moderating variable in loan officers' information processing and to assess its potential moderating impacts on risk perception and credit decisions. The setting for the study was the change in accounting standard, against which we analyzed and compared methods for disclosing accounting information on contingencies.

Our findings show that loan officers use a fairly standardized decision process. The impact of EI as a moderating variable on the relationship between the method of disclosure of the contingencies and ORR or OTR judgments, and between these judgments and loan granting or interest rate decisions, do not establish that loan officers' EI has a significant moderating effect on these relationships. This may be because institutional oversight and directives are sufficiently clear and accurate and that they provide guidance and minimize loan officers' personal differences in terms of EI.

However, loan officers were significantly influenced by the third method for disclosing information on contingencies (in which contingent liabilities were expensed lower on the income statement, leading to higher net income). Given the participants' expertise, it may be surprising to note that G3 did not appear to take into account the information disclosed in the note when making their judgments and decisions, which could have reconciled the net income figure with the amount disclosed to the other groups. We expected that those with higher EI would be better able to recognize, understand and

**Table 10.** Impact of the Overall Trend Rating (OTR) on the Interest Rate Premium Decision Using the EI Moderating Variable

<b>Panel A: Interest Rate Premium EI Level Impact</b>	EI Level <sup>1</sup>	N	Mean	Std Dev.	F (p-value)
Please indicate the appropriate rate you would ask for the loan requested, considering that the repayment of principal is a fixed monthly installment and the interest is variable and calculated on the basis of the premium added to the preferential rate in effect at your institution (whether or not you recommend the loan).	Low	50	2.00	0.90	0.900 (0.409)
	Mid	55	1.75	0.67	
	High	53	1.89	0.92	
	Total	158	1.88	0.84	

Levene statistic for homogeneity of variance = 2.916 (p-value = 0.005)<sup>3</sup>

<b>Panel B: Interest Rate Premium Interaction Effect Between OTR (positive, stable or negative) and EI Level (low, mid or high)</b>	OTR <sup>2</sup> — EI Level <sup>1</sup>	N	Mean	Std Dev.	F (p-value)
Please indicate the appropriate rate you would ask for the loan requested, considering that the repayment of principal is a fixed monthly installment and the interest is variable and calculated on the basis of the premium added to the preferential rate in effect at your institution (whether or not you recommend the loan).	P-Low EI	11	1.37	0.23	1.423 (0.229)
	P-Mid EI	11	1.41	0.44	
	P-High EI	16	1.82	0.94	
	P-All	38	1.57	0.69	
	S-Low EI	19	2.12	1.07	
	S-Mid EI	22	1.74	0.74	
	S-High EI	14	1.57	0.41	
	S-All	55	1.83	0.83	
	N-Low EI	20	2.23	0.82	
	N-Mid EI	22	1.92	0.66	
	N-High EI	23	2.14	1.07	
	N-All	65	2.10	0.87	
	Total	158	1.88	0.84	

Levene statistic for homogeneity of variance = 2.916 (p-value = 0.005)

<sup>1</sup> The scores obtained for EI level were classified into three groups (low, mid or high) according to their percentile ranks.

<sup>2</sup> OTR: overall trend rating; P: positive; S: stable; N: negative

<sup>3</sup> Analysis of variance (ANOVA) was valid even without homogeneity of variance (Levene test = 0.005) considering that the data were normally distributed relative to the dependent variable, the sample was large, the experimental groups were equivalent in terms of their respondents and two factors were used (OTR judgment and EI).

\*\*\* Significant at 0.01

\*\* Significant at 0.05

\* Significant at 0.10

manage their emotions and thus mitigate the negative effects of fear, anxiety and other emotions on their judgments and decisions.

Our findings therefore suggest that participants may have been functionally fixated on the revenue listed in the income statement, in line with Dearman and Shield (2005), who concluded that functional fixation is not automatically eliminated by accounting knowledge or experience. Our conclusions indicate that participants with higher levels of EI were not able to overcome the effects of their functional fixation, and that their EI, as conceptualized and measured in this study, was not a moderating factor in the relationships between the variables pertaining to the loan officers' decision process.

This study is not without limitations, which may explain our results. The experimental design did not consider all the costs and benefits associated with the loan officers' decision-making, and participants were provided with less information than loan officers are normally given. Despite our non-significant results, and in light of Damasio's work on somatic markers, we maintain that EI can affect financial decisions. In the

following paragraphs, we make suggestions as to why our results do not show the impact of EI.

Concerning the moderating variable's effect, the tool we used to assess EI was probably the greatest limitation. In other words, the Petrides and Furnham questionnaire (TEIQue) may have been inappropriate for testing our hypotheses. It has a self-reporting scale and is therefore subject to the social desirability bias, according to Wong and Law (2004). In addition, the TEIQue was unable to capture the differences between subjects. The low variability in EI scores did not allow us to observe differences on the basis of low and high EI score. Also, the cut-off scores between low, mid and high scores, based on percentile ranks, did not represent reality.

Trait EI is a constellation of emotion-related personality traits capturing a wide variety of emotions; however, anxiety is likely the main emotion involved in loan officers' decision-making. Thus, the TEIQue is probably not precise enough in its assessment to provide information about the management of anxiety. To overcome these two difficulties, future research could use other EI measures with greater sensitivity in capturing individual differences. For example, the MSCEIT (Mayer et al., 2003) is a performance test that would probably be more efficient than the TEIQue in discriminating between subjects' EI quotient and skills.

As this was a fictitious case, the loan officers did not harness the faculties involved in EI as they would have in a real case, which could explain the absence of significant results concerning the EI moderating variable. Ideally, the experimental context should challenge loan officers' emotional skills. In the case under study, however, the loan officers did not react emotionally because they were simply presented with a document, and their challenge was limited to making a decision with no personal impact. A genuine loan application situation would have exposed them to visual and auditory stimuli, which can trigger an emotional reaction through the mirror neurons (Boyatzis et al. 2012). Future experimental material would need to present more realistic stimuli involving both reading and listening skills; for example, loan officers could watch a video depicting a borrower submitting a loan application.

This study contributes to knowledge by bridging traditional decision-making models on loan officers used in accounting studies and the psychology literature on the role of EI in the decision process. It also opens a new window into experimental accounting by exploring the role of EI in the financial decision-making process. To our knowledge, it is the first study of its kind, and those who would be interested in pursuing this topic may benefit considerably from our experience. By examining the moderating effect of EI on loan officers' judgments and decisions, this study contributes to knowledge about the factors that can influence judgments and decisions, including the individual characteristics of loan officers and the decisions these actors make when accounting standards change.

In addition to contributing to the discourse on the impact of information disclosure and the international convergence of accounting standards, this study makes an important contribution to financial institutions by examining consistency levels in the analysis of loan applications and the consensus that emerges from the decision-making process. By noting that EI did not have a moderating impact on the relationship between the method of disclosing contingencies and loan officers' judgments and decisions, this study will also help institutions assess the effectiveness of their practices and standards regarding the guidance given to loan officers for the decision process. Given that this study innovates by investigating the effect of a personal characteristic (EI) on a decision process that had previously been examined solely from the perspective of other factors such as informational, functional and cognitive characteristics, this investigation opens the way for further research on the role of other personal variables in the decision process.

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# What Women Want? An Analysis of Demographics and Different Factors Influencing Online Shopping in India

Prashant Raman

*Electronic commerce is significantly altering the way consumers shop and purchase products and services. In this dynamic electronic marketplace, the consumers have learnt the nuances of how to shop online. Similar to any diffusion of innovation, there is a learning curve for a good number of consumers to act in the e-commerce arena in a manner in which they feel the most satisfied. For some consumers, online shopping has become a part of their everyday life, whereas for others they are at the edge of taking the big leap into it. The focus of this study is to identify what factors influence female shoppers to buy or not to buy online, and how frequently they make such purchases. It also examines how demographics like age, income and education influence the frequency to shop online. A survey was conducted in 13 states of India and uses empirical analysis to ascertain the findings. This is a novel effort in identifying the female consumers' online shopping behavior in terms of shopping frequency in the Indian context.*

**Keywords:** Female buying behavior, online shopping frequency, purchase intention, women consumers, demographics, online shopping factors, e-commerce in India.

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## **Introduction**

There are a number of factors that affect the rapid development of online shopping in India. With a \$2.264 trillion GDP in 2016 rising at a yearly rate of 6.8%, India is one of the fastest emerging economies in the world and globally the third largest economy in terms of purchasing power parity (World Bank, 2016).

The government of India has been immensely encouraging of investments in the telecommunication sector in recent years with the penetration of smart phones growing from 21% in 2014 to an estimated projection of 39% in 2019. Fixed broadband subscribers grew from 0.05 million in 2001 to 17.12 million in 2015. Similarly, the total number of mobile wireless subscribers in India increased from 635 million in 2010 to 1.035 billion in 2015 (Statista, 2015). But the penetration of internet is only 36.5% of the population in 2016 which is very low when compared to the world average of 50.1% (Internet World Stats, 2017), thus indicating a growth possibility in the Indian market. Electronic payment in India is also steaming up owing to a large young population with rising disposable incomes. The increasing acceptance of e-payments in India is also abetted by the improvement in the adoption levels of financial cards. In 2013, the number of debit cards in circulation was 374.18 million while credit cards stood at 18.57 million. During the period 2013 to 2015, debit and credit cards witnessed a mammoth growth of 64% and 23% respectively and by the end of 2015, the total number of credit cards rose to 22.74 million while debit cards increased to 636.85 million in the country (Reserve Bank of India, 2016). The Government's Digital India vision and arrival of big business groups such as Reliance Industries in the telecom sector has supported an unparalleled development in Internet penetration in India. It is estimated that in the next five years, India will double its internet user base from 300 million in 2015 to 600 million by 2020. It is also anticipated that half of those 600 million internet users will transact through the digital medium and the total payments using digital payment instruments will be close to \$500 billion by 2020, which is 10 times the present levels in India (IMAP, 2016).

The e-commerce market is one of the fastest blooming retail markets in India and the development continues to be propelled by different supply and demand side factors. The rising penetration of internet and smart phones across the country; increase in the number of city homes; effortless payment mechanism; persuasive prices and discounts together with the convenience, access and assortment that online shopping presents, serve as market drivers. In 2016, the e-commerce market in India was pegged at around \$27.5 billion, and was projected to grow at a compound annual growth rate (CAGR) of 31% to reach \$80 billion by 2020 (KPMG-Snapdeal, 2016). The online travel industry captures around 61% of the e-commerce industry in India which includes travel and e-ticketing websites. The Government-owned Indian Railway Catering and Tourism Corporation (IRCTC) has become one of the largest online websites, engaging about 45% of all visitors

to travel websites in India and 19% of the total internet users (IAMWIRE, 2011). The growth in online shopping in the coming years will be fueled by people in rural areas and tier II and III cities. The predominant reason is that online shopping sites offer a broad assortment of Indian and global brands which may not otherwise be easily available. Also, these sites dole out deals and discounts throughout the year, which is not the case with the traditional retail outlets. Tier II and III cities already account for around 55% of the online orders (KPMG-CII, 2016).

Conventionally, shopping is seen as an activity primarily dominated by women. It is women who are generally responsible for household purchasing, and in comparison to men, have a more positive attitude towards traditional store and catalogue shopping (Alreck & Settle, 2002). The female internet user base in India is growing at a phenomenal rate of 46% and stood at around 109 million in 2015 (IAMAI, 2015). As the e-commerce industry is witnessing a remarkable growth, the number of female shoppers purchasing online is bound to increase. The total number of online shoppers in India is anticipated to reach 175 million by 2020, from about 50 million in 2015. It is also expected that there will be a fivefold rise in the number of female shoppers by 2020 (A.T.Kearney, 2016). A lot of studies related to online shopping behavior has been and are being done in western countries but very little research in this area is attempted in other parts of the world (Stafford, Turan, & Raisinghani, 2004). Moreover, studies pertaining to the Indian online shopping industry is even less. And comparatively very little is known about the various facets of Indian consumer behavior (Gehrt et al., 2012). In addition, female online shopping behavior in India is pretty much under researched and only a handful of established research works are available (Kumar & Singh, 2014). This study intends to address this knowledge gap by empirically examining the variables and factors affecting the Indian female consumers' online shopping frequency (OSF).

### **Purpose of Study**

The first wave of the Indian e-commerce market revolved around heavy discounting which gave an early impetus to e-commerce players. However, the industry is developing quickly, and so are the consumers. The new digital consumers are becoming street-smart, more knowledgeable, more ambitious and intolerant of shoddy goods and services. Therefore it is essential for e-commerce players to comprehend their buying behavior and gain better insights for making superior business decisions. Companies will have to be agile and swift to address the rapidly changing market situations and requirements of tomorrow to maintain the momentum.

The following parts of the study comprise a brief literature review related to demographic variables and factors affecting online shopping followed by a sequence of

research questions, an overview of the research methodology, analysis of the survey data, results and finally the importance and managerial implications of these results.

## **Literature Review**

Empirical based research studies on online shopping in India are very much skewed. There are certain studies that showcase the factors affecting the online shopping of Indian consumers like accurate information about product features, product warranties, and mechanism to address customers' feedback (Kiran, Sharma, & Mittal, 2008). Some studies examine the demographic variables and their influences (Prasad & Aryasri, 2011).

The review has been divided into two categories 1) Factors influencing consumers' online shopping and 2) Consumer demographics.

### ***Factors Influencing Consumers' Online Shopping***

#### *Product*

One of the most important factors which leads to the increase in purchase frequency and acceptance of online shopping is the type of product available on the internet (Liang & Huang, 1998). In fact some researchers (Lohse & Spiller, 1998) and (Ho & Wu, 1999) found that enhanced product lists and pictures of the product with accurate descriptions had a significant influence not only on the sales but also on the satisfaction levels of the consumers. The satisfaction level of the consumers increases even more if the quality of the products offered online is very good. A study done by Wambui (2010) on college students evaluated the factors behind adoption and non-adoption of online shopping as an alternate channel for their needs. Many of them adopted online shopping because of its capacity to offer an extensive range of products in one place. Product quality in online shopping generally refers to the actual utility and benefits the product offers, and the equivalence between the quality specifications mentioned on the website and the real quality of the physical product actually delivered. If the product quality meets the consumers' expectations, then the frequency to shop online also increases which is one of the "fundamental objectives" for online shoppers (Keeney, 1999).

#### *Trust*

Trust is defined as the faith that an online shopper has on an e-commerce vendor who is prepared to get involved in an online transaction in spite of the possibility of incurring a loss, based on the anticipation that the vendor will deal in a fair manner, and is capable of delivering the assured products and services on time (Mayer, Davis, &

Schoorman, 1995). Trust plays an imperative role in building long-term relationships (Eisingerich & Bell, 2007). Paucity of trust is one of the main reasons for consumers not indulging in online shopping (Lee & Turban, 2001) and they will be apprehensive of buying from a vendor who is not perceived as trustworthy (Hume, 2008). As this channel of shopping has recently come into existence and a large consumer base has a limited experience of using it, shopping online becomes a challenge for many of the consumers. The traditional shopping environment has a salesperson who acts as the source of trust for the consumers (Doney & Cannon, 1997). On the other hand, in online shopping, the salesperson is substituted by help buttons and search tools, as a result removing the very foundation of consumer trust in the shopping experience (Lohse & Spiller, 1998). Moreover, there is some amount of risk involved in online shopping. The first and foremost risk is the inability to manually check the quality of the product and second to ascertain the safety and security of sharing information which is personal and financial in nature (Lee & Turban, 2001). This situation develops a feeling of powerlessness among online shoppers. Hence trust has a crucial influence on the relationship between the consumers' attitude toward online shopping and purchasing frequency as also suggested by earlier research (Roman, 2007; Law & Bai, 2008) that trust acts as a vital ingredient in influencing customers to increase shopping frequency.

### *Satisfaction*

Customer satisfaction holds a significant place in marketing theory and practice (Churchill & Surprenant, 1982). It plays a major role in influencing consumer OSF as it helps in the realization of earlier unmet needs (Bearden & Teel, 1983; DeLone & Mclean, 1992; Bhattacharjee, 2001). Consumers' intention to shop in the future is strongly connected to customer satisfaction (Patterson & Spreng, 1997; Durvasula et al., 2004). It is therefore a strong predictor of continuance i.e. consumer's prolonged usage of online shopping (Bhattacharjee, 2001; Devaraj, Fan, & Kohli, 2003). Acquisition of new customers is becoming a great challenge for online vendors and hence the focus is now on retaining existing customers and increasing their OSF. A satisfied customer is more likely to buy again or buy more in the future than an unsatisfied customer (Reichheld, 1996; Hill & Alexander, 2000; Johnson et al., 2001). While shopping online, consumers not only assess the product variety and offers, but also the manner in which an online retailer realizes their expectations through offline support (Wolfenbarger & Gilly, 2003). For instance, receiving the right product at the right time and at an agreed upon condition, influences the degree of satisfaction for customers (Collier & Bienstock, 2006). Previous research also reveals that on time delivery of product and easy mechanism to return the product considerably improves customers' positive experiences and augments their level of enjoyment and fun thereby justifying their decision to purchase a product online (Ha & Stoel, 2009).



### *Promotion*

A major motivating factor for consumers to increase their shopping frequency is the attractive promotional offers available online. It is not certain that once a consumer adds a product to his/her cart, whether the product will eventually be bought. There are a few other motivational factors that lure the consumers to make that final click and purchase. These factors are nothing but the promotional schemes – be it based on price or any kind of a bundle/combo offer. Some of the consumers in fact define value shopping as being able to search for discounts, sales, or hunt for the best prices available (Arnold & Reynolds, 2003). These kinds of monetary inducements allow the consumers to experience cost savings and attain a superior level of economic control, and as a result, demonstrate considerable positive correlations towards online shopping and shopping frequency (Charney & Greenberg, 2001; Flanagan & Metzger, 2001; Wolin & Korgaonkar, 2003). Consumers who add the shortlisted products to their online shopping carts are sometimes there to take advantage of the online retail offers, such as deals, sales promotions, price promotions, free shipping etc. Online shoppers thus expect online retailers to provide price promotions or at least have lower prices of the products as compared to traditional retailers (Maxwell & Maxwell, 2001).

### *Convenience*

A plethora of studies mostly empirical in nature confirms that consumers have a propensity to be more oriented towards convenience (Donthu & Garcia, 1999; Korgaonkar & Wolin, 1999; Li, Kuo, & Rusell, 1999; Swaminathan, Lepkowska-White, & Rao, 1999). The main features of convenience revolve around the prospect of anytime, anyplace shopping, the availability of robust search engines and easy price comparisons (Korgaonkar & Wolin, 1999; Swaminathan, Lepkowska-White, & Rao, 1999; Schaupp & Bélanger, 2005). The reason behind the increase in the frequency of online shopping is because the consumers tend to give more importance to convenience in shopping (Li, Kuo, & Rusell, 1999). Seiders et al. (2007) revealed that convenience helps in enhancing customer satisfaction levels and leads to future re-purchase intentions thereby boosting the frequency to shop online. Also while shopping online, location becomes immaterial and the consumer is motivated by convenience of ordering products from home, office etc. at any time of the day (Swaminathan, Lepkowska-White, & Rao, 1999).

### *Price*

Another central factor that entices the consumers to shop online is the aggressively competitive prices offered by online retailers. Koyuncu and Bhattacharya (2004) mention in their research that consumers wish to purchase more from online retailers to get better



products at reasonable prices. Bulkeley and Carlton (2000) established in their research that online shoppers tend to buy products for the first time based on the convenience factor. To encourage these shoppers to visit again and increase the frequency of shopping online, online vendors need to better the facilities offered by them and bring down the price of their products to persuade shoppers to buy on a regular basis. A major incentive for shoppers to frequently visit online websites and buy products is to save money and as compared to traditional outlets, online vendors offer relatively lower prices. A study in fact suggests that 85% of the consumers look for price information and lower prices while shopping online (Reed, 1999).

### *Customer services*

In the online shopping context, timely delivery is one of the primary expectations from the online vendors (Smith, Bailey, & Brynjolfsson, 2000). Faster delivery services and easy product returns constitutes a significant part of customer services. Consumers tend to place orders from their offices or homes expecting faster delivery of products in comparison to offline purchasing. Moreover, they expect the product to be delivered at their time of convenience. Due to the spatial and temporal discrepancies among purchasers and sellers in online markets, exchanges of money and product are not concurrent, so the delivery risk is of a specific concern to the consumers (Smith, Bailey, & Brynjolfsson, 2000). The satisfaction experienced by the consumers through timely and reliable delivery makes them visit again and again to shop online. But on the flip side, consumers may opt for the traditional brick-and-mortar shops if the delivery time is delayed or set too far away (Keeney, 1999). A failure in the services offered by an online vendor may have a detrimental effect on the credibility and the profits of the company. Customer dissatisfaction due to a service failure will result in a negative word-of-mouth buzz and a downbeat feeling towards the concerned service provider (Bitner, Brown, & Meuter, 2000).

### *Enjoyment*

A lot of previous research studies suggest that consumers derive enjoyment from the shopping process. There are certain consumer segments which find shopping to be hedonic, exciting, and pleasurable (Holbrook & Hirschman, 1982). Babin, Darden, & Griffin (1994) also describe this activity as entertaining, fantasy oriented, exciting, stimulating, and enjoyment seeking. In the online context, consumers tend to evaluate an online website on two important parameters: 'informativeness' and 'entertainment' (Ducoffe, 1996; Richard, 2005). It is also acknowledged that those consumers who have a positive attitude towards websites which are high on entertainment value are more likely

to shop again. An enjoyable or exciting experience of shopping online will have a hangover effect (Menon & Kahn, 2002; McMillan, Hwang, & Lee, 2003).

### *Social influence*

Social influence generally comprises reference groups, family, friends etc. (Wu, 2003; Armstrong & Kotler, 2005). A reference group consists of all those people who have either a direct or an indirect influence on the attitude or behavior of a person (Kotler, Saliba, & Wrenn, 1991; Armstrong & Kotler, 2005). Family is regarded as the most important social factor and has been extensively scrutinized (Armstrong & Kotler, 2005). Friends also act as an important referent influence in online shopping (Limayem, Khalifa, & Frini, 2000; Foucault & Scheufele, 2002). But there are varied findings on the influence of friends on an individual. In some cases it was noticed that while the influence of friends was quite insignificant otherwise (Limayem, Khalifa, & Frini, 2000), it was significant in cases pertaining to online purchasing of books (Foucault & Scheufele, 2002). These outcomes imply that the degree of social influence may vary with different product categories. Online recommendations and online reviews are also becoming an important medium of influencing a consumer. There are human experts and dedicated expert systems known as recommending systems that influence the decision making of consumers. It is also very likely that the online shopper looks at reviews and ratings from unknown customers or professionals as a source of correct and unprejudiced information about a particular product. Besides this, the online consumer also hunts for reviews from friends as a source of emotional, maybe undiscriminating assistance and support in the decision making process. Yadav et al. (2013) mention that the social setting acts as a significant factor in influencing and shaping perceived needs. Sometimes, watching other people buying and using the product entices consumers to adopt the same products and services.

### *Risk*

Risk is closely associated with the term privacy. In the online context, privacy is defined as the consumer's ability to be in charge of the conditions in which his personal details are gathered and utilized (Flavián & Guinalú, 2006; Lee, Eze, & Ndubisi, 2011). There is a perception among consumers that online companies misuse the collected data (Carlos Roca, José García, & José de la Vega, 2009) and so the risk of losing personal information on the internet is one of the most significant factors that inhibits consumers from shopping online (Cho, Rivera-Sánchez, & Lim, 2009; Carlos Roca, José García, & José de la Vega, 2009; Zorotheos & Kafeza, 2009). In fact, risk associated with privacy also impacts consumers' trust of online vendors (Pan & Zinkhan, 2006). In a few of the research studies it is established that issues related to privacy act as a major impediment towards

the growth of online shopping (Culnan, 1993; Chang & Chen, 2009; Lee, Eze, & Ndubisi, 2011). But there are some contrary opinions as well and one such was the study done by Jarvenpaa & Todd (1997) who stated that risk plays a trivial role in the adoption of online shopping. As far as most research studies are concerned, risk concerns of consumers in online shopping are mostly associated with the aspects of privacy and security of personal information.

### *Demographic Variables*

Consumer demographics are the most frequently studied segment in a majority of online shopping studies. There are a lot of studies which establish that demographics such as age, income, and education are correlated to online shopping activities (Liebermann & Stashevsky, 2009), but there are also some existing empirical studies that suggest quite a few conflicting outcomes as well.

#### *Age*

The age of the consumer has always been an intriguing part of any study. Existing literature also emphasizes the significance of users' age in the study of their behavior (Harrison & Rainer, 1992; Hubona & Kennick, 1996). The studies done in the Information Technology domain have established that computer skills are effortlessly picked up by younger adults (Czaja et al., 1989; Hubona & Kennick, 1996). Additionally, younger adults generally have superior knowledge and understanding of the internet, and features such as utility and attitude attain greater meaning for them, whilst older people observe larger risks, have complexity in executing syntactically difficult instructions and hence place more significance on the perception of self-efficacy (Morris & Venkatesh, 2000; Trocchia & Janda, 2000). As a result, some studies have incorporated age as a pertinent variable in the interpretation of online shopping behavior (Zhang, 2009).

According to a study done by Trocchia and Janda (2000), there are three barriers for older people to shop online: 1) Dearth of knowledge and familiarity with Information Technology (IT) 2) Reluctance to change 3) Insistence on trying out the product prior to purchase. Hence, age is positively correlated to the complexity in processing stimuli (Morris & Venkatesh, 2000) and also strongly correlated to the duration of time inexperienced users need to get acquainted with computers (Gomez, Egan, & Bowers, 1986). The reason why older people find it difficult to participate in online shopping is because of their lower levels of experience of transacting online. On the contrary, some researchers believe that age has no considerable affiliation with Information Technology (IT) use, and assuming that younger adults already know about the internet and that older people are opposed to it is inaccurate (Smith & Comstock, 1995; Zhang, 2005; Roussos, 2007). A study done by McCloskey (2006) states that while age may influence the primary

decision concerning whether to buy on the internet or not, but not the consequent behavior of online consumers, like the frequency to buy or the spending amount.

### *Income*

Income is another important demographic variable that can push or thwart the use of e-commerce. It has attracted substantial research interest in the domain of technology adoption (Serenko, Turel, & Yol, 2006; Allard, Babin, & Chebat, 2009; Shin, 2009). In fact, numerous research works have included income as an explanatory variable for shopping behavior, but still the outcomes pertaining to its significance are conflicting (Miyazaki & Fernandez, 2001; Raijas & Tuunainen, 2001; Lu et al., 2003; Al-Somali, Gholami, & Clegg, 2009).

### *Education*

Education also plays a significant role in consumers' attitude toward online shopping. Consumers who are well educated feel confident using the Internet for online shopping (Burke, 2002). This is due to the fact that consumers with higher levels of education are able to find products more frequently online that best meet their needs (Punj, 2011) and hence education is positively associated with a person's level of Internet literacy (Li, Kuo, & Rusell, 1999).

## **Methodology**

### ***Questionnaire Development***

The questionnaire was prepared using items acquired and adopted from the literature on online shopping (Lee & Joshi, 2007; Ho & Wu, 1999). The questionnaire was divided into 3 parts:

#### *Part1: Demographic details*

The first section of the questionnaire encapsulated the information related to respondents' demographic variables like age, education, income etc.

#### *Part 2: Factors influencing consumers to shop online*

The second section of the questionnaire featured questions related to factors influencing consumers to shop online. Respondents were requested to answer the

questions keeping in mind a set of product categories like clothes, footwear, cosmetics, home furnishings (curtains, furniture etc.), electronic gadgets (mobiles, laptops etc.), home appliances, accessories (hand bags, jewelry etc.) and gift items (watches, bouquets, cakes, soft toys etc.). There were a total of 33 statements in this section pertaining to factors influencing consumers' online shopping behavior. They were measured on a 5 point Likert scale ranging from 1 (strongly disagree), 3 (neutral) to 5 (strongly agree).

### *Part 3: Consumers' behavior and motivation to go shopping online*

The third part of the questionnaire sought information associated with the behavior and motivation of the consumers to shop over the internet. Respondents were requested to indicate the type of products they had purchased online and their OSF.

Data was collected from thirteen states of North India. Data collection via online/physical distribution of questionnaire was done during the period January 2014 to October 2015. Invitations to participate in the research were directly sent to 1,500 random respondents through e-mail/questionnaire. A total of 950 filled up questionnaires (online/physical) were received, of which 41 were rejected due to partial responses. The final respondents for the research numbered 909. A large number of responses came from the state of Rajasthan (15.4%), Uttar Pradesh (12.8%) and New Delhi (12.2%). The least number of responses were received from the state of Jammu and Kashmir (2.2%). Online shopping in India has become viral and a good number of online shoppers belong to younger age groups. These consumers are thus intense users of the internet. The respondents belonged mainly to the younger age group (See Table 1) i.e. 20-30 years (75.2%).

**Table 1.** Description of the sample

<b>Group</b>	<b>Percentage</b>
<i>Age</i>	
Below 20 years	6.9
20 - 30 years	75.2
30 - 40 years	11.9
Above 40 years	5.9
<i>Education Level</i>	
Undergraduates and Below	27.4
Post-Graduates and Above	72.6
<i>Income Level (per month)</i>	
Below Rs. 30,000	75.2

Above Rs. 30,000	24.8
<i>Internet experience</i>	
Less than 1 year	0.7
1 – 3 years	14.5
3 – 5 years	21.5
Above 5 years	63.4
<i>Internet Proficiency</i>	
Not skillful	7.6
Somewhat skillful	18.5
Skillful	52.5
Very skillful	21.5
<i>Internet Usage frequency (per week)</i>	
Less than 5 hours	24.1
5 - 10 hours	24.8
10 - 20 hours	21.1
Above 20 hours	30
<i>Primary use of internet</i>	
Information, product search and purchasing	42.9
E-mail / E-card / Other communication	27.1
Game / Music / Downloading / Entertainment	25.7
Online banking / Pay bills	4.3

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### ***Data Analysis***

The analysis involved employing different techniques. Factor analysis was applied to explore the core shopping parameters. The normality of data was checked, explaining the reliability test and validity test findings of the questionnaire. Subsequently, the Multiple Regression Analysis (MRA) technique was used to explore the relationship between demographics and factors affecting online shopping.

Responses to the 33 statements encapsulating the factors influencing online shopping were analyzed. The percentage of variance, eigenvalues and scree plot was considered to ascertain the number of factors to be interpreted. Factor loadings greater than 0.50 are deemed to be reasonably significant and loadings that are greater than 0.70 are considered to be extremely significant (Hair et al., 2010). The factor analysis was done using the varimax procedure for orthogonal rotation. A varimax solution produces outcomes which make it simple to classify each variable with a particular factor (Kim & Mueller, 1982). Orthogonal rotation was used because the factor matrix was to be subjected to successive data analysis (Hair et al., 2010). Cronbach's alpha was measured to evaluate the reliability of each factor.

Multiple regression is an enhancement of simple linear regression. It is used to predict the value of a variable based on the value of two or more other variables. It also helps in determining the overall fitness of the model and the relative contribution of each of the predictors to the total variance explained. Before conducting an in depth analysis, there was a need to check whether the data can actually be analyzed using multiple regression. In researches where large variance (i.e. above 25%) is likely to be explained, a sample size of 80 is considered to be adequate for a regression model having up to 20 predictors (Fields, 2005).

## Results

### *Factor Analysis: Factors Influencing Online Shopping*

Factor analysis of the 33 statements yielded 8 components with an eigenvalue > 1.00 but 2 more components were also included by analyzing the scree plot. So a total of 10 components were identified, as shown in Table 2. The procedure yielded factors with Cronbach coefficient reliabilities ranging from 0.82 to 0.91 (above the minimum recommended 0.70 critical value) with 76% of variance explained (above the minimum recommended 60% critical value) (Hair et al., 2010). The solution's KMO measure of sampling adequacy was 0.887, with measures > 0.80 being considered as "Great" (Field, 2000). Bartlett's test of sphericity was also observed to be significant ( $p = 0.000$ ;  $df = 528$ ) signifying that the assumption of multivariate normality was met (Norusis, 2004). Table 2 shows that the interpretation of the factors was uncomplicated. The variables that group on a similar component implies that component 1 represented *Product*, component 2 represented *Risk*, component 3 represented *Convenience*, component 4 represented *Trust*, component 5 represented *Social Influence*, component 6 represented *Satisfaction*, component 7 represented *Price*, component 8 represented *Customer Services*, component 9 represented *Promotions* and component 10 represented *Enjoyment*.

*Product*: The six statements that load on the first factor clearly suggest the features related to the product like product variety, quality and description. These include "Internet shopping provides more variety of products", "I would be more likely to shop online if more extensive descriptions of items were included", "Online shopping provides a better quality product". The Cronbach reliability coefficient for the Product component was 0.90 and the factor explained 32% of the variance.

*Risk*: The five statements that load on the second factor suggest a "Risk" component. The component includes statements that clearly reflect a risk theme (i.e. "I am willing to give my personal information when shopping on the Internet", "Online shopping is safe for credit / debit card use." and "I am not concerned about possible interception of financial information by an unidentified third party"). The



Cronbach reliability coefficient for the Risk component was 0.91 and the factor explained 9.5% of the variance.

*Convenience:* Four statements loaded on the “convenience component” include “Shopping through the internet makes ordering items convenient” and “I shop online because I can reduce my efforts in traveling, walking, parking, waiting etc”. The convenience component had a Cronbach reliability coefficient of 0.86 and the factor explained 8% of the variance.

*Trust:* There were four statements that loaded on the “Trust component”. These included “I trust the online retailers privacy policies mentioned on their Web sites” and “When the online retailers are well known, I am not worried about their reliability” reflecting a theme of Trust. The Cronbach reliability coefficient for the reputation with Trust component was 0.84 and the factor explained 6% of the variance.

*Social influence:* The three statements that load on the fifth factor reflect the “Social Influence” theme. These include “The opinions and experiences of my friends affect my purchasing decision”, “The opinions and experiences of my family affect my purchasing decision” and “The opinions and experiences discussed in online forums affect my purchasing decision”. The Cronbach reliability coefficient for the Social Influence component was 0.83 and the factor explained 5.3% of the variance.

*Satisfaction:* The three statements that load on the sixth factor suggest a “Satisfaction” component. The component includes statements that clearly reflect a satisfaction theme (i.e. “When shopping on the Internet, I am satisfied with the delivery system and “I am satisfied with the return policy of Internet shopping.”). The Cronbach reliability coefficient for the Satisfaction component was 0.80 and the factor explained 3.8% of the variance.

*Price:* Two statements loaded on the “Price component” include “Shopping online permits me to buy an item at a relatively lower price” and “Online shopping helps me in saving money”. The Price component had a Cronbach reliability coefficient of 0.85 and the factor explained 3.7% of the variance.

*Customer services:* There were two statements that loaded on the “Customer Services component”. These include “I would be more likely to shop online if product returns were easier” and “I would be more likely to shop online if faster delivery was ensured.” reflecting the theme of Customer Services. The Cronbach reliability coefficient for the reputation with Customer Services component was 0.87 and the factor explained 3% of the variance.



Shopping through the internet makes ordering items convenient	0.837	
I shop online because I can reduce my efforts in traveling, walking, parking, waiting etc.	0.808	
I would be more likely to shop on the Internet if the Web site was easy to use.	0.677	
I like to shop on the Internet because it is easy to compare many products.	0.674	
When the online retailers are well known, I am not worried about their reliability.	0.860	
When shopping on the Internet, the store's reputation does not concern me.	0.810	
I trust the online retailers privacy policies mentioned on their Web sites.	0.760	
I do not want to see and touch the products before I buy them.	0.590	
The opinions and experiences of my friends affect my purchasing decision.	0.867	
The opinions and experiences of my family affect my purchasing decision.	0.855	
The opinions and experiences discussed in online forums affect my purchasing decision	0.694	
When shopping on the Internet, I am satisfied with the delivery system.		0.761
I am satisfied with the return policy of Internet shopping.		0.755
I get better service when shopping on the Internet than traditional retail store.		0.753
Shopping online permits me to buy an item at a relatively lower price.		0.802

Online shopping helps me in saving money.  
 I would be more likely to shop online if product returns were easier.  
 I would be more likely to shop online if faster delivery was ensured.  
 I usually watch online advertisements for discounts and sales deals.  
 Marketing initiatives or promotions such as banner advertisement, sales, or free gifts allow me to access great deals on the Internet.  
 Online shopping is a part of my leisure time activity.  
 I enjoy shopping on the Internet.

0.799

0.792

0.661

0.759

0.715

0.853

0.620

*Promotions:* The two statements that load on the ninth factor clearly advocate the factors related to promotions like deals etc. These include “I usually watch online advertisements for discounts and sales deals” and “Marketing initiatives or promotions such as banner advertisement, sales, or free gifts allow me to access great deals on the Internet”. The Cronbach reliability coefficient for the Promotion component was 0.81 and the factor explained 2.6% of the variance.

*Enjoyment:* The two statements that load on the tenth factor imply an “Enjoyment” component. The component includes statements that clearly reflect a leisure and enjoyment theme (i.e. “Online shopping is a part of my leisure time activity” and “I enjoy shopping on the Internet.”). The Cronbach reliability coefficient for the Enjoyment component was 0.82 and the factor explained 2.5% of the variance.

### ***Multiple Regression: Demographics and OSF***

The six suppositions for regression analysis have to be dealt with before moving to regression analysis. Fields (2005) describes the assumptions as follows:

- Normality
- Linearity
- Independence of error term
- Nonexistence of multicollinearity
- Nonappearance of heteroscedasticity and
- Absence of outlier and influential observations

The histogram resulted in the symmetric distribution of residuals and a unimodal distribution of values satisfying the normality postulation. The scatter plot showed no heteroscedasticity and the distribution was linear in nature.

The value of Durbin-Watson was 1.4 which was relatively nearer to 2, showing the independence of error term. There was no multicollinearity in the data, as the tolerance statistics were all above 0.2 and VIF values below 5. A value of 10 has been suggested as the highest level of Variance inflation factors (VIF) (Marquardt, 1970; Neter, Wasserman, & Kutner, 1989; Kennedy, 1992; Hair et al., 1995) and a value of .10 is suggested as the lowest level of tolerance (Tabachnick, Fidell, & Osterlind, 2001). The normal p-p plot analysis showed a consistent spread around the normal probability plot of a straight line when mapped against the predicted values and hence confirmed the absence of outlier and any prominent observations.

Multiple linear regression was conducted to determine the structure of association between the independent variables namely Product, Risk, Convenience, Trust, Social Influence, Satisfaction, Price, Customer Services, Promotions and Enjoyment and the

impact of demographic variables like Age, Income and Education on the dependent variable OSF.

*Age:* For the age group of below 30 years, Product, Convenience, Social Influence, Promotions and Enjoyment have a significant impact on the OSF. The consumers in this category are influenced significantly by the Product and Enjoyment factor as the p-value is less than 0.05. In contrast, consumers from the above 30 years categories are persuaded only by factors like Social Influence, Satisfaction and Customer Services. Respondents below 30 years are more influenced by the Enjoyment factors like leisure and pleasure whereas respondents belonging to above 30 years category are significantly affected by Customer Services such as easy product returns and faster delivery services. See Table 3.

#### *Regression equations*

If all Age groups are considered

$$OSF = 1.690 + 0.095 (\text{Product}) + 0.010 (\text{Risk}) + 0.066 (\text{Convenience}) + 0.026 (\text{Trust}) - 0.136 (\text{Social Influence}) + 0.002 (\text{Satisfaction}) + 0.012 (\text{Price}) + 0.064 (\text{Customer Services}) + 0.077 (\text{Promotions}) + 0.104 (\text{Enjoyment})$$

For Age below 30 years

$$OSF = 1.644 + 0.122 (\text{Product}) + 0.029 (\text{Risk}) + 0.108 (\text{Convenience}) + 0.024 (\text{Trust}) - 0.092 (\text{Social Influence}) - 0.021 (\text{Satisfaction}) + 0.012 (\text{Price}) + 0.028 (\text{Customer Services}) + 0.115 (\text{Promotions}) + 0.128 (\text{Enjoyment})$$

For Age above 30 years

$$OSF = 2.014 - 0.030 (\text{Product}) + 0.082 (\text{Risk}) + 0.060 (\text{Convenience}) + 0.067 (\text{Trust}) - 0.178 (\text{Social Influence}) + 0.277 (\text{Satisfaction}) - 0.078 (\text{Price}) + 0.306 (\text{Customer Services}) + 0.024 (\text{Promotions}) + 0.021 (\text{Enjoyment})$$

**Table 3.** Results of multiple linear regression analysis with Age as controlling variable

Model Summary									
All Ages				Below 30 years		Above 30 years			
R	R Square	Adjusted R Square	Std. Error of the Estimate	R	Adjusted R Square	Std. Error of the Estimate	R	Adjusted R Square	Std. Error of the Estimate
.312 <sup>a</sup>	0.097	0.087	0.709	.361 <sup>a</sup>	.130	.118	.513 <sup>a</sup>	.263	.741

a. Predictors: (Constant), Enjoyment, Promotions, Services, Price, Satisfaction, Social, Trust, Convenience, Risk, Product

ANOVA <sup>a</sup>															
Model	All Ages					Below 30 years					Above 30 years				
	Sum of Squares	df	Mean Square	F	Sig.	Sum of Squares	df	Mean Square	F	Sig.	Sum of Squares	df	Mean Square	F	Sig.
Regression	48.688	10	4.869	9.677	0.000 <sup>b</sup>	49.903	10	4.990	10.995	0.000 <sup>b</sup>	29.618	10	2.962	5.396	0.000 <sup>b</sup>
Residual	451.827	898	0.503			334.049	736	0.454			82.882	151	0.549		
Total	500.515	908				383.952	746				112.500	161			

a. Dependent Variable: How often do you go shopping online?

b. Predictors: (Constant), Enjoyment, Promotions, Services, Price, Satisfaction, Social, Trust, Convenience, Risk, Product

Factors	All Ages										Below 30 years										Above 30 years									
	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Unstandardized Coefficients		Standardized Coefficients		t	Sig.												
	B	Std. Error	Beta	B			Std. Error	Beta	B	Std. Error			Beta																	
(Constant)	1.69	0.024			71.823	0.000	1.644	.025			65.443	0.000	2.014	.077			25.987	0.000												
Product	0.095	0.024	0.128		4.028	0.000	.122	.024			5.045	0.000	-.030	.075			-.402	0.688												
Risk	0.01	0.024	0.013		0.413	0.680	.029	.025			1.179	0.239	.082	.069			1.183	0.239												
Convenience	0.066	0.024	0.088		2.785	0.005	.108	.026			4.196	0.000	.060	.059			1.016	0.311												
Trust	0.026	0.024	0.035		1.092	0.275	.024	.025			0.958	0.338	.067	.062			1.074	0.284												
Social Influence	-0.136	0.024	-0.183		-5.773	0.000	-.092	.026			-3.470	0.001	-.178	.055			-3.211	0.002												
Satisfaction	0.002	0.024	0.003		0.105	0.916	-.021	.025			-.845	0.398	.277	.065			4.255	0.000												
Price	0.012	0.024	0.016		0.52	0.603	.012	.025			0.488	0.625	-.078	.070			-1.110	0.269												
Customer Services	0.064	0.024	0.086		2.726	0.007	.028	.025			1.105	0.269	.306	.062			4.905	0.000												
Promotions	0.077	0.024	0.104		3.289	0.001	.115	.024			4.735	0.000	.024	.068			0.354	0.724												
Enjoyment	0.104	0.024	0.14		4.423	0.000	.128	.026			5.007	0.000	.021	.056			0.380	0.705												

Dependent Variable: How often do you go shopping online?



*Income:* Female customers with an income below Rs. 30,000 are influenced by factors such as Product, Risk, Convenience, Trust, Social Influence, Satisfaction, Promotions and Enjoyment. These factors have a significant impact on their OSF. In comparison, women consumers in the above Rs. 30,000 income level are influenced only by Satisfaction and Customer Services. For women consumers at lower income levels, social influence acts as a significant factor to opt for shopping online. Social Influence from family, friends and online discussion forums has a negative effect on female consumers. Female consumers in the higher income group are more concerned with the kind of services provided by online vendors and that determines their OSF. See Table 4

### *Regression equations*

If all Income groups are considered

$$OSF = 1.690 + 0.095 (\text{Product}) + 0.010 (\text{Risk}) + 0.066 (\text{Convenience}) + 0.026 (\text{Trust}) - 0.136 (\text{Social Influence}) + 0.002 (\text{Satisfaction}) + 0.012 (\text{Price}) + 0.064 (\text{Customer Services}) + 0.077 (\text{Promotions}) + 0.104 (\text{Enjoyment})$$

For Income below Rs. 30,000

$$OSF = 1.611 + 0.098 (\text{Product}) + 0.064 (\text{Risk}) + 0.107 (\text{Convenience}) + 0.085 (\text{Trust}) - 0.138 (\text{Social Influence}) - 0.059 (\text{Satisfaction}) + 0.015 (\text{Price}) + 0.025 (\text{Customer Services}) + 0.088 (\text{Promotions}) + 0.12 (\text{Enjoyment})$$

For Income above Rs. 30,000

$$OSF = 2.008 + 0.004 (\text{Product}) + 0.008 (\text{Risk}) + 0.013 (\text{Convenience}) - 0.031 (\text{Trust}) - 0.096 (\text{Social Influence}) + 0.282 (\text{Satisfaction}) - 0.047 (\text{Price}) + 0.304 (\text{Customer Services}) + 0.091 (\text{Promotions}) + 0.082 (\text{Enjoyment})$$

**Table 4.** Results of multiple linear regression analysis with Income as controlling variable

Model Summary										
All income levels					Above Rs. 30,000					
R	R Square	Adjusted R Square	Std. Error of the Estimate	R	R Square	Adjusted R Square	Std. Error of the Estimate	R	Adjusted R Square	
.312 <sup>a</sup>	0.097	0.087	0.709	.409 <sup>a</sup>	.168	.155	.625	.466 <sup>a</sup>	.217	.180
										.797

a. Predictors: (Constant), Enjoyment, Promotions, Services, Price, Satisfaction, Social, Trust, Convenience, Risk, Product

ANOVA <sup>a</sup>																		
Model	All income levels						Below Rs. 30,000						Above Rs. 30,000					
	Sum of Squares	df	Mean Square	F	Sig.	Sum of Squares	df	Mean Square	F	Sig.	Sum of Squares	df	Mean Square	F	Sig.			
Regression	48.688	10	4.869	9.677	0.000 <sup>b</sup>	52.952	10	5.295	13.551	0.000 <sup>b</sup>	37.713	10	3.771	5.932	0.000 <sup>b</sup>			
Residual	451.827	898	0.503			262.982	673	0.391			136.047	214	0.636					
Total	500.515	908				315.934	683				173.760	224						

a. Dependent Variable: How often do you go shopping online?

b. Predictors: (Constant), Enjoyment, Promotions, Services, Price, Satisfaction, Social, Trust, Convenience, Risk, Product

Factors	All income levels						Below Rs. 30,000						Above Rs. 30,000					
	Unstandardized Coefficients		Standardized Coefficients	t		Sig.	Unstandardized Coefficients		Standardized Coefficients	t		Sig.	Unstandardized Coefficients		Standardized Coefficients	t		Sig.
	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta
(Constant)	1.69	0.024		71.823	0.000		1.611	.025		64.908	0.000		2.008	.068		29.474	0.000	
Product	0.095	0.024	0.128	4.028	0.000	.098	.024	.150	4.159	0.000	.064	.068	.004	.068	.004	.064	0.949	
Risk	0.01	0.024	0.013	0.413	0.680	.064	.024	.094	2.648	0.008	.008	.060	.008	.060	.008	0.127	0.899	
Convenience	0.066	0.024	0.088	2.785	0.005	.107	.025	.153	4.290	0.000	.013	.053	.013	.053	.016	0.245	0.807	
Trust	0.026	0.024	0.035	1.092	0.275	.085	.025	.120	3.368	0.001	-.031	.054	-.031	.054	-.037	-0.567	0.572	
Social Influence	-0.136	0.024	-0.183	-5.773	0.000	-.138	.027	-.187	-5.142	0.000	-.096	.051	-.096	.051	-.125	-1.881	0.061	
Satisfaction	0.002	0.024	0.003	0.105	0.916	-.059	.025	-.086	-2.398	0.017	.282	.058	.282	.058	.320	4.871	0.000	
Price	0.012	0.024	0.016	0.52	0.603	.015	.024	.022	0.622	0.534	-.047	.061	-.047	.061	-.053	-0.773	0.440	
Customer Services	0.064	0.024	0.086	2.726	0.007	.025	.024	.037	1.043	0.297	.304	.056	.304	.056	.334	5.429	0.000	
Promotions	0.077	0.024	0.104	3.289	0.001	.088	.024	.131	3.704	0.000	.091	.056	.091	.056	.102	1.626	0.105	
Enjoyment	0.104	0.024	0.14	4.423	0.000	.120	.025	.171	4.764	0.000	.082	.054	.082	.054	.098	1.534	0.126	

Dependent Variable: How often do you go shopping online?

*Education:* Female consumers with an education level of graduation and below are significantly impacted by factors like Product, Promotions and Enjoyment. Women consumers in this category are highly influenced by Product and Enjoyment factors. These consumers are also on the lookout for promotional offers like deals and discounts and hence Promotions as a factor becomes significant. In contrast, female consumers with an education level of Post-Graduation and above are influenced by Product, Convenience, Social Influence, Customer Services, Promotions and Enjoyment. Social Influence and Customer services act as major influencers towards their OSF. Social Influence has a negative impact on their OSF. This indicates that women consumers at this level are more concerned about the feedback received from friends, family etc. and are guided by their opinions. See Table 5.

#### *Regression equations*

If all Education levels are considered

$$OSF = 1.690 + 0.095 (\text{Product}) + 0.010 (\text{Risk}) + 0.066 (\text{Convenience}) + 0.026 (\text{Trust}) - 0.136 (\text{Social Influence}) + 0.002 (\text{Satisfaction}) + 0.012 (\text{Price}) + 0.064 (\text{Customer Services}) + 0.077 (\text{Promotions}) + 0.104 (\text{Enjoyment})$$

For Education level Graduation and below

$$OSF = 1.713 + 0.158 (\text{Product}) - 0.086 (\text{Risk}) - 0.055 (\text{Convenience}) - 0.043 (\text{Trust}) + 0.039 (\text{Social Influence}) + 0.053 (\text{Satisfaction}) - 0.001 (\text{Price}) - 0.074 (\text{Customer Services}) + 0.129 (\text{Promotions}) + 0.151 (\text{Enjoyment})$$

For Education level Post-Graduation and above

$$OSF = 1.706 + 0.089 (\text{Product}) + 0.039 (\text{Risk}) + 0.099 (\text{Convenience}) + 0.031 (\text{Trust}) - 0.210 (\text{Social Influence}) + 0.014 (\text{Satisfaction}) + 0.015 (\text{Price}) + 0.129 (\text{Customer Services}) + 0.067 (\text{Promotions}) + 0.098 (\text{Enjoyment})$$



## Discussion and implications

### *Identification of Components*

Female consumers in India are influenced by numerous factors while shopping online. The analysis of the 33 items comprising the different facets of online shopping in this study suggests that female consumers are impacted by 10 unique components which have a considerable effect on their online buying behavior. These are: Product, Risk, Convenience, Trust, Social Influence, Satisfaction, Price, Promotions and Enjoyment. All the ten components have their own unique characteristics associated with the online shopping industry in India.

According to the study, *Convenience* acts as a major influencing factor to shop online. A factor loading of 0.987 suggests that the consumers tend to shop more on the internet because of the convenience of ordering the product from home thus reducing the effort of travelling and standing in queues; easy use of websites and the opportunity to compare many products at one place. This finding is similar to the previous research done by (Kunz, 1997; Taylor & Cosenza, 1999; Wolhandler, 1999) who also believed that it was comfort and ease that motivated the people to go online shopping. With a factor loading of 0.985, *Customer Services* emerges as the next significant factor. Schneider and Bowen (1999) also confirm in their study that as there is no direct contact between the consumer and the retailer, good customer services act as a crucial factor in the success of internet shopping. The study also reveals that *Enjoyment*, with a factor loading of 0.983, operates as the third most important component in predicting female consumers' attitude towards online shopping. This is comparable to the research done by Menon and Kahn (2002) who also believed that consumers who relish their online buying activities have a positive approach towards it, and are expected to shop again. Online advertisements offering discounts and sales deals as well as marketing initiatives related to giving away of free gifts etc. considerably affect female consumers' buying frequency hence *Promotions* have a positive effect. This is similar to the study done by Walters and Jamil (2003) who also considered product promotion as a factor influencing buying behavior. *Satisfaction*, with a factor loading of 0.982 suggests that consumers consistently look for a timely and undamaged product delivery system and, in case of product replacement, a hassle free product return process and finally, the overall service satisfaction provided by online stores. Collier and Bienstock (2006) also mention in their study that receiving the exact product at the stipulated time and at an agreed upon condition influences the degree of satisfaction of the customers and the frequency to shop online increases when a customer is satisfied. *Trust* has a factor loading of 0.970 and consumers are influenced by the credibility of online vendors, their online reputation, and the privacy policies mentioned on their websites and how much they trust the products sold by them. **Hume (2008)** also suggests that deficiency of trust in consumers can decrease the possibility of online

shopping as they will be apprehensive of buying from a vendor who is not trustworthy. Hence, lack of trust might decrease the frequency to shop online. A striking finding of the study is that *Social Influence* has a negative impact on predicting online female buying behavior. This component has a factor loading of 0.969 and the finding is similar to earlier research done by Qiu, Pang, and Lim (2012), who believed that negative online reviews are often assumed to have a strong influence on a buyer's behavior as compared to positive ones. Female consumers generally hop onto online shopping as they believe that they can purchase any product at a relatively low price as compared to a brick and mortar store. With a factor loading of 0.968, *Price* has a significant impact on OSF. Koyuncu and Bhattacharya (2004) also revealed in their research that the reason consumers prefer to buy more from online stores is that they offer better prices. The second last significant factor that influences female consumers to shop more online is the *Product* component which has a loading of 0.964. Female consumers are influenced by the variety of products available online, accurate product description, reasonably good quality of the product, and the prospect of comparing different types of products at one place. It acts as a significant factor in affecting OSF. A similar study conducted by Wambui (2010) among university students evaluated the factors leading to adoption or non-adoption of online shopping as an alternative channel for shopping and one of the major reasons for adopting online shopping was its ability to provide a wide variety of products at one place. And last but not the least; risk involved in online shopping also acts as an important component for female consumers. The study observed that the *Risk* component, with a factor loading of 0.948, has a significant influence on OSF. Consumers tend to check whether the personal information being shared is not misused, that details of credit and debit cards are not compromised by online vendors, and the financial security methods followed by the vendors are fool proof and there will not be any interception of financial details by an unknown third party. Fram and Grady (1997) also felt that the details of personal information a consumer submits regarding credit card etc. may create doubts that there may be a leakage of data which may possibly lead to fraudulent payment.

### ***Demographics and OSF***

#### *Age*

Age plays an important part in online shopping. The preferences of younger female consumers are different from older consumers. The findings of this study suggest that people of different age groups behave differently when encountering different factors affecting online shopping. See Table 6. A large number of consumers below the age group of 30 years are regular online shoppers. They are more comfortable using the latest technology and are greater risk takers. They look for different promotional and discount offers and enjoy the time spent on the internet. Girard, Korgaonkar, and Silverblatt (2003) also mentioned in their study that demographic variables like age, income, gender etc.

have an important relationship with a customer's preference to shop online. Wood (2002) in a similar study also evaluated that the influence of age is visible for those below 25 years, as they are more fascinated by the latest equipment and technology, such as the Internet, to look for new products and information, and identify the best options, as compared to older age group customers.

**Table 6.** Influence of Age

Factors	Age	
	Below 30 years	Above 30 years
Product	Positive Effect	No Effect
Convenience	Positive Effect	No Effect
Social Influence	Negative Effect	Negative Effect
Satisfaction	No Effect	Positive Effect
Customer Services	No Effect	Positive Effect
Promotions	Positive Effect	No Effect
Enjoyment	Positive Effect	No Effect

### *Income*

The income of an individual has a significant impact on online buying behavior. The results of the study suggest that consumers who come from an income level of below Rs. 30,000 are more concerned about the product. See Table 7. They look for different varieties of product and the ease with which the products can be compared online. There is a perception that a lower income discourages online transactions, and consumers tend to be a little cautious while sharing any personal information on the internet and anticipate that shopping online might lead to a possible financial loss. But the study reveals that these consumers do have a positive outlook towards buying online. In comparison, consumers at a higher income level tend to focus more on satisfaction and customer services. They look for satisfaction related to delivery or how easily a product can be returned. Higher income also makes consumers perceive online shopping as a lower risk proposition. Customers earning less than Rs. 30,000 believe that there is a negative influence from family and friends to go online and shop but they do get influenced by deals and discounts offered by online retailers which makes shopping online an enjoyable experience.

**Table 7.** Influence of Income

Factors	Income
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	<b>Below Rs. 30000</b>	<b>Above Rs. 30000</b>
Product	Positive Effect	No Effect
Risk	Positive Effect	No Effect
Convenience	Positive Effect	No Effect
Trust	Positive Effect	No Effect
Social Influence	Negative Effect	No Effect
Satisfaction	Negative Effect	Positive Effect
Customer Services	No Effect	Positive Effect
Promotions	Positive Effect	No Effect
Enjoyment	Positive Effect	No Effect

### *Education*

The study reveals that education significantly affects the online shopping and spending intention of female consumers. The behavior of a consumer changes with the change in the education level. The study reveals that consumers at the level of post-graduation and above are significantly influenced by others. They are guided by the opinions of family, friends and colleagues. Also for these consumers, convenience comes first and they give priority to comfort and ease of ordering online which makes online shopping a pleasurable experience. See Table 8. In contrast, female consumers at the undergraduate levels are not influenced by others' opinions. They are in fact well versed with the product offerings and have the requisite information to decide whether to buy a particular product or not.

**Table 8.** Influence of Education

<b>Factors</b>	<b>Education</b>	
	<b>Graduates and below</b>	<b>Post Graduates and above</b>
Product	Positive Effect	Positive Effect
Convenience	No Effect	Positive Effect
Social Influence	No Effect	Negative Effect
Customer Services	No Effect	Positive Effect
Promotions	Positive Effect	Positive Effect
Enjoyment	Positive Effect	Positive Effect

The objective of this study has been to demonstrate that demographic variables like age, education and income have a significant effect in the explanation of the behavior of online female shoppers. These variables, combined with the factors influencing online

shopping, help to identify the OSF of female consumers. The results obtained have affirmed that the demographic variables along with the 10 factors identified, influence the behavior of female consumers and in turn affect the shopping frequency.

### Limitations and Future Research

There are some limitations to the current study. First, the sample is India-focused, with 100 per cent of the respondents residing in India. The respondents in this study may have traits and behaviors that vary from those in other parts of the world. Future research can incorporate comparative studies. Comparisons between emerging economies such as India and developed economies such as the USA, China etc. will reveal some noticeable disparity among female consumers in the domestic markets as well as foreign markets (Gehrt et al., 2007). In addition, the sample is skewed to a particular age group with 82% of the respondents being less than 30 years old. This may have accounted for the relatively low income levels of the respondents. In this study, we identified ten factors affecting female consumers' online shopping behavior but there may be other factors as well. Future studies can examine the respondents who are older and have higher income levels and who might be more likely to make a big ticket transaction online than younger consumers.

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