Impulse Buying Tendency: An Analysis of Relationship with Selected Personality Variables

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Abstract

In the present times, shopping has changed from being a mere task to a source of enjoyment. This has been enabled by the huge spurt of new formats of organized retail. These retail spaces offer not only the customers’ needs but also serve as a complete family pleasure trip. The mushrooming of new malls/retail spaces across the country has intensified the competition in the Indian retail sector, so, retailers are employing innovative marketing strategies to lure customers. One such strategy is to promote impulse buying among customers. Retailers are attempting to encourage customers to not only buy products that they had originally planned to buy, but also to make spontaneous, unplanned purchases. Easy credit availability through credit cards/loans has also contributed immensely in nudging the customers towards higher levels of purchase/consumption. The enigma however remains that not all customers tend to buy impulsively. Understanding the customer, therefore, has become imperative for the retailers. The present study has been undertaken to ascertain whether customers’ personality and their impulse buying tendency are related to each other. The constructs related to personality namely agreeableness, extraversion, attractiveness, negative valence, emotional stability, conscientiousness, and intellect have been included in the study as factors influencing consumer impulse buying tendency. Data was obtained from 724 Indian consumers using a non-probability snowball sampling technique. The data so collected was analysed using canonical correlation analysis technique which revealed the existence of a significant relationship of the personality factors under study with the customers’ overall impulse buying tendency. However, the effect size linked to this relationship is modest. The research also offers a discussion about implications of the findings for marketers/retailers.

Keywords: Consumer Behaviour, Marketing Strategy, Personality, Impulse Buying, Negative Valence

JEL classification: M31

Paper classification: Research paper

Introduction

With the rise in disposable income, improvement of living standards and expansion of organized and online retail in India, consumer habits have also changed. Nowadays, people shop not only to fulfil their basic needs but also for enjoyment and this has transformed India into a consumption economy. Through shopping, in addition to utility, customers expect to find a means of self-expression too, and this is substantiated by a number of research studies that have linked...
hedonic motivations to product purchase and product usage experience. (Hirschman & Holbrook, 1982; Dhar & Wertenbroch, 2000; Gültekin & Özer, 2012).

Thus, customers face conflicts between functional goals and experiential preferences when they enter the store and once they are enticed by or attracted towards the merchandise available, it results in impulsive, time-inconsistent choices at the expense of delayed benefits. However, not all customers are tempted to buy impulsively. Two individuals of same age and gender, having same ethnic background, same social class, similar family incomes and resource availability can react differently when exposed to the same in-store stimuli. This hedonic response to stimuli leads us to wonder whether individual differences might be the source of such interpersonal variation in consumer behaviour. This curiosity has led consumer behaviour theorists and marketers to assess customers’ personality as an important variable that influences purchase decisions.

Research conducted by Bellenger, Robertson, and Hirschman (1978) suggested that a substantial percentage (between 27 and 62 percent) of goods purchased by consumers from department stores are bought on impulse. This makes impulse buying a major research concern for marketers but even after decades of research its mysteries have not yet been completely unravelled.

Given the growing importance of impulse buying in today’s retail environment, it is necessary for retailers/ marketers to understand what drives such purchases. Even though there has been a plethora of researchers who have tried to delve into the factors that influence impulse buying, consumer characteristics such as personality have not received the research attention they deserve. Therefore, this paper seeks to provide empirical evidence for the relationship that is believed to exist among consumer’s personality traits and their impulse buying tendency. The study is aimed at acquiring a better understanding as to how consumers’ personality traits affect their impulse purchases. This will help marketers/retailers in formulating more appropriate marketing strategies to drive consumers towards additional impulse purchases.

Literature Review

Personality The word “personality” has Latin roots and comes from the word “persona” which was used to refer to “a theatrical mask” (Khatibi & Khormaei, 2016). Allport (1937), a leading psychologist, defined personality as “the dynamic organization within the individual of those psychophysical systems that determine his unique adjustments to his environment” (p. 48). Weinberg and Gould (2014) viewed personality as “the characteristics - or blend of characteristics - that make a person unique” (p. 27). Schultz and Schultz (2009) described personality as “the unique, relatively enduring internal and external aspects of a person’s character that influence behaviour in different situations.” (p. 10). The American Psychological Association website uses a definition adapted from the ‘Encyclopaedia of Psychology’ and “refers to personality as individual differences in characteristic patterns of thinking, feeling, and behaving.” (Kazdin, 2000). The similarity in the above quoted definitions is that they all refer to personality as the unique characteristics/ traits of a person.

Khatibi and Khormaei (2016) highlight that there exist two broad focus areas of personality research. One aim of personality research is to study how the differences among individuals can be understood in terms of their personality characteristics. Another focus area pertains to understanding how each person’s unique personality characteristics combine together to make a whole. Thus, one emphasis of personality researchers is to understand how certain characteristics of individuals can be combined into broader traits and how these traits can be used to predict the manner in which they are likely to behave in the future. The other interest area of personality
research is to understand the interaction and interplay among these traits that make a person unique. In consumer behaviour too, the concept of personality has received widespread research attention (Kassarjian, 1971; Crosby & Grossbart, 1984; Montgomery, 2008; Schiffman & Kanuk, 2010; Sarker, Bose, Palit & Haque, 2013; Udo-Imeh, Awara & Essien, 2015). Kassarjian (1971) found that an individual's personality could be linked to their purchasing behaviour, product choice, social influence, opinion leadership, media choice, innovation, risk taking, and many other such outcomes.

McLeod (2014) states that there are various theories of personality that attempt to understand the factors that help shape an individual’s personality. Trait theories of personality imply that personality has a genetic/biological basis. On the other hand, state theories of personality, for instance, the Social Learning Theory put forth by Bandura (1977), underline that the environment has a key role in the development of personality. Freud (in various writings between 1890s to 1930s) lay the foundation for the Psychodynamic theory of personality in the early 20th century which combines both these views and assumes that personality is dynamic in nature and personality is developed as a result of an interplay among the innate instincts and early childhood influences such as relationships and interpersonal experiences (as cited by McLeod, 2007).

Measurement of Personality

Trait theories assume an individual’s traits/ predispositions to be the fundamental unit of their personality and this forms the basis of an important tool for measuring personality using psychometric tests. These psychometric tests are usually self-reports of respondents used by them to describe themselves and thus, provide insights to the researcher about their personality traits. There exists a baffling assortment of self-report personality tests and it is indeed bewildering for the researchers who are trying to understand which of these scales is best suited for their study.

Among these scales, the Big Five or the five-factor model of personality is considered to be among the most robust and commonly used taxonomies of personality traits as it is considered comprehensive and provides a reliable means of measurement that has been tested on various types of samples (John, Goldberg & Angleitner, 1984). The Big Five factors include Extraversion, Neuroticism, Agreeableness, Openness to Experience, and Conscientiousness. In order to understand these factors, Popkins (1998) collated their definitions as under:

- Extraversion is defined as “a trait characterized by a keen interest in other people and external events, and venturing forth with confidence into the unknown” (Ewen, 1998, p. 289).
- Neuroticism is “a dimension of personality defined by stability and low anxiety at one end as opposed to instability and high anxiety at the other end.” (Pervin, 1989, p. G-7).
- Placed on sliding scales, agreeableness is “a dimension of personality defined by being trusting and helpful on one end versus being suspicious and uncooperative on the other end.” (Ewen, 1998, p. 140).
- Conscientiousness on a sliding scale refers to being “hard working and reliable on one end versus being lazy and careless on the other” (Ewen, 1998, p. 140).
- Openness refers to being “nonconformist and creative versus being conventional and down-to-earth” (Ewen, 1998, p. 140).

These five dimensions represent an integration of various person descriptors into five broad personality traits, and thus each dimension can be considered to be a summary of a variety of different, more specific personality characteristics. (John & Srivastava, 1999).
Saucier (1997) reviewed the work of various personality researchers and suggested that a larger selection of person descriptors would lead to more factors in addition to the Big Five. He, thus, expanded the Big Five Taxonomy, adding two new factors to it. While the factors of Extraversion, Agreeableness, and Conscientiousness were found to be robust and were retained, two factors were renamed as emotional stability and intellect (roughly corresponding to the factors neuroticism and openness). The sixth factor to be added to the taxonomy was “Attractiveness, comprising not only perceived physical attractiveness, but also other features that might make one attractive; such social evaluation adjectives as glamorous, charming, graceful, seductive, delightful, fascinating, and terrific” (p. 1307). Lastly, a seventh factor was also identified by Saucier (1997) and he found that this factor closely resembled the Negative Valence factor (as earlier proposed by Benet and Waller (1995) and Almagor, Tellegen & Waller (1995)) and it “included the most potentially insulting labels in the stimulus set (e.g., insane, corrupt, evil disgusting, stupid, good-for-nothing)” (p. 1308).

Goldberg et al. (2006) state that as an option to the commercial, copyrighted personality inventories, the free public-domain scales available on the International Personality Item Pool (IPIP) website (since 1996) offer items and scales for free use by researchers. The expanded taxonomy suggested by Saucier (1997) (as available on the IPIP website) was used for personality assessment of respondents participating in the present study.

Impulse Buying

Despite decades of research, Impulsive buying behaviour continues to be an enigma for consumer behaviour theorists and researchers continue to unravel the various mysteries surrounding it, and attempt to present conceptual models that explain such excessive buying.

The initial research works pertaining to the study of impulse buying dealt mostly with defining and operationalizing impulse buying and examining how prone various product categories were to be bought by customers on impulse (Rook, 1987). Rook and Hoch (1985) proposed that the product orientation for study of impulse buying was inadequate as it ignored the psychological processes involved in consumer impulse buying incidents. The researchers identified five key elements of an impulse buying episode proposing a broader definition of impulse buying to include these elements, namely:

“1) a sudden and spontaneous desire to act; 2) a state of psychological disequilibrium; 3) the onset of psychological conflict and struggle; 4) a reduction in cognitive evaluation; 5) lack of regard for the consequences of impulse buying.” (Rook & Hoch, 1985, p. 23)

Another oft-quoted comprehensive definition was given by Piron (1991) who states that:

“Impulse purchasing is a purchase that is unplanned, the result of an exposure to a stimulus, and decided on-the-spot. After the purchase, the customer experiences emotional and/or cognitive reactions” (Piron, 1991, p. 512)

Thereafter, the key focus area of research on impulse buying shifted to identification and classification of various factors which encouraged impulse buying. These antecedents could broadly be categorised into individual characteristics (mood states, personality traits etc.) that make them predisposed to engage in impulse buying; product characteristics (packaging, price, product type etc.) that make some products more prone than other products to be bought on impulse; and external environmental influences (background music, time available, spending power etc.) (Weinberg & Gottwald, 1982; Rook & Gardner, 1993; Dittmar, Beattie, & Friese, 1996;
Various researchers have attempted to present models to explain impulse buying behaviour. Beatty & Ferrell, 1998; Hausman, 2000; Verplanken & Herabadi, 2001; Coley, 2002; Karbasivar & Yarahmadi, 2011).

Puri (1996) built on the hedonic framework proposed by Rook and Hoch (1985) and proposed a two factor cognitive framework to develop a cognitive explanation of consumer impulsiveness. Beatty and Ferrell (1998) proposed a model of important precursors of impulse buying comprising situational factors (namely, time available and money available) and consumer differences (namely, shopping enjoyment and impulse buying tendency) which influenced endogenous variables, such as browsing activity, positive affect towards the purchase, negative affect, and the urge felt by the consumer to buy impulsively, thereby determining whether the impulse purchase takes place. Dholakia (2000) studied the psychological processes surrounding impulse buying and described the influence of rational and volitional psychological mechanisms in whether the consumption urge formed was enacted or dissipated. The researcher proposed a framework known as “Consumption Impulse Formation and Enactment (CIFE)” which touched upon the psychological mechanisms and factors that lead to the initiation and the subsequent enactment/dissipation of consumer impulses. Lee and Yi (2008) pointed out the gap in our comprehension of the dynamic nature of impulse purchasing and highlighted the need to develop an integrated model that simultaneously takes into account the numerous factors (including cognitive factors that had hitherto been ignored) that impact impulse buying behaviour. Cognitive factors, affective factors and individual factors affecting impulse buying were integrated into the model that was put forth by the researchers.

Another focus area of impulse buying research focussed on developing and validating scales to measure impulse buying. To measure a consumer’s impulse buying tendency, Rook and Fisher (1995) built a nine item assessment scale called the “Buying Impulsiveness Scale” which was found to have a strong correlation with impulse buying behaviour. Puri (1996) developed and validated the “Consumer Impulsiveness Scale” which measured consumers’ chronic values towards impulsiveness (based on consumers’ assessment of costs and benefits of impulsiveness). The scale consisted of 12 adjectives measured on a seven point scale. Verplanken and Herabadi (2001) also put forth an “Impulse Buying Tendency Scale” that measures both: cognitive aspects of an individual’s impulse buying tendency and affective state (emotions, mood), and comprises 20 items.

According to Youn (2000), the cognitive component comprises the knowledge a person has about the product and it refers to how one ‘thinks, understands, and interprets information’. The affective component comprises the individual’s emotional feelings towards the product and self-gratifying motivations at the time of purchase and refers to the person’s ‘emotions, feeling states and moods’ (Youn, 2000). Several researchers have established that customers, who have a greater susceptibility to respond to their affective states and exhibit a weaker response to their cognitive states, experience stronger desires/impulses to purchase (Rook, 1987; Dholakia, 2000; Youn & Faber, 2000) and have a greater propensity to indulge in impulsive purchasing behaviour.

**Personality as a determinant of Impulse Buying**

There have been several propositions from past researchers who suggest that personality traits can be an aid in determining the extent to which a person tends to indulge in impulse purchasing (Rook & Gardner, 1993; Rook & Fisher, 1995; Beatty & Ferrell, 1998; Youn & Faber, 2000). The term “impulse buying tendency” was elaborated by Beatty and Ferrell (1998) who suggested that it included “both the tendencies (1) to experience spontaneous and sudden urges to make on-the-spot purchases and (2) to act on these felt urges with little deliberation or evaluation of
consequence” (p. 174). In proposing the above definition, the researchers implied that a person with a stronger impulse buying tendency has greater likelihood to engage in in-store browsing, is more probable to feel frequent impulse buying urges, and will exhibit a greater tendency to give-in to these urges.

Youn and Faber (2000) studied the relationship between consumer’s tendency to buy on impulse and their personality traits, namely, lack of control, stress reaction, and absorption. The researchers stated that consumers differing in their levels of buying impulsiveness exhibited differences in sensitivity to cues. The researchers further suggested that these personality traits induce differences in cue sensitivity in individuals which further determines whether or not they will buy impulsively. However, out of the three personality variables studied, the researchers were able to demonstrate merely a weak relationship of absorption and stress reaction, with impulse buying.

Sun, Wu and Youn (2004) examined the hierarchical relationships between personality traits, impulsive buying and compulsive buying. The researchers found that a positive correlation exists between impulsive buying and compulsive buying tendencies, and also suggested that these two purchase behaviours lay on a continuum. They believed that an increase in incidences of lack of impulse control, from being occasional to chronic, was indicative of impulse purchase behaviours developing into compulsive buying behaviour. The researchers also found impulsive buying to be related to two personality traits namely, extraversion and openness. However, the research work was not able to support the findings of Verplanken and Herabadi (2001) who had suggested that conscientiousness and impulsive buying are negatively related.

Likewise, Mathai and Haridas (2014) also made use of Big Five personality factors to identify how the different personality types of consumers influence their tendency to make impulse purchases. They concluded from their analysis that Extrovert persons tend to make more impulse purchases as compared to other personality types.

Turkyilmaz, Erdem and Uslu (2015) studied impulse buying in the online context and how it is affected by personality traits. They too operationalised personality using the five factor model and the results of their analysis revealed that all five personality traits influence consumers’ online buying impulsiveness. They concluded that conscientiousness and neuroticism affected buying impulsiveness (in the online context) negatively. On the other hand, the researchers found that extraversion, agreeableness and openness to change to change affected online buying impulsiveness positively.

In a separate empirical study examining the connection between personality traits and impulse buying behaviour, Agarwal (2015) concluded that extroversion and neuroticism have a positive influence on consumers’ impulse purchase.

Moon, Rasool and Attiq (2015) examined a causal relationship between Core Self Evaluation (CSE) traits (self-efficacy, self-esteem, neuroticism and locus of control) and impulsive and compulsive buying behaviour. They concluded based on their analysis that consumers indulging in impulsive buying had a greater tendency to later become compulsive shoppers as they experienced a loss of impulse control. The results of their analysis also showed that Core Self Evaluation is a strong predictor of impulsive buying behaviour. Using structural equation modelling the researchers demonstrated that self-efficacy, neuroticism, self-esteem and locus of control had significant relationships with impulsive buying. They suggested that consumers with lower scores of self-efficacy, lower self-esteem, high neuroticism, and external locus of control are more prone to exhibit impulsive buying behaviour.
Conceptual Framework

On the basis of the review of literature, it is expected that impulse buying, comprising both cognitive aspects and affective aspects, is influenced by individuals’ personality traits. Seven personality traits are included in this study. These are extraversion, agreeableness, conscientiousness, emotional stability, intellect, attractiveness and negative valence (seven broad traits proposed by Saucier (1997)). The conceptual framework is presented in Figure 1.

Figure 1. Conceptual Framework This figure presents the conceptual framework proposing relationships among Impulse buying tendency (IBT) and Personality

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>Independent variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBT</td>
<td>Personality traits</td>
</tr>
<tr>
<td>Cognitive IBT</td>
<td>Extraversion</td>
</tr>
<tr>
<td>Affective IBT</td>
<td>Agreeableness</td>
</tr>
</tbody>
</table>

Source: Authors' own work

In line with the conceptual framework, the hypotheses to be tested are as under:

\[ H_0: \text{There is no significant relationship between a linear combination of personality traits and a linear combination of impulse buying tendency variables.} \]

\[ H_1: \text{There is a significant relationship between a linear combination of personality traits and a linear combination of impulse buying tendency variables.} \]

Methodology

This quantitative research was conducted to better comprehend the relationship among Individuals’ personality traits and their cognitive and affective impulse buying tendency.

This research was conducted on Indian customers and the sampling technique used to collect data was non-probabilistic snowball sampling. From a total of 1000 survey responses screened for outliers, errors, incomplete and missing responses and unengaged responses, we obtained 724 responses that were complete and proceeded with further analysis.

Sample characteristics

The research involved the study of individual customers. 724 complete and usable responses were obtained through non-probabilistic snowball sampling. Nominal scales were used to understand the sample characteristics which can be summed up as under:

- Gender-wise distribution: Men (56.5 per cent) and women (43.5 per cent).
- Age-wise distribution: Respondents whose age was below 20 years (1.8 per cent), respondents aged between 21-30 years (43.9 per cent), between 31-40 years (34.7 per cent), between 41-50 years (13.3 per cent), between 51-60 years (4.6 per cent) and respondents whose age was above 60 years (1.8 per cent).
Marital status: Married (64.9 per cent), single (34 per cent), divorced (0.8 per cent) and widowed (0.3 per cent).

Profession-wise distribution: Government servants (42.1 per cent), private service (22.7 per cent), students (14.5 per cent), housewives (10.4 per cent), self-employed/businesspersons (6.1 per cent), retired persons (2.5 per cent) and others (1.8 per cent).

Annual family income-wise distribution: Respondents with annual family income between Rs 0 to Rs 250,000 (10.1 per cent), Rs 250,001 to Rs 500,000 (36.2 per cent), Rs 500,001 to Rs 750,000 (12.2 per cent), Rs 750,001 to Rs 1,000,000 (11.6 per cent), and family income over Rs 1,000,000 per annum (30 per cent).

Frequency of shopping-wise distribution: Daily (2.2 per cent), weekly (26.2 per cent), monthly (27.2 per cent), occasionally (32.5 per cent), and rarely (11.9 per cent).

**Instrument**

The research utilised a self-report questionnaire for collection of data from the respondents. The questionnaire comprised three sections namely, questions related to personality traits, impulse buying tendency and a separate section on demographic variables. The study made use of nominal scales (to classify the respondents based on their demographic characteristics) and a five point Likert scale (to assess impulse buying tendency and personality traits). Responses on the Likert scale were ranging from “strongly disagree” to “strongly agree”.

The questionnaire made use of statements or items that were adapted from reliable and valid scales developed by past researchers. The sources of the various constructs are as below:

**Personality traits:** The items for customers’ personality self-report inventory were measured using a construct adapted from Saucier’s (1997) seven factor scales accessed from the International Personality Item Pool (IPIP) Web site (http://ipip.ori.org/). The scale consisted of seven dimensions (conscientiousness, agreeableness, extraversion, negative valence, intellect, emotional stability and attractiveness) measured using 70 items.

**Impulse buying tendency:** For the measurement of impulse buying tendency, this study adapted the 20 item scale developed by Verplanken and Herabadi (2001). The items for impulse buying tendency were divided into two dimensions, namely, cognitive impulse buying tendency and affective impulse buying tendency (both dimensions consisting of 10 items each).

In order to encourage the respondents to provide more deliberate and carefully thought out answers to the survey questions, both positive and negative statements were included in the scales. It was ensured during data coding process, to reverse code the negatively worded items.

A pilot study conducted on 120 respondents established that the research instrument was reliable. To establish internal consistency, Cronbach alpha coefficients were calculated for all seven dimensions of personality and both the impulse buying tendency variables and the value obtained for each dimension was over 0.7. This was indicative of a good degree of internal consistency as suggested by Gliem and Gliem, (2003) who stated that the closer the Cronbach Alpha values are to 1.0, the better the internal consistency of the items in that dimension.

**Analysis and Findings**

Sherry & Henson (2005) highlighted that the complex nature of human behaviour requires the study of variables that might possibly have numerous causes and numerous effects. They, thus, encouraged application of multivariate techniques such as Canonical Correlation Analysis.
In line with the above, the present research utilised the technique of canonical correlation analysis to examine the seven personality trait variables as predictors of the two impulse buying tendency (IBT) variables. The aim of the multivariate analysis was to assess the mutual relationship between the two variable sets (i.e., personality and IBT). This technique allowed simultaneous examination of the interrelation among all the seven personality variables and the two impulse buying tendency variables. The advantage offered by this technique was that it required only one test to be performed, thereby, reducing the risk of committing a Type I error.

### Table 1: Canonical Correlations for Each Function Separately

<table>
<thead>
<tr>
<th>Root No.</th>
<th>Eigenvalue</th>
<th>Percent</th>
<th>Cumulative Percent</th>
<th>Canonical Correlation</th>
<th>Squared Correlation</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.265</td>
<td>70.841</td>
<td>70.841</td>
<td>0.457</td>
<td>0.209</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>0.109</td>
<td>29.159</td>
<td>100.000</td>
<td>0.313</td>
<td>0.098</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Source: Analysis of Primary data*

The number of canonical functions derived in a CCA is determined by and equivalent to the number of variables comprising the smaller variable set. Since the Personality set has seven variables, and the Impulse buying tendency set has two variables, two canonical functions were derived (the first function has squared canonical correlations of 0.209 and 0.098 for the second function) (See Table 1).

### Table 2: Multivariate Tests of Significance for the full model

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Value</th>
<th>Approximate F</th>
<th>Hypoth. Degrees of Freedom</th>
<th>Error Degrees of Freedom</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pillais</td>
<td>0.307</td>
<td>18.841</td>
<td>14.000</td>
<td>1452.000</td>
<td>.000</td>
</tr>
<tr>
<td>Hotellings</td>
<td>0.374</td>
<td>19.317</td>
<td>14.000</td>
<td>1448.000</td>
<td>.000</td>
</tr>
<tr>
<td>Wilks</td>
<td>0.713</td>
<td>19.079</td>
<td>14.000</td>
<td>1450.000</td>
<td>.000</td>
</tr>
<tr>
<td>Roys</td>
<td>0.209</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Analysis of Primary data*

The statistical significance of the canonical correlations and the variance unexplained by the model is tested by calculating the Wilk’s Lambda which ranges from zero to one. Since Wilk’s λ (0.713) depicts the variance that is unexplained by the model, 1– λ (0.287) represents the effect of the full model (See Table 2). This implies that 28.7 per cent of the variance shared among the two variable sets was accounted for by the full model.

**Number of canonical functions to be interpreted:** Hair, Anderson, Tatham and Black (1998) recommend the use of three criteria in conjunction with each other in order to identify the canonical functions which should be interpreted (as cited in “Canonical Correlation Analysis” (n.d.)). These three criteria include considering which of the canonical functions are statistically significant, what is the practical significance (variance explained) as depicted by the canonical correlation of each function, and the calculation of the redundancy index for both variates.

**Statistical Significance:** The first criteria suggests evaluating a canonical correlation of which of the two functions derived is statistically significant. From the results of the analysis, it was seen that the canonical correlations of both functions were statistically significant (as shown in Table 1).
Additionally, the multivariate tests of significance for the full model were also performed (wherein both functions were tested simultaneously). These included test statistics namely Pillai’s criterion, Hotelling’s trace, Wilks’ lambda, and Roy’s gcr. These test statistics listed at Table 2 indicated that taken together the complete model was statistically significant at the 0.01 level.

**Practical Significance:** Another criteria used to find out which of the functions is to be interpreted, needed an assessment of the practical importance of both the canonical functions (as depicted by the magnitude of the canonical correlations of each function). Thus, even though, there are no established guidelines on suitable sizes for canonical correlations, only the first function (20.9 per cent of the shared variance) was found to be important from the perspective of this study. This was because the second function explained only 9.8 per cent of the remaining variance in the canonical variates (below 10 per cent) after the extraction of the first function. Thus, it seemed logical to omit the second function from further interpretation, as it was found that the second canonical function explained very little variance. Only the first canonical function, thus, required further interpretation.

**Redundancy Analysis:** The redundancy index is an indicator of the variance in one variable set reproducible by the other variable set. The redundancy index is computed as the product of the shared variance of the variate with the square of the canonical correlation. Thus, only in the case where both the shared variance of the variate as well as canonical correlation is high, can we obtain a high redundancy index. A high value of the redundancy index is desirable since it implies that the variance in one variable set explainable by the other variable set is high. However, there exist no guidelines concerning the minimum acceptable value of redundancy index (that must be fulfilled in order to explain which of the canonical functions needs to be interpreted) and the interpretation of this index is left to the researcher based of the practical significance.

<table>
<thead>
<tr>
<th>Table 3: Interpretation of results of Canonical Correlation Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Set 1 - Personality</strong></td>
</tr>
<tr>
<td>Canonical</td>
</tr>
<tr>
<td>Weights</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Extraversion</td>
</tr>
<tr>
<td>Agreeableness</td>
</tr>
<tr>
<td>Conscientiousness</td>
</tr>
<tr>
<td>Emotional Stability</td>
</tr>
<tr>
<td>Intellect</td>
</tr>
<tr>
<td>Attractiveness</td>
</tr>
<tr>
<td>Negative valence</td>
</tr>
<tr>
<td>Shared Variance</td>
</tr>
<tr>
<td>Redundancy</td>
</tr>
<tr>
<td><strong>Set 2 - Impulse buying tendency</strong></td>
</tr>
<tr>
<td>Canonical</td>
</tr>
<tr>
<td>Weights</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Cognitive Impulse buying tendency</td>
</tr>
<tr>
<td>Affective Impulse buying tendency</td>
</tr>
<tr>
<td>Shared Variance</td>
</tr>
<tr>
<td>Redundancy</td>
</tr>
</tbody>
</table>

*Source: Analysis of Primary data*
The redundancy index was calculated for the independent variate as well as dependent variate for both canonical functions and is shown in Table 3. As apparent from the table, in case of the first canonical function, the redundancy indices for both the dependent variate (0.137) as well as the independent variate (0.048) are low. These low redundancy indices obtained for both the variates arise due to the fact that the canonical R2 (0.209) for the first function is fairly low. In case of the independent variate namely personality, even the shared variance is very low (0.227). This is indicative of the broad coverage of the particular construct. A very high shared variance on the other hand, would have suggested that the test is too narrow and too specific. Hence the redundancy index was expected to be low.

From the computation of redundancy index for the second function, it is evident that it is practically nonsignificant, due to even lower redundancy index values obtained (0.034 for the dependent variate and 0.016 for the independent variate) (See Table 3).

Thus, judging on the basis of the above three criteria, it may be concluded that merely the first canonical function needs to be interpreted further.

Interpretation of the Canonical Variates: For interpretation of the canonical variates, Hair et al. (1998) have suggested the use of three methods based on magnitude and sign of canonical weights, magnitude and sign of canonical loadings and magnitude and sign of canonical cross-loadings.

**Canonical Weights:** The canonical weights of both the dependent and independent variates are shown in Table 3. The magnitude of canonical weights specifies the comparative contribution that the variable makes to the first variate. Since we are interpreting only Function 1, the variables with canonical weights in the order of magnitude (contribution to the independent variate) are negative valence, conscientiousness, emotional stability, attractiveness, intellect, agreeableness and extraversion. The weights of agreeableness, attractiveness and negative valence are negative, whereas the weights for extraversion, conscientiousness, emotional stability and intellect are positive. Similarly, comparing the magnitude of the canonical weights to assess their contribution to the dependent variate shows affective IBT (-0.985) has a higher magnitude of canonical loading than cognitive IBT (-0.582). This suggests that affective IBT is more representative of the composite measure of an individual’s predisposition to buy impulsively (since they have the same sign) whereas high scores on the individual characteristics of extraversion, conscientiousness, emotional stability and intellect have an inverse effect (since they have opposite sign) on impulse buying tendency.

**Canonical Loadings:**Canonical loadings for both the canonical functions are also shown in Table 3. In case of the first dependent variate, affective IBT (-0.985) has a higher magnitude of canonical loading than cognitive IBT (-0.582). This suggests that affective IBT is more representative of the composite measure of an individual’s predisposition to buy impulsively.

The first independent variate has loadings having magnitudes ranging from 0.104 (extraversion) to 0.738 (negative valence). All independent variables other than negative valence have positive loadings indicating their inverse relationship with impulse buying tendency (they have the opposite sign when compared to the canonical loadings of the variables in the dependent variate which points towards their negative relationship). Negative Valence is positively related to both the types of Impulse buying tendencies. The variables in order of the magnitude of their loadings (from highest to lowest) on the independent variate are negative valence,
emotional stability, conscientiousness, intellect, agreeableness, attractiveness and extraversion. Thus, negative valence, emotional stability, conscientiousness and intellect best predict the two dependent measures and are the dominant predictors. On the other hand, agreeableness, attractiveness and extraversion traits had relatively lower canonical loadings and are thus, of lesser interest in predicting impulse buying tendency.

The analysis reveals that the first canonical function mainly exhibits the relationship between negative valence, emotional stability, conscientiousness and intellect of the personality set, with affective IBT and cognitive IBT for IBT set. We can conclude that consumers with high level of negative valence and low levels of conscientiousness, low emotional stability and low level of intellect have a higher predisposition to buy impulsively.

**Canonical Cross-Loadings:** We can find the canonical cross loadings of both canonical functions listed at Table 3.

An examination of first canonical function reveals that negative valence and emotional stability show highest magnitude of canonical loadings (-0.738 and 0.658 respectively) and the variables conscientiousness and intellect exhibit moderate magnitude of canonical loadings (0.568 and 0.420 respectively). When the cross-loadings of the variables negative valence and emotional stability are analysed, we find that these variables exhibit moderate cross loadings of -0.337 and 0.301 respectively (cut-off >0.3) with the impulse buying tendency variate. Squaring these cross loadings (0.114 and 0.091), we conclude that 11.4% of the variance in negative valence and 9.1% variance in emotional stability are explained by the impulse buying tendency variate. Conscientiousness has a low cross loading of 0.260 (which is lower than the cut off value) with the impulse buying tendency variate which implies that a very low percentage of the variance in the conscientiousness variable is explained by the dependent variate. The cross-loadings of the other independent variables are even lower and are, therefore, of no importance to the study. For the dependent variate, the cross loading of affective IBT is -0.450 (above cut off value) and the cross loading of cognitive IBT is -0.266 (below cut off value). This implies that 20.25% (square of cross loading) of variance in affective IBT is explained by the personality variate whereas the variance in cognitive IBT explained by the personality variate is much lower (7%).

Taking into consideration, the signs of the canonical cross-loadings, it was found that negative valence has a positive, direct relationship with impulse buying tendency (since the cross loadings of negative valence, cognitive IBT and affective IBT have the same sign). On the other hand, emotional stability and conscientiousness have an inverse relationship with impulse buying tendency. It must also be highlighted here that the three personality variables with the highest magnitude of the canonical cross-loadings with impulse buying tendency happen to be the same personality variables which exhibit the highest canonical loadings.

On the basis of the three methods of interpretation, it can be inferred that negative valence, emotional stability and conscientiousness are the personality traits that are the predominant predictors of Impulse buying tendency. Also, affect has a greater role to play than cognition in constituting an individual’s predisposition to buy impulsively. Negative valence has a positive, direct relationship with impulse buying tendency whereas emotional stability and conscientiousness have an inverse relationship with impulse buying tendency.

Thus, as inferred from results of the Canonical correlation analysis H0 was rejected and H1 was accepted. This implies that there exists a significant relationship between a linear combination of personality traits and a linear combination of impulse buying tendency variables.
The results were compared with findings of past research in this regard. Rook and Gardner (1993) and Verplanken, Herabadi, Perry and Silvira (2005) have reported that negative moods and emotions have a role in causing customers to buy on impulse. This is in agreement with our finding that emotional stability trait in customers is inversely related to their impulse buying tendencies. Schiffman, O’Cass, Paladino and Carlson (2014) have suggested that some consumers use impulse buying as a mood management strategy as it helps to convert their negative mood states into positive ones. The influence of conscientiousness on Impulse buying tendency is as suggested by Verplanken and Sato (2011). However, their findings that extraversion and openness also have an influence on consumers’ impulse purchase tendency could not be substantiated by our research as these variables emerged to be of lesser interest in predicting impulse buying tendency (even though the full model was significant).

Moon et al. (2015) studied the relation between CSE (core self-evaluation) and impulsive buying and found that people who have lower levels of CSE i.e. have low self-esteem, lack confidence, are emotionally unstable and are extroverts are impulsive purchasers. Negative valence dimension in our research represents negative self-evaluations and a diminished sense of self-worth. Though negative valence and CSE are broad personality traits which form part of different taxonomies, we consider it worthwhile to compare the two as they appear to represent similar narrow traits. Thus a comparison of our findings with Moon et al (2015) supported the conclusion that negative valence has a positive, direct relationship with impulse buying tendency.

**Implications for marketers/ retailers**

The findings of the present research help by adding to the existing literature on how differences in personality traits of customers relate to their impulse buying tendency. Whereas a huge proportion of past research has focused on Big Five Factors of personality, this work is among the first to examine the relationship based on the expanded taxonomy suggested by Saucier (1997).

The findings of this study will enable marketers/ retailers to categorize consumers into impulsive purchasers and non-impulsive purchasers on the basis of the traits they exhibit. Thereafter, they can devise marketing strategies accordingly to woo the impulse buyers.

The conscientiousness personality trait comprises narrower traits such as achievement, order, cautiousness, self-discipline and dependability and thus, it is hardly surprising that higher the conscientiousness of the customers, the lower their impulse buying tendency. This is probably because their orderly and cautious disposition helps them to plan well in advance for the shopping trips and they are likely to prepare well considered lists for their shopping trip. This helps them to stay focused on their requirements and not wander and browse aimlessly in the store hence lowering their tendency to buy impulsively. Marketers/ retailers may modify store layout such that it encourages shoppers to browse. This will serve as a memory aid and help buyers low on conscientiousness to recall and prepare mental lists of more items to be purchased, thereby increasing impulse purchasing.

The emotional stability personality trait can be correlated with facets such as anxiety, anger, depression, self-consciousness, immoderation, vulnerability etc. Low emotional stability typifies a person who is sensitive and is easily upset, while on the other hand, a person with high emotional stability is exceptionally calm and composed even under stressful situations. The inverse relationship of emotional stability and impulse buying tendency is, therefore, as expected. Marketers and retailers can use emotional appeals and triggers in their in-store promotions.
to promote impulse buying. Also, they can position products as a solution to unmet emotional needs so that such products are more prone to impulse purchases. Also, they may include in their inventory products such as perfumes, flowers etc. that help to alleviate unpleasant emotions. These are likely to be bought by the impulsive purchasers in an attempt to convert their negative mood states into positive ones.

It was also found from our analysis that Negative valence has a positive, direct relationship with impulse buying tendency. The negative valence trait is concerned with negative self-evaluations and includes person descriptors such as insane, corrupt, evil, disgusting, stupid, good for nothing etc. Thus, individuals scoring high on this personality trait imply an extremely adverse self-evaluation, such that the person considers him / her to be a bad person and has the tendency to highlight his/ her shortcomings. Such a person would, therefore, be influenced by the desire to display a certain image. They may be tempted to buy those products on impulse which they view as a means to attain the desired image. In such a situation, the greater the visibility of a product’s consumption, the likelihood for it to be considered for purchase is likely to be greater. Marketers/ retailers must therefore, design in-store promotions and displays in such a manner that the product/ offering is linked to the attainment of the ideal self-image. Also, visually conspicuous products/ brands that reflect social status and serve to display income and wealth are likely to be bought on impulse by such customers. This may thus, be very useful in promoting impulse purchase of luxury products/ brands.

Limitations and future research directions

Data collection was carried out using non-probabilistic snowball sampling technique. The replication of the study using a probability sampling method would help to make interesting generalisations based on the findings of the analysis. Also, self-report measures of personality suffer from the drawbacks of faking and giving socially- desirable responses as respondents attempt to manage the impressions created by them, even though anonymity has been promised by the researchers. Practitioners need to keep this in mind when applying the findings to real-world marketing situations. Thus, future research may make use of different or more than one method to assess personality. Although, this study provides evidence that personality is related to impulse buying tendency, this work could be further advanced by identifying and examining the relationship of narrower specific traits (within the broad traits identified) for a more specific description of how customers’ personality is related to impulse buying tendency.

Conclusion

Seven broad based personality traits were studied in relation to Impulse buying tendency inclusive of both cognitive and affective aspects. Negative valence and emotional stability emerged as dominant predictors of an individual’s tendency to buy impulsively. Conscientiousness also plays a role in influencing the overall impulse buying tendency. While, the relationship of negative valence with impulse buying tendency was found to be direct, conscientiousness and emotional stability were found to have an inverse relationship with impulse buying tendency. However, even though the results were statistically significant, the effect sizes were low. We encourage future researchers to examine narrower, more specific traits under these broad traits to advance our understanding on how customers’ personality might be used to predict their impulse buying tendency.
References


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