The Effects of Personality Traits and Website Quality on Online Impulse Buying

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Abstract

Depending on the improvements of information technology e-commerce and e-marketing have become very important concepts, making online shopping very popular. As a result of the proliferation of e-commerce and online shopping, “online impulse buying” has become an emerging phenomenon. Taking the lack of studies on online impulse buying into consideration this study is meant to contribute to this underdeveloped area. There are many factors effective on consumers’ impulse buying. A variety of studies focus on these factors in traditional retailing but rare studies examine the factors effective on online impulse buying. These factors can be internal or external in nature. This study examines the effects of personality traits (internal factor) and website quality (external factor) on online impulse buying. In the study survey instrument was used as the data collection method. Questionnaires consisting of the items of validated scales (e.g. Five Factor Model) on the related subjects were distributed. Results of the study will shed light on the design of the web-sites and will be helpful for all e-commerce firms that want to increase the level of impulse buying of their customers.

1. Introduction

As a result of the improvements and innovations in the information technologies Internet has become a vital tool in individuals’ lives. In fact, it changed the way we read books, we listen to music, we watch films, we send mails

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and we shop. This change has important implications for both firms and consumers. From the firms’ point of view, an increasing number of firms and organizations are trying to create business opportunities on the Internet (Liao & Cheung, 2001). On the other hand, consumers’ internet shopping rates are increasing every day. For instance, online buyers spent USD 29 billion during the 2009 holiday season (Bati & Atici, 2010). In Turkey 10 million people are making their shopping via Internet. There are more than 5000 e-commerce websites in Turkey (http://eticaretmag.com, 2014).

With the growing relevance of online shopping, a deeper understanding of impulse buying on the Internet is becoming increasingly necessary (Floh & Madlberger, 2013). Therefore, this study focuses on this important subject in order to fill the gap in the literature because the number of studies examining online impulse buying is still rare. When the literature on online impulse buying is examined it can be seen that the rare studies highlighting the issue analyzes impulse buying from two key perspectives: the state of mind created by the shopping environment (Rook, 1987) or a specific personality trait inherent to the individual consumer (Wells et al., 2011). But some researchers argue that focusing only one issue (states or traits) may result in an oversimplified, one-sided view of the behavior (Hertzog & Nesselroade, 1987). Therefore, this study considers both states and traits effective on online impulse buying. In this regard, as mental states website quality is taken into consideration while as traits big-five personality trait dimensions are included in the study. This is one of the most important points of the study because the prior research on this issue only included one or a few personality traits in the studies such as impulsiveness, materialism etc. But this study extends the personality traits by using big-five personality dimensions which includes five different dimensions with several sub dimensions under them. By this way an important contribution to the literature is aimed. So this study aims to fill the gap in the online impulse buying literature by a) Analyzing both traits and states that may affect online impulse buy b) Examining the issue by considering several personality dimensions.

2. Literature Review

In contrast to the belief that impulse buying is a recent concept, the studies related to impulse buying started in the 1950s. Studies conducted during this period defined impulse buying as “unplanned” purchases and designed within this framework. But Dennis Rook (1987) points out that impulse buying implies a narrower and more specific range of phenomena than unplanned purchasing does. He states that; “impulse buying occurs when consumers experience sudden, generally powerful and persistent urge to buy something immediately”. According to Sharma et al. (2010) impulse buying is a sudden, hedonically complex purchase behavior in which the rapidity of the impulse purchase precludes any thoughtful, deliberate consideration of alternative or future implications. Consistent with the stated definitions above, Beatty & Ferrell (1998) have provided a more extensive definition stating that impulse buying is considered to be a sudden and immediate purchase with no pre-shopping intentions either to buy the specific product category or fulfill a specific buying task.

On the other hand, as a result of the improvements and innovations in the information technologies more and more people are using online shopping. According to Dittmar et al. (2004) the nature of online transactions causes many consumers to overspend because the remote process does not really feel like spending money. This is very important for firms and organizations because they are trying to find ways to motivate individuals to spend or buy more and more. One of the ways firms use in this context is to motivate consumers’ online impulsiveness. Since impulse purchasing occurs in about 40% of online expenditures (Verhagen & van Dolen, 2011) it is necessary to examine the subject and its drivers in more detail.

Most existing research on impulse buying has focused on brick and mortar stores (Jeffrey & Hodge, 2007). When the online impulse buying literature is examined it can be seen there are rare studies covering impulse buying in an online environment. These rare studies analyze the subject from different points of view. For instance, in a study conducted by Zhang et al. (2006) the influence of consumers’ general tendency to buy impulsively on consumers’ intentions to buy online as part of a modified TAM model is examined. The other issues covered in the studies are factors influencing online impulse buying (Jeffrey & Hodge, 2007), relationship between online store beliefs and consumer online impulse buying behavior (Verhagen & van Dolen, 2011), the relationship among product attributes, web browsing, and impulse buying for apparel products in the Internet context (Park et al., 2011), influence of people’s mood in online shopping decisions (Huang & Kuo, 2012), web site cues effects on personality traits (Liu et al., 2013), individual differences’ effects on impulsive-buying behavior (Peck & Childers, 2006), effects of electronic
service quality dimensions on customer satisfaction and buying impulse (Bressolles et al., 2007). Besides these studies, Wells et al. (2011) explained online impulse buying with the help of psychology discipline. With reference to Eysenck (1983)’s work, Wells et al. (2011) pointed out that in order to deeper insights into online impulse buying one should consider both a consumer’s inherent traits and his/her current state of mind. Traits represent individuals’ characteristics that can be used to distinguish between two individuals. On the other hand, mental states represent attributes of individuals that tend to change depending on the environmental conditions (Hertzog&Nesselroade, 1987). When the literature review made above is considered it is possible to say that the research conducted about online impulse buying is focused on traits or states of the consumers. For instance, as a trait impulsivity has been examined in some studies (Zhang et al., 2006; Huang&Kuo, 2012; Wells et al., 2011). Some other studies focused on mental states such as website quality (Wells et al., 2011; Parboteeah et al., 2009), web site cues (Liu et al., 2013) and electronic electronic service quality (Bressolles et al., 2007).

Although it is useful to explain online impulse buying in terms of states and traits some researchers argue that this may reveal an oversimplified, one-sided approach to the subject (Wells et al., 2011). Instead of this they support the fact that such behavior can be better explained by using both traits and states and their interactions together. This was proposed by Steyer et al. (1999) with latent state-trait theory. According to this theory human behavior is dependent on individuals’ traits, environmental characteristics (states) and the interaction between these two. In this study the latent state-trait theory will be used.

2.1. Mental States and Online Impulse Buying

Mental states are related with the environmental conditions that may have an effect on individuals’ behaviors. In an online context Childers et al. (2001) proposed a term called “webmospherics” inclusive of such web design attributes as frames, graphics, text, pop-up windows, search engine configuration, “one-click” check-out or purchase procedures, and hypertext links, media dimensions (e.g., graphics, text, audio, color, and streaming video) and site layout dimensions (e.g., organization and grouping of merchandise); and these web design attributes may contribute to triggering online impulse purchase to a different extent. In several other studies website related attributes are found to have an effect on consumers’ online impulse buying. For instance, Liu et al. (2013) revealed that visual appeal of the web-site, website ease of use and product availability are important precursors of online impulse buying. Similarly, Moez (2013) revealed that attributes of the web site (navigation, visual appearance and customized preview) are three important antecedents of the pleasure of serving consumers increasingly affecting their commitment to this site and therefore their buying impulse. Adelaar et al. (2003) pointed out that different media formats caused emotional responses that can explain the participant’s online impulse buying intent to buy the CD. Verhagen & vanDolen (2011) proposed that website functional convenience and representational delight have significantly influences positive and negative shopping emotions which in turn impact online impulsive action. Parboteeah et al. (2009) proposed that both task-relevant cues (e.g. navigability) and mood-relevant cues have a positive effect on consumers’ urge to buy impulsively.

According to Loiocono et al. (2007) such website characteristics represent the many facets of the website quality. Every website has these characteristics in different levels. In this regard, a website that provides these characteristics (at least some of them) at a high quality level constitutes an online interface of high quality and vice versa (Well et al., 2011). So it can be said that a website with characteristics (cues or mental states) at a high quality level will be considered as a high quality website. Since some of these characteristics have an influence on online impulse buy, in a broader context it is expected that website quality will also have an effect on impulse buying because website quality depends on the presence of these various characteristics (Wolfinbarger & Gilly, 2003). A well designed and high quality website will increase the likelihood of impulse purchases at the website. Depending on the past research and the stated reasons it is proposed that;

**H1**: Website quality has an effect on consumers’ online buying impulsiveness
2.2. Traits and Online Impulse Buying

Personality is the intrinsic organization of an individual’s mental world that is stable over time and consistent over situations (Piedmont, 1998). According to Ajzen (2005) a trait is a temporally stable, cross-situational individual difference. It represents individuals’ characteristics that can be used to distinguish between two individuals.

In the online impulse buying behavior literature it is possible to see the examination of personality traits. For instance materialism that is one of the most important traits has been the subject of many researches in terms of its effect on impulsiveness (Richins & Dawson, 1992). Impulsiveness is the other mostly used personality trait in the online impulse buying (Liu et al, 2013; Wells et al, 2011; Zhang et al., 2006). But most of these studies in the literature focus on only one or maybe two personality traits which may point out a gap in the literature. Therefore, in this study in order to measure personality traits a more comprehensive framework is used.

The history of psychology shows that researchers have attempted to develop a universal and systematic personality framework to explain individual differences. One of these frameworks is the Big Five Model. Today, The Big Five model of McCrae and Costa (1990) is regarded as one of primary benchmarks of in the trait theory of personality. Although individuals can exhibit all five dimensions, they may score quite highly on one or several dimensions and lower on others (Mulyanegara et al., 2009). Big Five Dimensions can be summarized as extraversion, agreeableness, conscientiousness, neuroticism and openness to experience.

Extraverted individuals are likely to be sociable, energetic, dominant, cheerful and positive in their outlook on life (Larson & Sachau, 2008). Extraversion is the indication of the tendency of outgoing, highly social, assertive, active, and excitement seeking. The persons who are extraverts prefer interpersonal relations (Mooradian & Swan, 2006). Individuals who score high on openness to experience are creative, curious and imaginative, and tend to be unconventional. They seek novel experiences and like to explore new ideas. People who score low on this trait can be characterized as conventional and unanalytical, with a preference for the familiar and routine. Agreeable individuals tend to be trusting, forgiving, caring, warm, cooperative and altruistic. They place a high value on interpersonal relationships (Larson & Sachau, 2008). Conscientiousness reflects the tendencies of achievement, hardworking, responsibility and dependability. They tend to be more risk averse and form long term relationships. Finally, neuroticism shows the tendencies of anxiousness fearfulness, depressed and poor emotional adjustments. Neurotic peoples have no socialistic approach and stay away from situations which demands taking control (Haq et al., 2010). Since personality traits are used to predict consumer behavior, it is expected that they will have an effect on consumers’ online impulse buying. Therefore, depending on the literature review and the reasons stated the following hypothesis is proposed:

H2: Personality traits have an effect on consumers’ online buying impulsiveness

3. Research Methodology

3.1. Aim of The Study, Data Collection Method and The Measures Used In The Study

The aim of this study is to explore the effects of website quality and personality traits on consumers’ impulse buying behavior. In order to achieve this aim a survey was designed and administered. The questionnaire designed consisted of questions from three different scales and demographic questions. Personality traits were measured with a total of fifty questions adopted from McCrae & Costa’s (1990) Big Five Personality Traits Hierarchy. Website quality was measured with thirty six questions adapted from Loiacono et al. (2002)’s Webqual Scale and finally buying impulsiveness was measured with nine items adapted from Rook & Fisher (1995). Respondents rated the items on a 5-point scale (1=strongly disagree, 5=strongly agree). Back translation was conducted be sure that no mistakes were made during translations. For the face validity, the scales in the questionnaire have been assessed by three colleagues working on e-marketing. After face validity a pilot study was conducted on a sample consisting of 25 respondents. Following the pilot study some minor corrections were made in wording to make the statements more clear. After all the corrections, 2500 questionnaires were distributed online to the customers of one of the most important online shopping websites in Turkey which has nearly 2500 registered members. Among these questionnaires, 612 were returned and included in the analysis.
3.2. Demographic Characteristics of The Subjects

Among the 612 respondents 61% are female while 39% are male. The ages of the respondents ranged from 18 to 55. But the majority of the respondents (42%) are between the ages of 21-35. The majority of the respondents (33%) has an income level between 1000-2000 TL. 30% of them has an income level between 500-999 TL, 15% of them has an income level between 0-499 TL, 13% of them has an income level between 2001-2999 TL, 4% of them has an income level between 3000-3999 TL, 3% has an income level between 4000-4999 TL and 2% of them has an income more than 5000 TL. Among 612 respondents 47% of them are university graduates while 35% of them are high school graduates. Rest of them has a master’s degree.

3.3. Findings

In order to clarify the dimensions of the variables in the model, principle factor analysis with Varimax rotation was conducted. According to the factor analysis results for the personality traits, Kaiser-Meyer-Olkin test of sampling adequacy was 0.881 and the results of the Bartlett’s Test of Sphericity are significant (p=0.000) pointing out the adequacy of the sample and the data for conducting factor analysis (df=666, Approx Chi-Square=8035,642). According to the results of the factor analysis some items were eliminated due to low factor loadings (<0.50) and cronbach’s alpha values. Five factors were revealed which are neuroticism, agreeableness, extraversion, conscientiousness and openness to change. The cronbach’s alpha values of the factors were above the acceptable level according to Nunnally (1979) which ranged between 0.89-0.78. The dimensions explained 60.63% of the total variance. The results of the factor and reliability analyses for personality are summarized in Table 1.

| Table 1. Factor Analysis For Personality Traits |
|-----------------------------------------------|
| Factor-loads | Eigen-   | % of Var. | Cum. % of Var. | α   | Factor-loads | Eigen-   | % of Var. | Cum. % of Var. | α   |
| Factor1: Neuroticism | 9,214 | 24,902 | 24,902 | 0.89 | Factor3: Openness | 2,603 | 9,974 | 48,325 | 0.82 |
| N3 | 0.793 | O1 | 0.587 |
| N4 | 0.835 | O2 | 0.646 |
| N5 | 0.851 | O3 | 0.693 |
| N6 | 0.729 | O4 | 0.679 |
| N7 | 0.733 | O5 | 0.636 |
| N8 | 0.755 | O6 | 0.636 |
| N9 | 0.704 | O7 | 0.687 |
| N10 | 0.646 |   |   |

| Factor2: Agreeableness | 4,976 | 13,449 | 38,351 | 0.87 | Factor4: Conscientiousness | 2,12 | 6,73 | 55.055 | 0.80 |
| A1 | 0.607 | C1 | 0.570 |
| A2 | 0.758 | C2 | 0.594 |
| A3 | 0.783 | C3 | 0.736 |
| A4 | 0.831 | C4 | 0.799 |
| A5 | 0.807 | C5 | 0.812 |
| A6 | 0.595 | C6 | 0.670 |
| A7 | 0.585 | C7 | 0.537 |

| Factor5: Extraversion | 1,499 | 5,575 | 60.63 | 0.78 |
| E1 | 0.728 |   |   |
| E2 | 0.704 |   |   |
| E3 | 0.767 |   |   |
| E4 | 0.696 |   |   |
| E5 | 0.645 |   |   |
| E6 | 0.758 |   |   |
| E7 | 0.767 |   |   |
As can be seen from Table-2 the same steps were followed in order to reveal the dimensions for the website quality. Kaiser-Meyer-Olkin test of sampling adequacy was 0.949 and the results of the Bartlett’s Test of Sphericity are significant (p=0.000) (df=435, Approx Chi-Square=12192.982). Due to the low factor loadings some items were discarded. The reliabilities of the factors ranged between 0.93 – 0.73 which are above the acceptable level. Factor analysis revealed four factors explaining the 71.356% of the total variance. The factor analysis results for the online buying impulsiveness variable proved the unidimensionality of the construct with a Kaiser-Meyer-Olkin test of sampling adequacy was 0.910 (Bartlett’s Test of Sphericity is significant; p=0.000; df=28; Approx Chi-Square=2194.294) and Cronbach’s Alpha level of 0.867.

Table 2. Factor Analysis For Website Quality

| Factor1: Entertainment | Factor-loads | Eigen-value | % of Var. Expl. | Cum. % of Var. Expl. | α |
|------------------------|--------------|-------------|-----------------|---------------------|---|
| ENT1                   | 0.779        | 14.18       | 47.266          | 47.266              | 0.91|
| ENT2                   | 0.846        | 13.89       | 46.130          |                      |    |
| ENT3                   | 0.804        | 13.42       | 45.554          |                      |    |
| ENT4                   | 0.680        | 12.67       | 44.822          |                      |    |
| ENT5                   | 0.768        | 12.42       | 44.388          |                      |    |
| ENT6                   | 0.660        | 12.14       | 43.950          |                      |    |

| Factor2: Ease of Use  | Factor-loads | Eigen-value | % of Var. Expl. | Cum. % of Var. Expl. | α |
|------------------------|--------------|-------------|-----------------|---------------------|---|
| EU1                    | 0.689        | 3.773       | 12.579          | 59.845              | 0.93|
| EU2                    | 0.695        | 3.746       | 12.532          |                      |    |
| EU3                    | 0.706        | 3.706       | 12.492          |                      |    |
| EU4                    | 0.780        | 3.546       | 12.280          |                      |    |
| EU5                    | 0.689        | 3.407       | 12.057          |                      |    |
| EU6                    | 0.616        | 3.219       | 11.874          |                      |    |

| Factor3: Usefulness    | Factor-loads | Eigen-value | % of Var. Expl. | Cum. % of Var. Expl. | α |
|------------------------|--------------|-------------|-----------------|---------------------|---|
| U1                     | 0.728        | 2.422       | 8.073           | 67.918              | 0.92|
| U2                     | 0.736        | 2.321       | 7.874           |                      |    |
| U3                     | 0.735        | 2.275       | 7.599           |                      |    |
| U4                     | 0.716        | 2.213       | 7.315           |                      |    |
| U5                     | 0.701        | 2.179       | 7.146           |                      |    |
| U6                     | 0.625        | 2.079       | 6.874           |                      |    |

| Factor4: Compl. Rel.  | Factor-loads | Eigen-value | % of Var. Expl. | Cum. % of Var. Expl. | α |
|-----------------------|--------------|-------------|-----------------|---------------------|---|
| CR1                   | 0.718        | 1.031       | 3.438           | 71.356              | 0.73|
| CR2                   | 0.798        |            |                 |                     |    |
| CR3                   | 0.755        |            |                 |                     |    |
| CR6                   | 0.644        |            |                 |                     |    |
| CR8                   | 0.648        |            |                 |                     |    |
| CR9                   | 0.521        |            |                 |                     |    |

Effects of website quality dimensions on online buying impulsiveness: In order to reveal the effects of website quality dimensions on consumers’ online impulse buying multiple regression analysis was conducted. As can be seen from Table-3 usefulness, ease of use and entertainment have positive effects on consumers’ online impulse buying. On the other hand complimentary relations does not have an effect on online impulse buying. $R^2$ of the model is 0.438 pointing out that this model explains approximately 44% of the variation in online impulse buying. Ease of use, usefulness and entertainment have the most important roles in explaining the dependent variable of online impulse buying ($\beta=0.131$, $\beta=0.119$ and $\beta=0.084$ respectively). So H1 is partially accepted.

Table 3. Results of Multiple Regression Analysis-1

| Dependent Variable: Online Buying Impulsiveness | Unstandardized Coefficients | Stand. Coeff. |
|-----------------------------------------------|-----------------------------|---------------|
| Independent Variables | B | Std. Error | Beta | t | Sig. (p) | VIF |
| Usefulness | 0.111 | 0.053 | 0.119 | 5.228 | 0.000 | 1.363 |
Effects of personality traits on online buying impulsiveness: As can be seen from Table-4 all of the personality traits have an effect on consumers’ online buying impulsiveness. Neuroticism and conscientiousness have negative effects on online buying impulsiveness while the other three factors have positive effects on it. $R^2$ of the model is 0.372 pointing out that this model explains approximately 38% of the variation in online impulse buying. Extraversion, openness to change, neuroticism, agreeableness and conscientiousness have the most important roles in explaining online impulse buying ($\beta=0.187$, $\beta=0.172$, $\beta=0.123$, $\beta=0.081$, $\beta=0.074$ respectively). Depending on these results H2 is totally accepted.

Table 4. Results of Multiple Regression Analysis-2

| Independent Variables | B    | Std. Error | Beta | t     | Sig. (p) | VIF |
|-----------------------|------|------------|------|-------|----------|-----|
| Neuroticism           | -0.151 | 0.059     | -0.123 | -4.55 | 0.011 | 1.058 |
| Agreeableness         | 0.126  | 0.088     | 0.081  | 4.427 | 0.003 | 1.476 |
| Openness to Change    | 0.112  | 0.085     | 0.172  | 4.42  | 0.004 | 1.352 |
| Conscientiousness     | -0.108 | 0.077     | -0.074 | -5.403 | 0.000 | 1.247 |
| Extraversion          | 0.137  | 0.09      | 0.187  | 3.533 | 0.021 | 1.472 |

R=0.456; $R^2=0.372$; Adjusted $R^2=0.321$; F =22.962; p =0.012

3.4. Results and Implications

The results of this study may reveal several points for online retailers. First of all, it points out that website quality is very important for consumers’ online buying impulsiveness. Therefore, online retailers who want to encourage their customers to buy impulsively should pay great attention to the dimensions of the website quality. The results show that among the dimensions of website quality ease of use (covering ease of understanding, intuitive operations) has the most important role in terms of the effect on online impulse buying. The second important dimension is usefulness which consists of informational fit to task, tailored communications of the website, trust of the consumers to the website and response time. The third important dimension effective on online buying impulsiveness is entertainment of the website which includes the visual and emotional appeal of the website. Unlike what is proposed complimentary relationships were found to have no effect on online impulse buying. These results may be helpful for online retailers in their strategies to build more effective websites especially for increasing online impulse buying. The second important result of the study is related with the personality traits of the consumers who shop online. According to the results extraversion, openness to change and agreeableness have positive effects; conscientiousness and neuroticism have negative effects on online impulse buying. Depending on these results it can be stated that while designing their web sites online retailers can consider personality traits and use this cue in their segmentation and targeting strategies. For instance, depending on the results people who are more open to changes are more prone to buy impulsively. In order to encourage these people websites may be innovative and up to date. Also for people who rank high on agreeableness and extraversion factors, websites may include platforms that allow users to interact with each other (share their opinions, experiences etc.). These are only a few examples that may be helpful to the online retailers. To sum up, in order to increase online impulse buying both website quality dimensions and personality traits should be taken into consideration.

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