

# On-Line Impulse Buying and Cognitive Dissonance: The Moderating Role of the Positive Affective State

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**Abstract**—The purchase impulsiveness is preceded by a lack of self-control: consequently, it is legitimate to believe that a consumer with a low level of self-control can result in a higher probability of cognitive dissonance. Moreover, the process of purchase is influenced by the pre-existing affective state in a considerable way. With reference to on-line purchases, digital behavior cannot be merely ascribed to the rational sphere, given the speed and ease of transactions and the hedonistic dimension of purchases. To our knowledge, this research is among the first cases of verification of the effect of moderation exerted by the positive affective state in the on-line impulse purchase of products with a high expressive value such as a smartphone on the occurrence of cognitive dissonance. To this aim, a moderation analysis was conducted on a sample of 212 impulsive millennials buyers. Three scales were adopted to measure the constructs of interest: IBTS for impulsivity, PANAS for the affective state, Sweeney for cognitive dissonance. The analysis revealed that positive affective state does not affect the onset of cognitive dissonance

**Keywords**—Cognitive dissonance, impulsive buying, online shopping, online consumer behavior.

## I. INTRODUCTION

**I**MPULSE buying is generally described as an hedonic and complex purchasing behavior. The past sixty years have seen increasingly interest in this behavior [6], [33], [29], [27]. In 2014, it was estimated that in the US market impulse purchases grew up by 50% compared to 2010 [5]. Furthermore, some scholars [1] stated that impulse purchases account for between 40 and 80% on the total purchases, depending on the type of product.

The nature of impulse buying “[...] is hedonistically complex and can stimulate emotional conflict. In addition, it is prone to occur with a minor regard for its consequences” [30]. Recent studies [24] have shown that impulse buying is mainly affective and emotional and determine consumer behavior to a greater extent than utilitarian and rational aspects. Furthermore, impulse buying is a hedonistically complex behavior in which the speed of impulsive decision precludes any thought, consideration of alternatives or future implications [32]. Therefore, it can be assumed that impulse buyers could experience a post-purchase anxiety due to the emerging doubts on the appropriateness of the choice made – for instance as an effect of ignored characteristics of the

product [5] – the so-called cognitive dissonance [11]. However, it is legitimate to wonder whether a post-purchase cognitive dissonance only arises from betrayed expectations or the understated purchase consequences. From this perspective, the role of a positive affective state may act as moderator of the cognitive dissonance. In fact, when a consumer is in “good mood” may be less prone to consider its impulse purchase with an excessive criticism, thus reducing the impact of its regret.

The present research is aimed at determining whether the positive affect state may moderate the onset of cognitive dissonance after an impulse purchase of a high expressive value such as a smartphone.

The authors limit the scope of the research by considering: (i) the purchase via desktop computer through an e-commerce marketplace; (ii) as far as the target is concerned, a sample of millennials individuals.

The research is deemed relevant for: (i) the considerable increase in purchases through the digital channel; (ii) the greater propensity of consumers to make impulse purchases through on-line channels [18]. The results offer insights for the reduction of the cognitive dissonance to third parties managing e-commerce platforms.

## II. THEORY AND HYPOTHESIS

An impulse purchase can be defined as an unplanned purchase put in place by the consumer. Being not planned, it is a direct consequence of an “on spot need” [14]. The sight of a product resembles a necessity, which triggers a real desire and culminates in a purchase to meet an immediate consumption need.

Two distinctions are appropriate: (i) unplanned purchases are different from impulse ones. In fact, while all impulse purchases can be considered unplanned, not all unplanned purchases can be considered impulsive [20]. What differentiates them is the absence of an urgent desire or strong positive feelings experienced during the purchase [1]; (ii) impulsive purchases differ from compulsive ones, occurring in response to negative feelings or events and giving raise to chronic behavior [26]. An important difference lies in the motivation: impulsive buying is most often described as an almost spontaneous and unplanned phenomenon mainly depending on the proximity to the product [30], and is accomplished relying on the positive effects of the purchase, especially the gratification and attraction to the product. In this way the impulsive purchase is more hedonistic in nature [15]. Compulsive emotions, on the other hand, are more used to appease negative emotions. The motivation of the latter,

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therefore, does not appear to be linked to the object in the strict sense. Impulse purchases are mainly completed for emotional reasons [24]. An impulsive buyer is less oriented to think about the consequences of its behavior compared to others and is influenced by the state of mind experienced while purchasing [36]. Impulse buying can also take place through on-line channels, as a result of the new methods of purchasing through the digital platforms [16]. At a first glance, it could be argued that digital purchasing behavior has a strong rational dimension, as the consumer would tend to seek information and make comparisons before a decision be taken. However, impulse buying also plays a large role in on-line buying, given the ease and speed with which an on-line transaction is completed. Under this respect, the possibilities of controlling on-line purchases are relatively limited for consumers [21]. In turn, impulsive buying and e-commerce experience show a significant relationship in terms of hedonistic motivations [19]. The majority of on-line sales come via desktop (traditional on-line shopping) or mobile devices (mobile commerce). Mobile Commerce describes any commercial activity on a mobile device, such as a mobile phone or a tablet [9]. In many ways, mobile commerce is very different from their desktop counterparts. Considering a decision process for a traditional online purchase, all activities such as price and product comparison, user reviews and purchasing are performed using a desktop computer. The consumer through e-commerce via desktop has the possibility to perform complex operations and spend more time during the entire process [8]. Meanwhile, mobile commerce increases impulse buying due to its characteristics, such as high interactivity and convenience [4], [22].

A possible effect of an impulse purchase is the cognitive dissonance [11], or the emergence of a state of discomfort related to doubts about the choice made by the customer, which triggers a so-called process of mental recovery to justify the sustained effort [34]. Several scholars converge on the conditions which might cause the arising of cognitive dissonance [24], [34]: (i) the decision involved in a purchase must be important for the consumer. For example, it involves the disburse of a large sum of money or a significant "psychological cost" to the individual; (ii) the consumer has a free choice between different alternatives; (iii) the purchase is irreversible and the consumer feels victim to the circumstances. Despite the adjective "cognitive", the phenomenon entails therefore a strong emotional dimension and, under this respect, an important issue to understanding cognitive dissonance is to identify its relations with other constructs such as: the pleasure of the product, its symbolic value, the perceived risk [2]. With regards to the on-line shopping, the abundance of information available at the time of product evaluation contributes to the resolution of uncertainty, thus reducing the possibility of cognitive dissonance manifesting itself [13]. On the other hand, the emphasis on the security of on-line transactions brings to affirm that a reliable and secure virtual shopping environment will help reduce the overall level of anxiety of consumers, and thus the likelihood of cognitive dissonance [23]. However, a

further element of evaluation should be added to the above framework, namely the assessment of the affective state at the time of purchase. Given that a certain amount of emotionality affects most of the purchases and contributes to determine the attitude, a positive affective state might act as a facilitating driver of a purchase. In accordance with the principle of congruence, in fact, the positive affective state should modify the onset of cognitive dissonance [17]. In fact, it can stimulate a process of information processing of a heuristic type, simplified and synthetic [28], which leads to divert the cognitive resources of the individual to other purposes.

Within the described framework, there is still uncertainty on the relation among the three mentioned dimensions: (i) impulsive purchase, (ii) positive affective state at the time of purchase; (iii) arising of post-purchase cognitive dissonance. This study aims to fill such a gap and focuses its scope on the context of on-line shopping of a high expressive value product (smartphone), which may solicit an impulse buying due to its hedonistic appeal and for this very reason give raise to the cognitive dissonance. It was decided to analyze only the purchase of high expressive value products as smartphones. The smartphone has become an important and inseparable tool from modern life of customers, especially for millennials. In the process of purchasing a smartphone, consumers not only consider the quality of products, but are also concerned about the service quality and other aspects such as brand, price, operating system, screen size, etc. According to [10], the number of smartphone users worldwide will increase from about 2.53 billion by 2018 to more than 2.87 billion by 2020.

The research investigates the phenomenon of impulse buying and its relationship with cognitive dissonance using as a target the Millennials. Millennials is the generation born in the last two decades of the 20th century, encompassing individuals so-called "digital natives" because of their intimately familiar with digital technologies in areas of communication, education and information exchange [7]. The choice of apply this research to Millennials relate to: (i) the familiarity of Millennials with technology and e-commerce purchases; (ii) the propensity towards products with expressive and hedonistic value [31], to which smartphones can be ascribed.

Only purchases accomplished via desktop computer were taken into account; despite mobile devices represent an undisputable on-line purchase tool, it can be reasonably assumed that the two differ in terms of purchase behavior (i.e. time spent to compare products and collect information) and deserve separate discussion.

According to the above statements, we posit the following hypothesis:

- H1: impulse buying of a smartphone via e-commerce marketplace accomplished through a desktop computer affects the onset of cognitive dissonance;
- H2: the positive affective state accompanying the impulse buying under the H1 conditions moderates the onset of cognitive dissonance.

Fig. 1 shows the conceptual model used in the research.

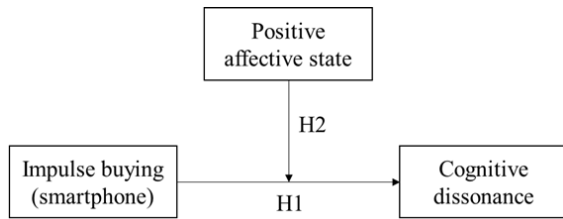


Fig. 1 Conceptual Model

### III. METHODOLOGY

The measurement of the three constructs under examination – impulse buying tendency, cognitive dissonance and positive affective state – was performed using as many scales: (i) Impulsive Buying Tendency Scale (IBTS) [35], consisting of 20 items; (ii) Sweeney Scale [34] (22 items); (iii) Positive and Negative Affect Scale (PANAS) [37] (20 items).

The IBTS scale encompasses the cognitive dimension (10 items) as well as the affective one (10 items) and is related to personality traits, especially extroversion. In particular, the cognitive dimension appears inversely correlated to conscientiousness, personal need of mental schemes and the tendency for evaluation; the affective one is linked to the predisposition to the action and the lack of autonomy. The IBTS scale allows to personality trait with individual lifestyle: often, in fact, impulse buyers are pushed to the purchase of certain product categories (i.e. those with high expressive value or aspirational) in order to express themselves or belong to a desired reference group.

The Sweeney scale is composed of three dimensions, one affective and two cognitive. The latter are respectively named “wisdom of purchase” and “concern over deal”, whereas the first is defined as the psychological discomfort experienced by the individual after the purchase.

The PANAS scale is structured in two subscales, respectively addressing the measurement of as many opposite constructs: the positive state (10 items) and the negative ones (10 items). The PANAS presents a good ease of administration and is commonly used as psychometric measure of affective state, so much that it has been adapted to specific contexts (i.e. PANAS-C for children). Nevertheless, some limitations have to be taken into account, the main of which concerns the difficulty to self-evaluate a certain mood. For the purpose of the present research, only the sub-scale of the positive affect state was adopted.

The research design followed several steps: (i) recruitment on social channels (LinkedIn, Facebook, Instagram) over a period of eight weeks (February-March 2019) of consumers born between 1980 and 1995, who in the previous six months had purchased a smartphone in the price range 200-400 euros. This range was considered compatible with the possibility of an impulse purchase within the type of target in question; (ii) starting from the individuals that responded to the survey (n = 598), the sample was expanded with a snowballing approach, reaching a total of 702 units (+103); (iii) selection of eligible individuals is carried out through a specific questionnaire with the IBTS scale, with the aim at selecting only the impulse

buyers (grade 4-5 in the interval 1-5), which produced a new sample of 271; (iv) questionnaire is distributed to the above sample with the PANAS scale to identify respondents with positive affective status (n = 212) at the time of the impulse purchase; (v) Sweeney scale is administered to the sample thus obtained to measure the cognitive dissonance; (vi) research hypothesis is verified through a moderation analysis, in order to demonstrate whether the positive affective state of the person at the time of the impulsive purchase exerts an effect on the cognitive dissonance. The test was carried out using the Hayes macro (Process), through the SPSS software.

TABLE I  
SAMPLE DEMOGRAPHICS

Symbol	Quantity	%
Gender	Male:127; Female: 85	Male: 60%; Female: 40%
Age	20-30: 127; 31-40: 85	21-30: 60%; 31-40: 40%
Income (€)	< 20 k: 95; 20-40 k: 85; > 40 k: 32	< 20 k: 45%; 20-40 k: 40%; > 40 k: 15%;
Job	Student: 56; Employee: 98; Freelance: 39; Other: 19	Student: 26%; Employee: 46%; Freelance: 19%; Other: 9%

### IV. RESULTS AND DISCUSSION

Prior to the verification of the hypothesis, descriptive statistics were carried out on the sample investigated aimed at its profiling (see Table I): sex (M = 60%; F = 40%); age groups (20-30 = 60%; 31-40 = 40%); gross annual disposable income (lower than 20,000 = 45%; 20,000-40,000 = 40%; above 40,000 = 15%); job (student = 26%; employee = 46%; freelance = 19%; other = 9%). 68% of the sample bought a smartphone in the price range of € 200-300, 32% in the price range of € 300-400. Subsequently, a chi-square independence test was performed, using the availability of income and the price range of the smartphone as tabulation variables. The test revealed ( $p < 0.05$ ) the dependence between the two characters, showing that the impulsive purchase is valid for a product whose price is related to economic availability. The intensity of the association between the characters, calculated with the phi index, is equal to 0.327.

Moving on to the moderation analysis, the internal consistency of the three scales was measured through the Cronbach's alpha coefficient, which returned the following values: IBTS: 0.89; PANAS: 0.91; Sweeney: 0.87. The convergent validity of the scales was verified according to Average Variance Extracted – AVE and Composite Reliability – CR, with the following results: IBTS: AVE: 0.701; CR: 0.820; PANAS: AVE: 0.612; CR: 0.799; Sweeney: AVE: 0.699; CR: 0.812. The data are above the thresholds deemed adequate to affirm the reliability and validity of the constructs: 0.7 for Cronbach's Alpha [25]; 0.5 for AVE and 0.7 for CR [12].

Authors then proceeded to test the system of relationships of the moderation scheme, with the aim of verifying whether the impulse purchase and the affective state contextual to it interacted in the onset of cognitive dissonance. From the analysis it emerged that: (i) the adjusted coefficient of determination of the model is equal to 0.432, with test F significant ( $p < 0.05$ ); (ii) the coefficient of regression of the

impulse purchase on the cognitive dissonance is equal to 0.524 ( $p < 0.05$ ); (iii) the coefficient of regression of the positive affective state on cognitive dissonance is equal to -0.322 ( $p < 0.05$ ); (iv) the interaction effect of the two independent variables (impulse purchase and positive affective state) on cognitive dissonance is equal to -0.189 (not significant). It can be deduced, therefore, that the positive affective state does not moderate the effects of the impulse purchase of a smartphone on the subsequent onset of cognitive dissonance. As a consequence, H1 is supported, whereas H2 has to be rejected.

#### V.CONCLUSION

From the first empirical evidence it is possible to make some early considerations. First of all, the lack of moderation of the positive affective state must be contextualized to the product under consideration. The target of the study (Millennial individuals) has a degree of technological competence “naturally” acquired. One can therefore expect that the choice of the smartphone implies a more punctual evaluation, even if subsequent to the purchase, of functional and performance elements, which the impulsive behavior does not primarily consider. Furthermore, the choice is affected by attributes such as design or brand affection, typical of the symbolic value of the product. Secondly, the influence that digital platforms can exert on impulse buying should be noted. As reported by the literature [3], an environment that supports an immersive user experience, accompanied by ease, security and speed of the transaction, can encourage a greater willingness to make an impulse purchase. Consequently, to reduce cognitive dissonance the effectiveness should be increased of post-purchase management, for example through channels of social care to mitigate the effect of doubts and anxiety. Furthermore, the management of possible problem/complaint should be coped in order to increase the customer satisfaction and loyalty [5].

The generalizability of these results is subject to certain limitations, which may impact on the willingness to make an impulsive choice. For instance, limits relate: (i) to the use of a non-probabilistic sample; (ii) the distorting effect of the memory effort in contextualizing the state of mind of a purchase made over a relatively long period of time (up to six months); (iii) the lack of distinction between different reason of use (i.e. primary or secondary smartphone), which may impact on the viability of an impulse behavior; (iv) the perception of brands, which may elicit different cognitive/affective attitudes. Eventually, future researches could take into account: (i) the study of the same phenomenon applied to mobile devices, in order to assess the extent to which they influence the attitude toward impulsivity; (ii) the differentiation among sex and instruction level, which might produce specific behaviors and reactions in terms of impulse buying and cognitive dissonance.

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