

Rein it in. Nudge-based interventions to cope with online impulse buying among young adults

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Abstract

Impulse buying represents a relevant behavioural phenomenon in the e-commerce environment both in economic and social terms. In this context, young adults embody an acknowledged portion of online impulse buyers. Although a single impulse purchase does not pose real risks for the individual, excessive impulse buying has a significant weight on social welfare. This research discusses possible nudge-based interventions for immediate coping with online impulse buying. Starting from an outline of the core factors that typify impulse purchasing, the paper introduces three different interventions in the form of nudges, namely designing for interactional friction, engaging in distraction, and the timely provision of feedback. Lastly, the research discusses the implications for online retailers and policymakers in terms of collaborative approaches to foster consumer trust, enhance brand reputation, reduce logistics costs, and promote public support.

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Keywords

impulse buying — impulsivity — nudge — coping strategy — consumer behaviour

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Introduction

Although the purchasing act is often described as a process moved by a sheer cognitive motive, several research studies have highlighted the existence of deviances from rational choice models. Impulse buying (IB) represents a notable phenomenon undermining such rational decision-making models in the shopping context (Strack et al., 2006). This behaviour is conceptualised as a sudden act of purchase with no pre-shopping intentions, low effort in decision-making, and a powerful emotional charge (Beatty & Ferrell, 1998; Rook, 1987; Rook & Fisher, 1995; Stern, 1962). Originally studied in physical stores, IB behaviours have also been investigated in digital marketplaces (Chan et al., 2017). Indeed, internet-enabled platforms embody several elements that favour the externalisation of IB, including significant product assortment, around-the-clock product accessibility, and delivery convenience in environments often devoid of social pressures. These contextual elements are inherent in digital marketplaces and represent a set of situational factors that distinguish online from offline IB (Aragoncillo & Orús, 2018). In this context, the impact of the Covid-19 pandemic has reportedly exacerbated this trend, hence highlighting the contemporary significance of this consumer behaviour (MarketWatch, 2020).

Young adults represent an acknowledged portion of online impulse buyers. As a matter of fact, younger age has been often recognised as a significant factor positively correlated with IB (Amos et al., 2014; Kacen & Lee, 2002; Liao et al.,

2009). This phenomenon finds support also in the broader behavioural literature. Young adults show the tendency to experience a stronger biological drive for novel activities, while their risk assessment capabilities are not fully developed (Spear, 2000). Moreover, their actions are often driven by a high materialistic value orientation or a low ability to restrain urges (Duarte et al., 2013; Kasser & Kanner, 2004).

Policymakers have long recognised the weight of impulse buying on social welfare (d'Astous, 1990; Wood, 1998). In particular, policymaking has focused on the negative individual consequences of IB, including negatively valenced rationalisations such as feelings of guilt, regret, dissatisfaction, or cognitive dissonance derived from excessive IB (Silvera et al., 2008). Excessive IB ultimately proves to be negatively associated with individual wellbeing and appears to trigger compulsive buying behaviours (Darrat et al., 2016; Verplanken et al., 2005). The policymaking perspective focuses on consumers for whom IB serves to manage psychological problems and examines potential measures to protect them against the detrimental consequences of excessive impulsive purchasing (Islam et al., 2017). Along this line of thinking, different interventions have been conceived to cope with excessive IB. These are directed at three time points in the buying process, namely during an upcoming shopping occasion (i.e. anticipatory coping), before a purchasing act (i.e. immediate coping), and after falling into a shopping temptation (i.e. restorative coping) (Yi & Baumgartner, 2011). An illustrative example of anticipatory coping is advanced by Verplanken & Sato (2011)

who stress the provision of information to strengthen self-regulation capabilities. These include communication strategies focusing on monetary prudence, pre-factual thinking, or anticipated regret. With a similar intent, Yi & Baumgartner (2011) investigate eight restorative coping strategies, ranging from planning to reduce IB to rationalisation.

Past and current efforts to persuade consumers to curb excessive IB, however, have been concentrated on the provision of objective information (Silvera et al., 2008; Verplanken & Sato, 2011). Namely, interventions have relied on influencing how individuals consciously think about their own behaviour, assuming that increasing individual knowledge will result in healthier behaviours. These approaches have not always proven flawless, given that a relevant proportion of the variance in behaviour is not explained by rational intentions. By way of example, in their meta-analysis, Webb & Sheeran (2006) show that even significant changes in intention often lead to a minor variation in actual behaviour.

The present research focuses on interventions aimed at adjusting the purchasing environment, rather than informing the user on the perils of excessive IB. In other words, the discussion centres on the choice architecture characterising the online purchasing process. Interventions aimed at modifying the decision-making context to change individuals' behaviour are commonly defined as “nudges” (Thaler & Sunstein, 2008). These approaches are conceived neither to substantially influence the individual economic incentives (e.g., time or money) nor to restrict any specific choice. At the same time, nudges are designed to target individual automatic processes, hence they do not rely on full cognitive engagement or rational thinking. This work posits that this approach might fit IB occurrences given the significant rapidity and spontaneity that distinguish impulsive purchases.

Recent studies have shown the effectiveness of nudges in several contexts ranging from promoting healthier grocery purchases in individuals with food insecurity (Coffino et al., 2020) to hand-washing behaviour in public venues (Blackwell et al., 2018). Accordingly, a contemporary research line has stemmed intending to delve into how behaviourally informed interventions can support research in consumer behaviour and consumer policy (Reisch & Zhao, 2017). The present research goes along this line of thinking. Namely, it aims at introducing a set of nudge-based interventions targeting young consumers for immediate coping with online IB. Building on the core elements characterising IB, the research contributes to the existing literature by suggesting that policy initiatives for coping with online IB might benefit from adopting behaviourally based interventions. While supporting evidence of successful behavioural interventions exists in parallel fields (e.g., Blackwell et al., 2018; Coffino et al., 2020), to the best of the author's knowledge there have been no studies conceptualising behavioural approaches to cope with excessive online IB. Accordingly, this research sets out with the goal of advancing possible theoretical conceptualisations in form of nudges.

The remaining part of the paper proceeds as follows. First, the core factors distinguishing IB are introduced with reference to psychology and marketing literature. Next, each core factor is linked to a set of possible nudge-based interventions, which are outlined in conceptual terms. This section is conceived to connect existing behavioural approaches to nudge the consumer towards appropriate decision-making. Implications for stakeholders including online retailers and policymakers are discussed in the final section.

Core factors of Impulse Buying

IB has been broadly recognised as a multifaceted construct that involves individual personality traits, affective states, normative evaluations, self-perception, and situational factors (Iyer et al., 2020; Xiao & Nicholson, 2013). Among these facets, impulse buying tendencies represent the most recurrent significant trigger (Amos et al., 2014). At its core, impulse buying tendency shares significant features with impulsivity (Eysenck & Eysenck, 1977; Weun et al., 1998). Although several definitions of impulsivity exist (Evenden, 1999) researchers concur that impulsivity encompasses different sub-factors (Barratt, 1985; Carver & White, 1994; Whiteside & Lynam, 2001). Among the different models, previous attempts to link impulsivity to IB (Jones et al., 2003; Weun et al., 1998) have relied on the reference scale developed by Barratt (1985). This conceptualisation posits that the factors that depict impulsivity correspond to (i) motor activation, (ii) cognitive inattentiveness, and (iii) lack of long-term orientation.

Motor activation refers to a purchasing action performed on the spur of moment (Beatty & Ferrell, 1998; Rook, 1987). In this instance, the time interval between seeing the item and the buying act results to be brief and the purchasing decision is quickly made. The purchasing decision follows an urge to buy, thus being spontaneous. Moreover, the individual buying on impulse is not likely to postpone the purchase to gather more information or seek advice from external sources.

The second core element is related to cognitive inattentiveness, namely a lack of focusing on the task at hand. The purchasing action appears as an unreflective action made without engaging in a great deal of evaluation (Beatty & Ferrell, 1998; Rook & Hoch, 1985). Such a bounded cognitive involvement, individuals lack the ability to pay attention to stimuli that occur simultaneously or in close temporal proximity (Barratt, 1987).

Lastly, impulse purchases are characterised by a lack of long-term orientation. Indeed, the purchasing action do not results to be driven by pre-shopping intentions, rather it is triggered by on-the-spot judgments (Piron, 1991; Rook & Fisher, 1995). Impulse buyers are hence not likely to consider the consequences of the buying. At the same time, the act is not preceded by a careful evaluation or purchasing planning, rather the individual pursues an immediate gratification to respond to the urge to buy and pursue short-terministic goals (Hoch & Loewenstein, 1991).

Nudge-based interventions to cope with online Impulse Buying

The present research conceptualises three possible interventions, each tackling one of the previously discussed core factors of IB. The first intervention involves the introduction of elements of friction to contrast the momentum of motor activation. Second, choice architects might leverage elements of distraction to deter mindless forms of interaction. Lastly, timely feedback is discussed as a mean to oppose short-terministic goals. These are discussed in the following.

Design friction to contrast the momentum

Interactional friction is intended as a mean that inhibits users from painlessly achieving their goals when they interact with an environment (Mejtoft et al., 2019). Adding points of difficulty during the digital interaction aims at slowing down the speed of action. Such a deceleration, in turn, is expected to curb buying actions performed on the spur of moment. Indeed, users must effortfully slow down and consider ways to overcome the interactional friction, thus halting spontaneous impetuses to go forth. The goal of introducing friction along the purchasing process is not the creation of additional burdensome steps, rather it is to make users ponder their actions. Users can hence reflect on what they are doing and potentially reduce the risk of miscalculations.

Adding friction is also intended to foster the perceived value of the performed action. When users invest a significant amount of effort, the value they associate with their action tends to be greater. Such a phenomenon is recognised as the IKEA effect, whereby the higher valuation is related to the justification of the higher effort (Norton et al., 2012). For this to occur, buyers need to be motivated to invest time and energy to increase the value they associate with the buying act. Therefore, opposite to a fast and intuitive purchasing process, interactional friction can support more mindful buying decisions.

The introduction of friction is backed by the Slow Technology approach. This promotes the wellbeing of individuals by means of slowing down the pace of interactions with technology (Hallnäs & Redström, 2001). The approach is intended to induce contemplation and reflective consumption. An illustrative example is represented by system dialogs where the user must confirm an action, such as deleting a file or sending an email. When users consult these messages, they can be prompted to reflect on the next action. Relying on the same principle, this work posits that interactional friction to cope with immediate IB behaviour may take shape in two forms. The first conceived option is to nudge the buyer towards the postponement of the buying action. The deferral of the purchase can be nudged through “save for later” options automatically presented at the moment of purchase. As a matter of fact, several e-commerce websites offer already the possibility to add desired products to wish lists or personal archives and buy the product at a later stage. The same mech-

anism might be employed to contrast the momentum of motor activation. This is conceived to be effective when presented after the product selection, namely when it is placed in the shopping cart. Such a further step in the purchasing process may deter instinctive actions to conclude the deal and foster critical thinking by inquiring the user about the usefulness of buying the product at that specific time.

A further devised intervention resides in contextualizing the object to be purchased. This approach involves the introduction of an element of friction that helps users to realise how often they are going to use the product or service to be purchased. The friction is envisioned in the form of a visual pop-up message to be displayed at the moment of purchase and it is expected to enquire the interested buyer about her frequency of use of the purchase. This additional step preceding a potential purchase is envisioned to slow down urges to buy and encourage critical thinking.

The nudge-based interventions described so far are envisaged as options to adjust the choice architecture by introducing a trivial element of friction prior to the click that formalises an act of purchase. Accordingly, the interventions are meant to be easy and cheap. At the same time, these elements are not designed to affect individual economic incentives, nor they are coercive to a specific choice. Individual freedom to purchase is then expected to be granted. Taken together, these factors align the presented interventions to the definition of a nudge (Thaler & Sunstein, 2008). These interventions are also expected to be significantly effective on young adults due to the fact that navigation speed and buying speed result significantly impacted by the younger age of the user (Lightner, 2003).

Engage in distraction to contrast mindless interaction

A second acknowledged strategy to cope with impulsivity is embodied by distraction. This is intended as the tuning out from the task at hand to focus on a secondary activity. Data from several studies suggest that engaging in distraction, especially in the face of tasks that offer immediate gratification, can effectively deter from yielding into temptation (Mischel et al., 1972; Rodriguez et al., 1989). For instance, Mischel et al. (1972) showed that children can cope better with a tempting option when they distract themselves (either spontaneously or by instruction), thus influencing their susceptibility to impulsivity.

Distraction is expected to leverage the second core factor of IB, namely cognitive inattentiveness. Urges to engage in impulsive purchasing behaviours are characterised by a state of strong desire that is hedonic in nature mainly driven by bottom-up attentive processes (Beatty & Ferrell, 1998). The presentation of a secondary salient stimulus is supposed to affect the same bottom-up processes which are thought to operate rapidly and involuntarily, thus overriding the original stimulus. Furthermore, the use of distraction as a coping mechanism is often associated with effective short-term relief,

thus acting on the impetus of mindless urges to buy (Paul et al., 2013).

The efficacy of distraction depends on the saliency of the distractor. If the distracting stimulus is presented as interesting to the individual, it generally has a greater effect on diverting the buyer's attention from the urge to purchase. Accordingly, salient distractors can be conceived to be tailored based on the user's preferences or past purchases. In practical terms, a distractor can be conceived either in the form of a pop-up video or as a side game diverting the attention from the prior activity. Both interventions are conceived to be shown before the choice of purchase to get the user side-tracked by an external distractor.

These interventions are meant to adjust the choice architecture by inserting an element of distraction antecedent to the conclusion of a purchase. In line with interventions falling in the realm of nudges, these are neither designed to influence individual economic incentives nor to ban any choice of purchase (Thaler & Sunstein, 2008). Furthermore, the addition of external distractors is conceived to be effective for young adults because of the constant use of technology. Indeed, evidence shows that young adults' behaviours tend to be more strongly affected by constantly switching tasks than older generations, hence less able to sustain attention (Richtel, 2011).

Provide timely feedback to uphold long-term goals

The provision of feedback represents a further strategy. This approach consists of the presentation of information about a specific action to an individual in order to increase personal awareness about such a process. Feedback messages prove to be an established nudged-based intervention, as they attract the individual's attention diverting it from other contextual stimuli (Sunstein, 2014). This principle is also employed to foster responsible behaviours. As a matter of example, in the last decade the field of slot machine gambling has experienced an increased application of feedback mechanisms to facilitate responsible gambling (Griffiths, 2012). These mechanisms are shaped as pop-up messages that give feedback to the player about the time and money invested in the gambling session. These are often designed as queries (e.g., "Do you know how long you have been playing?", "Do you need to think about a break?") that interrupt a gambling session and grab the player's attention to convey responsible gambling information and encourage self-appraisal (Auer & Griffiths, 2015).

Previous research has tested the use of feedbacks as nudges to promote responsible online consumer behaviour. In particular, Esposito et al. (2017) showed that the introduction of emotive warning messages can reduce the purchase of incompatible goods. In more general terms, the provision of feedback to buyers can be either aimed at informing about the time spent in the online purchase process or fostering reflection about the future consequences of the purchase. Informational feedbacks about the use time prove to be effective to curb cognitive absorption and ultimately decreasing the

individual's intention to use (Jumaan et al., 2020). Alternatively, timely notifying buyers may help consumers to reflect on their immediate action and foster critical thinking towards the achievement of long-term goals. Along this line of thinking, feedbacks may foster gratification's deferral favouring self-control and nudge behaviours towards choosing the larger-but-later rather than the smaller-but-sooner reward (Calluso et al., 2019; Peters & Büchel, 2011).

The provision of timely feedback to cope with online IB is conceived in two forms. First, feedback may be designed as a pop-up message reminding the users how much they spent over a defined period of time (e.g., Esposito et al., 2017). This message is expected to appear before the click that formalises the purchase and is intended to curb cognitive absorption and stimulate a reflection on past actions. This action may further stimulate a sense of guilt stemming from transgressing personal standards, which in turn, can trigger avoidant coping strategies (Yi & Baumgartner, 2011).

Alternatively, the provision of feedback can be supported by pre-commitment strategies. Namely, users may set a voluntary monetary limit for a specified time frame (e.g., monthly or weekly) for specific product categories (e.g., apparel, entertainment). This monetary limit, in turn, shall be displayed to the users every time they are about to perform an online purchase. The intervention is based on the principle of budgeting, whereby individuals set different budgets for different purposes and treat these budgets as separate when performing purchases. In addition, categorising the purchases would further increase their salience to the buyer (Huebner et al., 2020). If this information is timely presented to the buyer, the limit on purchasing turns a theoretically abstract concept into a concrete plan, thus potentially increasing its effectiveness.

Implications for stakeholders

The proposed nudge-based interventions have several implications for the stakeholders involved in the offer side of online commerce, namely retailers and policymakers. First, online retailers can increase consumer trust through the introduction of nudges to curb individuals' IB. These interventions can foster consumer protection offering mechanisms that mitigate consumer risks related to excessive IB, thus positively influencing perceived trust towards the digital marketplace. Strengthening consumer trust would further support the development of long-term relationships with possible improvements in terms of customer lifetime value. In particular, following a relationship marketing perspective, trust is expected to embody a precursor of commitment that eventually increases customer equity (Stahl et al., 2003).

Second, long-term benefits are also conceived to be achieved in terms of brand image. Online retailers may exploit nudge-based interventions to outline their positioning and create positive externalities in terms of brand value. Strengthening the perception of how human welfare is considered by the brand will help the customer to feel secure and safe-

guarded. Such positive individual predispositions towards the brand may imply positive effects in terms of brand reputation and loyalty.

Third, the prevention of excessive IB is expected to lower product return rates attributable either to consumer regret or purchase miscalculations. Indeed, evidence shows that return behaviour is directly related to buying impulsiveness (Kang & Johnson, 2009). Considering the significant logistics costs associated with product returns (Minnema et al., 2016), online retailers are expected to benefit from savings related to reverse logistics, returns management, and reduce potential product refunds.

Policymakers can benefit from the theorised nudge-based interventions as well. The introduction of preventive measures for consumer protection is expected to curtail the social costs related to excessive IB (Silvera et al., 2008) or the onset of compulsive behaviours (Darrat et al., 2016). To this end, specific efforts in developing targeted public policies are suggested. A policy roadmap to foster consumer protection shall be conceived in the first place. Policymakers should promote knowledge about the risks associated with excessive IB and formulating recommendations. Specific social marketing campaigns should be designed to curtail the perception of IB as “harmless fun” (Silvera et al., 2008) and specific recommendations for prevention mechanisms should be provided. The three nudge-based interventions described in this paper can be encompassed among these recommendations. In their introductory phase, these interventions can be promoted as voluntary options. Namely, online users might deliberately choose to activate online features to foster consumer protection, similarly to accessibility functions for visual disabilities or online safety for minors. The voluntary activation of nudge-based interventions would not forbid any purchasing options to the buyer and act as a form of self-nudge (Reijula & Hertwig, 2020). Furthermore, the voluntary activation would grant that individual preferences are gathered with direct user consent, in line with the extant General Data Protection Regulation (Zhang et al., 2020).

Second, policymakers should consider possible approaches to raise awareness about design practices adopted in the experience design on online marketplaces. Of particular concern are instances recognised as “dark patterns”, where platform designers implement deceptive functionalities. Such dark patterns embody interface design choices that steer users into making unintended and potentially harmful decisions (Gray et al., 2018; Mathur et al., 2019). These instances ultimately tend to favour the online retailer from a short-term perspective at the expense of the user. To prevent the widespread use of such design practices, policymakers should promote coordinated efforts to foster ethical awareness in user experience design. This requires the diffusion of educational campaigns to raise ethical awareness and responsibility in current and future design practice. Such efforts should be aimed at fostering reflections about conceivable ethical standards for the user experience of online buyers.

Turning the conceived suggestions into practice will require targeted actions. Policymakers are specifically expected to act as mediators between upstream and downstream actors. That is, bringing to terms the online retailers’ economic needs and consumers’ protection. To this end, policy implementations require close collaboration between policymakers and retailers. This collaborative approach implies that policymakers and retailers must meet and follow a multilateral process aimed at building a shared understanding of the issue and a commitment to curtailing it. Direct dialogue is necessary for stakeholders to identify opportunities for mutual long-term gains. Shifting from a short- to a long-term perspective would also encourage the adoption of the three conceived nudge-based interventions. Indeed, although apparently conflicting in the short-term with the usability principle of efficiency of use (Nielsen, 1994), the suggested interventions are intended to encourage long-term benefits, including consumer trust, brand reputation, reduced logistics costs, and public support. In these terms, consumer policy should react to ensure that online shopping regulations are effective in protecting online customers, especially the most vulnerable or prone to impulsive behaviours.

Conclusions

This paper sets out to introduce possible nudge-based interventions for immediate coping with online IB. Starting from an outline of the three core factors that typify IB, different interventions in the form of nudges were conceived to target young adults. This work contributes to existing knowledge of online IB by providing a set of approaches modulating the choice architecture to prevent excessive IB. The work is intended to complement the existing body of knowledge concerned with consumer protection. Overall, the theorised nudges are not intended to be applied as separated interventions, rather a combination of these may be introduced to strengthen their efficacy. To this end, policymakers should promote collaborative approaches with online retailers to foster knowledge about the risks associated with excessive IB, advance recommendations for the voluntary adoption of nudge-based interventions, and promote ethical awareness in user experience design.

The study is limited by the lack of empirical data on the implementation of the interventions. Therefore, a natural progression of this work is to test these interventions through controlled trials to shed light on their effectiveness. Future research should be undertaken involving online retailers. In particular, the participation of practitioners would help to advance tailored solutions to specific online marketplaces and ultimately show the potential upturns of the proposed interventions. Possible factors to investigate include, for instance, the framing of the message’s content. Esposito et al. (2017) underscore the importance of message framing by showing that differently framed messages imply dissimilar effectiveness, whereby a message devoid of emotive content appears to be no more effective than no message at all. Experimenting different message framings on real online stores and testing their link

to a reduction in excessive IB is strongly recommended. In concrete terms, future research might be shaped as actual A/B testing in an ecological setting. In a similar fashion, a further study could test the design of budgeting thresholds that responds to individuals' needs. Applied research on real digital marketplaces might investigate individual budgeting schemes that promote long-term rewards to avoid that spending limits become an incentive to overspend when users realise that they are far below their spending limits. Lastly, an assessment of the long-term effectiveness of the solutions in terms of the development of decision-making competencies for young adults is advised. Indeed, it is not possible to know a priori whether every consumer will react similarly to these interventions, or whether these reactions will vary according to each individual.

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