Impulse Buying Behaviors in a Digital World



Maryam Husain Almahdi, Jameela Radhi, Faisal Alhawaj, and Abdulrageeb Najeeb

1 Introduction

Impulse buying is a widespread and well-researched, albeit quite enigmatic, phenomenon (Kalla & Arora, 2011; Hausman, 2000; Rook, 1987). Research on impulse buying begun in the context of brick-and-mortar retailers in the early 1950s (Clover, 1950; Muruganantham & Bhakat, 2013) and expanded since then to cover different types of shopping environments, including electronic commerce (e-commerce) and social media (Aragoncillo & Orus, 2018). Statistics show that between 40% and 80% of customers' purchases are impulse purchases, depending on the product type and store setting (Aragoncillo & Orus, 2018; Jeffrey & Hodge, 2007; Amos et al., 2014; Verhagen & Van Dolen, 2011). The advent of the COVID-19 pandemic contributed to a spike in customer impulse buying behaviors, especially online (Lee, 2022). This explains why impulse buying is continuously regarded an important area of research from a marketing perspective (Wang & Chapa, 2022; Chen et al., 2022).

In a modern digital world, scholars and marketers continue striving to learn how to boost sales by creating shopping environments that entice impulse buying behaviors (Kalla & Arora, 2011; Amos et al., 2014; Beatty & Ferrell, 1998; Kacen & Lee, 2002; Abdelsalam et al., 2020; Parsad et al., 2017; Jones et al., 2003). Paying attention to emerging and growing shopping environments, such as social commerce, social media, and e-commerce is thus a key factor to help understand the wide array of customer impulse buying behaviors, what influences them, and how to direct them towards acheiving desired marketing outcomes (Dodoo & Wu, 2019;

M. H. Almahdi (⊠)

American University of Bahrain, Riffa, Kingdom of Bahrain

J. Radhi · F. Alhawaj · A. Najeeb Ahlia University, Manama, Kingdom of Bahrain 200 M. H. Almahdi et al.

Liu et al., 2013; Huang, 2016). This gains additional importance, considering the dynamic, ever-evolving, nature of customers' online shopping preferences and experiences (Almahdi, 2018).

In this paper, an overview of the meaning and types of impulsive buying behaviors is first presented, followed by a discussion of impulse buying on different digital platforms. The physical and digital stimuli that encourage impulse buying behaviors are highlighted after. The paper is concluded with a discussion of relevant future research directions.

2 An Overview of Impulsive Buying Behavior

Dennis Rook, one of the leading researchers in the field of impulse buying, explains the concept as a strong and sudden desire by a customer to acquire a product immediately and with little regard to consequence (Rook, 1987). In other words, an impulsive buyer will feel a strong and pressing urge to purchase, that seems beyond their control, and will hence have little time to think between deciding to buy and carrying out the purchase (Rook, 1987; Wang & Chapa, 2022; Jones et al., 2003; Faber, 2010).

Impulse buying is thus defined as "a sudden, compelling, hedonically complex purchase behavior in which the rapidity of the impulse purchase decision precludes any thoughtful, deliberate consideration of alternatives or future implications" (Sharma et al., 2010, p. 277). Another, more detailed, definition of impulse buying is brought forward by Beatty and Ferrell. According to them, it is "a sudden and immediate purchase with no pre-shopping intentions either to buy the specific product category or to fulfill a specific buying task. The behavior occurs after experiencing an urge to buy and it tends to be spontaneous and without a lot of reflection" (Beatty & Ferrell, 1998, p. 170).

It is key to note that despite, sometimes, being used interchangeably in research (Stern, 1962; Cobb, 2009), the concepts of impulse buying and unplanned purchasing are conceptually different (Aragoncillo & Orus, 2018; Beatty & Ferrell, 1998; Jones et al., 2003). While the first is characterized by the customer's strong emotional urge that leads them to buy in order to seek release (Verhagen & Van Dolen, 2011; Beatty & Ferrell, 1998), the latter is simply about buying something that might not be on the shopping list, without a lot emotions tied to the purchase (Amos et al., 2014).

Four types of impulse buying are identified in the literature: pure, reminder, suggestion, and planned (Stern, 1962; Han et al., 1991). Pure impulse buying is observed when "a person breaks a normal buying pattern" (Stern, 1962, p. 59), purchasing something totally out of impulse, for fun or escapism (Muruganantham & Bhakat, 2013). Reminder impulse buying is when a buyer's impulse purchase is sparked by an external factor they were previously exposed to, like a particular marketing message, a prior shopping experience, or a product (Muruganantham & Bhakat, 2013; Stern, 1962). Suggestion impulse buying occurs when a buyer has no

previous knowledge about the product but envisions a possible future need for it (Stern, 1962). Finally, planned impulse buying happens when a buyer has the intention of buying certain products when going shopping but expects they might make other purchases if swayed by offers and promotions (Muruganantham & Bhakat, 2013; Stern, 1962).

3 Online Impulsive Buying Behavior

Due to the growth of the Internet and social media technologies and their strong influence on the shopping experience of customers (Almahdi & Archer-Brown, 2022), research on impulse buying has, inevitably, extended to the context of online shopping (Wells et al., 2011; Chan et al., 2017). This research direction is especially important as 56% of people report that more than half of their online purchases are impulsive (Lee, 2022). Still, research on online impulse buying behaviors only started to gain traction in recent years and is still quite limited in comparison to research on planned online shopping and that on impulse buying in physical environments (Verhagen & Van Dolen, 2011; Shen & Khalifa, 2012).

One of the main discussion points regarding online impulse buying in prior research is whether online environments encourage impulse buying behaviors or not. One direction of research posits that online environments entice the customers to buy impulsively (Moran, 2015; Gupta, 2011; LaRose, 2001), due to their convenience, anonymity, and interactivity (Aragoncillo & Orus, 2018; Verhagen & Van Dolen, 2011; Dodoo & Wu, 2019; Dawson & Kim, 2010). The wide product assortment and advanced online marketing strategies utilized are additional reasons why online environments are thought to encourage impulse buying behaviors (LaRose, 2001; Greenfield, 1999). Online shopping environments are expected to relieve the customers from the inconveniences of physical stores and therefore encourage their impulse shopping behaviors (Chan et al., 2017). As Dodoo puts it, "impulse buying connotes immediacy in purchase behavior and e-commerce permits individuals with the ability to exert the minutest expenditure of time and effort" (Dodoo & Wu, 2019, p. 74).

Still, another line of research establishes that due to the modern customer's familiarity with online shopping, the ease of finding product information and comparisons, and the delayed gratification of having to wait to receive one's ordered products, customers are more likely make planned, unemotional purchases online (Aragoncillo & Orus, 2018; Verhagen & Van Dolen, 2011; Kacen & Lee, 2002; Moe & Fader, 2004). It is, thus, suggested that physical shopping environments are more likely to encourage impulse buying due to their immediacy and ability to stimulate the senses and foster hedonic motivations (Aragoncillo & Orus, 2018; Gupta, 2011; Peck & Childers, 2006).

Despite this discrepancy, marketers still try to imitate the physical shopping experience when designing online stores, in an attempt to encourage online impulse

buying (Median News, 2020). This is achieved by designing them in a way that minimizes barriers to purchase, presenting vivid pictures and videos, sharing detailed product specifications (Aragoncillo & Orus, 2018), and offering virtual environmental cues (Dodoo & Wu, 2019), and one-click buying features (Jeffrey & Hodge, 2007; Shen & Khalifa, 2012). Marketers have also been utilizing the interactive technologies of social media to encourage impulse buying (Dodoo & Wu, 2019), which we discuss in further detail in the following section.

4 Impulsive Buying Behavior on Social Media

Despite limited research in this area, it is key to address the influence of social media on customers' impulse buying behaviors (Huang, 2016; Zafar et al., 2021; Baker Oureshi et al., 2019). Unlike the afore-discussed contradicting views on impulse buying in e-commerce environments, research is consistent in positively linking social media and impulse buying behaviors (Aragoncillo & Orus, 2018; Zafar et al., 2021; Baker Oureshi et al., 2019). This is due to customers generally spending extended periods of time using social media and constantly receiving highly personalized marketing stimuli, which encourage their impulse buying behaviors (Dodoo & Wu, 2019; Huang, 2016; Nuseir, 2020; Baker Qureshi et al., 2019). The social experiences of customers while using social media (e.g., posting and viewing shopping recommendations, reviews, and product pictures) is another important difference that sets social media apart from other online shopping platforms (Baker Oureshi et al., 2019). The impact of friends and other social media influencers on impulse buying is an additional key factor to consider (Nuseir, 2020; Baker Qureshi et al., 2019). Zafar and colleagues found that the authenticity of the product-related content posted by online influencers encouraged their followers' impulse buying behaviors (Zafar et al., 2021). This is due to their perceived believability and trustworthiness in the eyes of the customers (Almahdi et al., 2022). In line with the marketing efforts in manipulating e-shopping environments to encourage impulse buying, Nuseir recommends utilizing well-designed advertisements, multimedia formats, and social presence to achieve this goal in social media shopping environments (Nuseir, 2020).

It is interesting to note here that while the anonymous nature of e-commerce has been cited in prior research as an encouraging factor of online impulse buying (Aragoncillo & Orus, 2018), the social capabilities of social media are highlighted in more recent research as the reason such platforms encourage impulse buying behaviors (Abdelsalam et al., 2020; Huang, 2016).

This and other influencing factors of impulse buying behaviors, both in physical and digital environments, are discussed in the following part of the paper.

5 Factors Influencing Impulse Buying Behavior

Various factors are expected to influence impulse buying behavior, including the location and time of the purchase, buyers' personality traits, as well as larger economic and cultural factors (Aragoncillo & Orus, 2018; Stern, 1962; Youn & Faber, 2000). These factors do not only influence different buyers in a variety of ways, but can influence the same buyers differently in different situations (Stern, 1962). These influences are organized into four categories in the literature: external stimuli, internal stimuli, situational factors, and demographic and sociocultural factors (Muruganantham & Bhakat, 2013). Each category is discussed in more detail in the following subsections.

5.1 External Stimuli

Impulse buying is described as "buying that presumably was not planned by the customer before entering a store, but which resulted from a stimulus created... in the store" (Applebaum, 1951, p. 176). This statement reflects how external stimuli (e.g., environmental factors, sensory stimuli, and atmospheric cues) can affect the customers' impulse buying behavior (Youn & Faber, 2000). Indeed, it was found that when a shopping environment is stimulating and highly enjoyable (Milliman & Fugate, 1993), impulse buying is more likely to occur (Donovan & Rossiter, 1982; Donovan et al., 1994).

External stimuli include marketing mix elements and marketer-controlled cues that are used to alleviate barriers to purchase and entice customers to buy impulsively (Stern, 1962; Youn & Faber, 2000; Applebaum, 1951; Piron, 1991). In a physical shopping setting, such stimuli include store size and ambience (Muruganantham & Bhakat, 2013), exclusive aromas and sounds (Holbrook & Anand, 1990; Kaur & Singh, 2007; Mattila & Wirtz, 2008), advertisements and sales promotions (Youn & Faber, 2000; Applebaum, 1951), colors and other visual in-store elements (Stern, 1962; Valdez & OTROS, 1999), as well as product displays (Hultén & Vanyushyn, 2011). In a digital shopping environment (e.g., an e-commerce website or social media platform), external cues that encourage impulse buying include website design quality and visual appeal, interactivity and navigability, clear product information, and personalized marketing messages (Kalla & Arora, 2011; Dodoo & Wu, 2019; Shen & Khalifa, 2012; Nuseir, 2020; Parboteeah et al., 2009).

In addition to visual and experiential cues related to the shopping environment, social cues are considered important external stimuli that affect customers' impulse buying (Hausman, 2000; Mattila & Wirtz, 2008). These include the conduct and friendliness of store employees and customers, social comparison behaviors, and peer influences (Liu et al., 2013; Huang, 2016; Nuseir, 2020; Zafar et al., 2021; Mattila & Wirtz, 2008). Finally, the availability, security, and ease of use of credit

cards and other non-cash payment methods are considered an encouraging external factor of impulse buying (Rook, 1987; Youn & Faber, 2000).

5.2 Internal Stimuli

Internal stimuli are characterized by a shopper's personality, emotions, motivations, and decision-making processes (Kalla & Arora, 2011; Muruganantham & Bhakat, 2013; Aragoncillo & Orus, 2018; Argo et al., 2005). A highly researched type of internal stimuli, tied to impulse buying, is customers' hedonic motivations (Hausman, 2000; Argo et al., 2005). In the context of this filed of research, hedonic motivations are feelings of enjoyment, amusement, and pleasure that result from the shopping experience (Hausman, 2000; Beatty & Ferrell, 1998). Going through such feelings often compels customers to buy with little or no prior planning (Hausman, 2000) due to a sense of freedom, novelty, or a desire to reward oneself (Muruganantham & Bhakat, 2013; Gardner & Rook, 1988). Indeed, Ramanathan and Menon explain that impulse buying is often "driven by hedonic, or pleasure-seeking, goals that may cause a person to experience desires for related objects or products" (Ramanathan & Menon, 2006, p. 629). Interestingly, impulse buying can also be driven by negative feelings and the customers' desire to eliminate these feelings by engaging in spontaneous shopping activities (Chen et al., 2022).

Another type of internal stimuli, which is tied to impulse buying, is customer personality characteristics, including impulsivity, stress reaction, and trust, in addition to variety seeking, mood regulating, and escapism behaviors (Rook, 1987; Liu et al., 2013; Baker Qureshi et al., 2019; Youn & Faber, 2000; Bratko et al., 2013; Atalay & Meloy, 2011). Scholars have found a relationship between impulsivity and impulse buying in prior research (Parsad et al., 2017; Dawson & Kim, 2009), where customers with greater impulsive tendencies were more likely to be influenced by external shopping stimuli, fueling their impulse buying behaviors (Youn & Faber, 2000).

5.3 Situational Factors

In addition to external and internal stimuli, situational factors have been found to similarly influence impulse buying in consumers (Rook, 1987; Aminosharieh & Mowlaie, 2017). In this sense, situational factors include the time and season of the shopping trip and types and positioning of the products, along with store location (Liu et al., 2013; Shapiro, 2001; Yu & Bastin, 2017). To highlight the importance of situational factors in influencing impulse buying, marketers address the widespread strategy of placing profitable items clearly near the store's checkout counter so they would grab the attention of the customers, who are then left with little time to deliberate before purchasing them (Shapiro, 2001). Another situational factor

discussed in prior research is time, although findings are contradictory regarding the effect of time on impulse purchasing. Indeed, it has been suggested that individuals who have the leisure of more time will be more likely to carry out impulse purchasing (Jeffrey & Hodge, 2007; Beatty & Ferrell, 1998; Jeon, 1990). However, impulse buying equally "represents a rational alternative to more time-consuming search behaviors" (Hausman, 2000, p. 413). A major situational factor that disrupted the shopping sphere recently is the spread of the COVID-19 pandemic, which has been linked to increasing impulse buying behaviors in customers (Median News, 2020; Lahath et al., 2021).

5.4 Demographic and Sociocultural Factors

It has been found by various researchers that socio-cultural and demographic factors also play an important role in impulse purchase behaviors. For example, Lee and Kacen found that impulse buying varies across cultures and societies (Lee & Kacen, 2008), with people belonging to individualistic cultures more likely to purchase spontaneously than those belonging to collectivistic cultures (Lee & Kacen, 2008).

From a demographic perspective, a major difference in the motivations to engage in impulse purchasing behaviors was found between men and women (Kollat & Willett, 1967). Dittmar et al. report that men tend to engage in impulse purchasing to project their independence, while women do the same as a way to express their emotions (Dittmar et al., 1995). This is in line with an earlier study by Rook and Hoch, who found that women engage in impulse purchasing due to higher emotional motivations than those of men engaging in the same behavior (Rook & Hoch, 1985). Also from a demographic perspective, research indicates that consumers from different generations practice different buying behaviors. For example, the buying behavior of baby boomers (born between1946 and 1964) has been found to be mainly need-driven (Cortes, 2004), while millennials (generation Y, born between 1985 and 1996) have been observed to spend their money as soon as they earn it, typically on personal services and other consumer goods (Der Hovanesian, 1999). This means that millennials are more likely than their predecessors to engage in impulse buying behaviors (Xu, 2007). Other demographic and socio-cultural factors that affect impulse buying behaviors include income, education, and socioeconomical status (Liu et al., 2013).

6 Summary and Future Research Directions

Based on our overview of impulse buying research in a digital world, we recommend that further research attention is dedicated to understanding customers' buying behaviors in both online and social media environments. What gives this research direction additional importance is the fact that customers are dynamic,

which means that their behaviors and experiences keep evolving over time and with the introduction of new shopping technologies (Almahdi, 2018). Special attention should also be paid to investigating impulse buying behaviors on social commerce platforms (Abdelsalam et al., 2020), as they are an underexplored but promising novel shopping technology (Almahdi & Archer-Brown, 2022; Almahdi, 2021). Finally, the long-term effects of COVID-19 on customers' impulse (online and offline) buying behaviors is an interesting area of research to consider in the future (Lee, 2022; Wang & Chapa, 2022).

References

- Abdelsalam, S., et al. (2020). Understanding online impulse buying behavior in social commerce: A systematic literature review. *IEEE Access*, 8, 89041–89058.
- Almahdi, M. (2018). The evolution of interactivity in the context of social commerce: A multifaceted investigation. University of Bath.
- Almahdi, M. H. (2021). Social commerce: A concept explication. In A. M. A. Musleh Al-Sartawi, A. Razzaque, & M. M. Kamal (Eds.), Artificial intelligence systems and the internet of things in the digital era (pp. 398–404). Springer: Proceedings of EAMMIS 2021.
- Almahdi, M. H., & Archer-Brown, C. (2022). The role of interactivity in social commerce websites: A content analysis study. In A. M. Al-Sartawi (Ed.), *Artificial intelligence for sustainable finance and sustainable technology*. Springer.
- Almahdi, M. H., Alsayed, N., & Alabbas, A. (2022). In influencers we trust? A model of trust transfer in social media influencer marketing. In A. Hamdan et al. (Eds.), *Future of organizations and work after the 4th industrial revolution* (pp. 159–173). Springer.
- Aminosharieh, S., & Mowlaie, S. (2017). An investigation into individual and situational factors effective in the level of impulse buying behavior of customers. *Journal of Ecophysiology and Occupational Health*, 17(1/2), 68–71.
- Amos, C., Holmes, G. R., & Keneson, W. C. (2014). A meta-analysis of consumer impulse buying. *Journal of Retailing and Consumer Services*, 21(2), 86–97.
- Applebaum, W. (1951). Studying customer behavior in retail stores. *Journal of Marketing*, 16(2), 172–178.
- Aragoncillo, L., & Orus, C. (2018). Impulse buying behaviour: An online-offline comparative and the impact of social media. *Spanish Journal of Marketing-ESIC*, 22(1), 42–62.
- Argo, J. J., Dahl, D. W., & Manchanda, R. V. (2005). A non-interactive social presence in a retail setting: An investigation of its impact on consumers' emotions, cognitive performance, and self-presentation behaviors. ACR North American Advances.
- Atalay, A. S., & Meloy, M. G. (2011). Retail therapy: A strategic effort to improve mood. *Psychology & Marketing*, 28(6), 638–659.
- Baker Qureshi, P. A., Murtaza, F., & Kazi, A. G. (2019). The impact of social media on impulse buying behaviour in Hyderabad Sindh Pakistan. *International Journal of Entrepreneurial Research*, 2(2), 8–12.
- Beatty, S. E., & Ferrell, M. E. (1998). Impulse buying: Modeling its precursors. *Journal of Retailing*, 74(2), 169–191.
- Bratko, D., Butkovic, A., & Bosnjak, M. (2013). Twin study of impulsive buying and its overlap with personality. *Journal of Individual Differences*, 34(1), 8.
- Chan, T. K., Cheung, C. M., & Lee, Z. W. (2017). The state of online impulse-buying research: A literature analysis. *Information & Management*, 54(2), 204–217.

- Chen, S., Zhi, K., & Chen, Y. (2022). How active and passive social media use affects impulse buying in Chinese college students? The roles of emotional responses, gender, materialism and self-control. *Frontiers in Psychology*, 13, 1–15.
- Clover, V. T. (1950). Relative importance of impulse-buying in retail stores. *Journal of Marketing*, 15(1), 66–70.
- Cobb, S. C. (2009). Social presence and online learning: A current view from a research perspective. *Journal of Interactive Online Learning*, 8(3), 241–254.
- Cortes, R. (2004). Generation wars. Caribbean Business, 32(4), 18-22.
- Dawson, S., & Kim, M. (2009). External and internal trigger cues of impulse buying online. *Direct Marketing: An International Journal*, 3(1), 20–34.
- Dawson, S., & Kim, M. (2010). Cues on apparel web sites that trigger impulse purchases. *Journal of Fashion Marketing and Management: An International Journal*, 14(2), 230–246.
- Der Hovanesian, M. (1999). Spending it, investing it—coming on strong: The children of the baby boomers are affecting spending and investing as significantly as their parents did; the similarity ends there. *Wall Street Journal*, 12(2), 23–28.
- Dittmar, H., Beattie, J., & Friese, S. (1995). Gender identity and material symbols: Objects and decision considerations in impulse purchases. *Journal of Economic Psychology*, 16(3), 491–511.
- Dodoo, N. A., & Wu, L. (2019). Exploring the anteceding impact of personalised social media advertising on online impulse buying tendency. *International Journal of Internet Marketing* and Advertising, 13(1), 73–95.
- Donovan, R., & Rossiter, J. (1982). Store atmosphere: An environmental psychology approach. Journal of Retailing, 58(1), 34–57.
- Donovan, R. J., et al. (1994). Store atmosphere and purchasing behavior. *Journal of Retailing*, 70(3), 283–294.
- Faber, R. J. (2010). Impulsive and compulsive buying. Wiley international encyclopedia of marketing.
- Gardner, M. P., & Rook, D. W. (1988). Effects of impulse purchases on consumers' affective states. ACR North American Advances.
- Greenfield, D. N. (1999). Psychological characteristics of compulsive Internet use: A preliminary analysis. *Cyberpsychology & Behavior*, 2(5), 403–412.
- Gupta, P. (2011). Shopping impulses, online vs off. The New York Times. p. 2.
- Han, Y. K., et al. (1991). Impulse buying behavior of apparel purchasers. Clothing and Textiles Research Journal, 9(3), 15–21.
- Hausman, A. (2000). A multi-method investigation of consumer motivations in impulse buying behavior. *Journal of Consumer Marketing*, 17(5), 403–426.
- Holbrook, M. B., & Anand, P. (1990). Effects of tempo and situational arousal on the listener's perceptual and affective responses to music. *Psychology of Music*, 18(2), 150–162.
- Huang, L.-T. (2016). Flow and social capital theory in online impulse buying. *Journal of Business Research*, 69(6), 2277–2283.
- Hultén, P., & Vanyushyn, V. (2011). Impulse purchases of groceries in France and Sweden. *Journal of Consumer Marketing*, 28(5), 376–384.
- Jeffrey, S. A., & Hodge, R. (2007). Factors influencing impulse buying during an online purchase. *Electronic Commerce Research*, 7(3), 367–379.
- Jeon, J.-O. (1990). An empirical investigation of the relationship between affective states, in-store browsing, and impulse buying. The University of Alabama.
- Jones, M. A., et al. (2003). The product-specific nature of impulse buying tendency. *Journal of Business Research*, 56(7), 505–511.
- Kacen, J. J., & Lee, J. A. (2002). The influence of culture on consumer impulsive buying behavior. *Journal of Consumer Psychology*, 12(2), 163–176.
- Kalla, S. M., & Arora, A. (2011). Impulse buying: A literature review. Global Business Review, 12(1), 145–157.

208 M. H. Almahdi et al.

Kaur, P., & Singh, R. (2007). Uncovering retail shopping motives of Indian youth. Young Consumers. https://doi.org/10.1108/17473610710757491

- Kollat, D. T., & Willett, R. P. (1967). Customer impulse purchasing behavior. *Journal of Marketing Research*, 4(1), 21–31.
- Lahath, A., et al. (2021). Exploring food waste during the COVID-19 pandemic among Malaysian consumers: The effect of social media, neuroticism, and impulse buying on food waste. *Sustainable Production and Consumption*, 28, 519–531.
- LaRose, R. (2001). On the negative effects of e-commerce: A sociocognitive exploration of unregulated on-line buying. *Journal of Computer-Mediated Communication*, 6(3), JCMC631.
- Lee, B. (2022). 13 online shopping trends for 2022. Available from: https://www.sofi.com/learn/content/online-shopping-trends/
- Lee, J. A., & Kacen, J. J. (2008). Cultural influences on consumer satisfaction with impulse and planned purchase decisions. *Journal of Business Research*, 61(3), 265–272.
- Liu, Y., Li, H., & Hu, F. (2013). Website attributes in urging online impulse purchase: An empirical investigation on consumer perceptions. *Decision Support Systems*, *55*(3), 829–837.
- Mattila, A. S., & Wirtz, J. (2008). The role of store environmental stimulation and social factors on impulse purchasing. *Journal of Services Marketing*, 22(7), 562–567.
- Median News. (2020) [cited 2022, 19th of December]. *Impulse buying: Will it thrive in a digital, pandemic world?* Available from: https://www.medianews4u.com/impulse-buying-will-it-thrive-in-a-digital-pandemic-world/
- Milliman, R. E., & Fugate, D. L. (1993). Atmospherics as an emerging influence in the design of exchange environments. *Journal of Marketing Management* (10711988), 3(1), 66–75.
- Moe, W. W., & Fader, P. S. (2004). Dynamic conversion behavior at e-commerce sites. *Management Science*, 50(3), 326–335.
- Moran, B. (2015). Effect of stress, materialism and external stimuli on online impulse buying. *Journal of Research for Consumers*, 27, 26.
- Muruganantham, G., & Bhakat, R. S. (2013). A review of impulse buying behavior. *International Journal of Marketing Studies*, 5(3), 149.
- Nuseir, M. T. (2020). The extent of the influences of social media in creating 'impulse buying' tendencies. *International Journal of Business Innovation and Research*, 21(3), 324–335.
- Parboteeah, D. V., Valacich, J. S., & Wells, J. D. (2009). The influence of website characteristics on a consumer's urge to buy impulsively. *Information Systems Research*, 20(1), 60–78.
- Parsad, C., Prashar, S., & Tata, V. S. (2017). Understanding nature of store ambiance and individual impulse buying tendency on impulsive purchasing behaviour: An emerging market perspective. *Decision*, 44(4), 297–311.
- Peck, J., & Childers, T. L. (2006). If I touch it I have to have it: Individual and environmental influences on impulse purchasing. *Journal of Business Research*, 59(6), 765–769.
- Piron, F. (1991). Defining impulse purchasing. ACR North American Advances.
- Ramanathan, S., & Menon, G. (2006). Time-varying effects of chronic hedonic goals on impulsive behavior. *Journal of Marketing Research*, 43(4), 628–641.
- Rook, D. W. (1987). The buying impulse. Journal of Consumer Research, 14(2), 189–199.
- Rook, D. W., & Hoch, S. J. (1985). Consuming impulses. ACR North American Advances.
- Shapiro, M. F. (2001). Impulse purchases. NPN, National Petroleum News, 93(7), 40.
- Sharma, P., Sivakumaran, B., & Marshall, R. (2010). Impulse buying and variety seeking: A trait-correlates perspective. *Journal of Business Research*, 63(3), 276–283.
- Shen, K. N., & Khalifa, M. (2012). System design effects on online impulse buying. *Internet Research*, 22(4), 396–425.
- Stern, H. (1962). The significance of impulse buying today. Journal of Marketing, 26(2), 59-62.
- Szymkowiak, A., Gaczek, P., & Padma, P. (2021). Impulse buying in hospitality: The role of content posted by social media influencers. *Journal of Vacation Marketing*, 27(4), 385–399.
- Valdez, G., & OTROS. (1999). Computer-based technology and learning: Evolving uses and expectations. North Central Regional Educational Laboratory.

- Verhagen, T., & Van Dolen, W. (2011). The influence of online store beliefs on consumer online impulse buying: A model and empirical application. *Information & Management*, 48(8), 320–327.
- Wang, P., & Chapa, S. (2022). Online impulse buying behavior and marketing optimization guided by entrepreneurial psychology under COVID-19. *Frontiers in Psychology*, *13*, 1–12.
- Wells, J. D., Parboteeah, V., & Valacich, J. S. (2011). Online impulse buying: Understanding the interplay between consumer impulsiveness and website quality. *Journal of the Association for Information Systems*, 12(1), 3.
- Xu, Y. (2007). Impact of store environment on adult generation Y consumers' impulse buying. *Journal of Shopping Center Research*, 14(1), 39–56.
- Youn, S., & Faber, R. J. (2000). Impulse buying: its relation to personality traits and cues. ACR North American Advances.
- Yu, C., & Bastin, M. (2017). Hedonic shopping value and impulse buying behavior in transitional economies: A symbiosis in the Mainland China marketplace. In *Advances in Chinese Brand Management* (pp. 316–330). Springer.
- Zafar, A. U., et al. (2021). The impact of social media celebrities' posts and contextual interactions on impulse buying in social commerce. *Computers in Human Behavior*, 115, 106178.