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Exploring The Antecedents Of Online Impulse Buying Behavior: A Structural Equation Modeling Approach

Liza Shoor[1], Sandeep Kapur[2]

[1]Punjab Agricultural University (Punjab, India) Email: shoor1liza@yahoo.com
[2]Professor, School of Business Studies, Punjab Agricultural University (Punjab, India) Email: skapur@pau.edu

Abstract:
The present study was undertaken to understand the phenomenon of online impulse buying. The purpose of this study was to identify the factors influencing online impulse buying behavior. The study was based on Stimulus-Organism-Response (SOR) model proposed by Mehrabian and Russell (1974). A survey was conducted with 225 online buyers in Punjab, India using convenience sampling. Structural equation modelling using Amos 28 software was applied to the data collected through a self-administered questionnaire. For the purpose of study, six stimulus constructs (convenience, security, visually pleasing, variety of attractive products, diverse payment options and shipping services) were considered (their items were adapted from prior research studies). Customer satisfaction (organism) construct and its items highlighted the satisfaction derived from the websites and online retailer prior to buying which ultimately leads to online impulse buying (response). The results indicate that four factors- convenience, visually pleasing, variety of products and diverse payment options - have a significantly positive effect on customer satisfaction. Further, customer satisfaction, in turn, has a significantly positive effect on impulse buying. Moreover, it was found that the factors- convenience, security, visually pleasing, variety of products and diverse payment options – have a direct and positive effect on impulse buying behavior in an online setting. The findings highlight the significance of creating a user-friendly, visually appealing and secure online environment offering a wide range of attractive products and payment options to improve customer satisfaction and encourage impulse buying. The study contributes to the understanding of online impulse buying and offers practical insights for e-commerce businesses seeking to optimize their platforms for enhanced sales and customer engagement.

Keywords: Online impulse buying, SOR model, customer satisfaction, e-commerce, stimulus factors.

1. Introduction

The term "impulse purchase" refers to the act of making a sudden and spontaneous purchase, wherein a buyer acquires an item that was not initially intended for purchase at the onset of their shopping endeavour. Traditionally, impulse buying has been viewed as a personal trait, whereby individuals engage in spontaneous purchases driven by unexpected and irresistible urges while in-store shopping. These impulsive wants are often triggered by the individual's desire to acquire the product, resulting in an unplanned purchase (Piron, 1991; Beatty and Ferrel, 1998).

Consumers engage in product purchases for a variety of reasons, which they perceive as essential,

such as alleviating emotional distress, expressing personal identity, or engaging in recreational activities. These types of purchases, marked by a lack of deliberate decision-making, can be classified as impulse purchases. As impulse purchases contribute substantially to retail sales, researchers in the fields of marketing and consumer behavior have dedicated nearly half a century to elucidating the phenomenon of impulse buying (Sirhindi, 2010).

Despite the widespread perception of impulse buying being commonly a socially unacceptable phenomenon, this consumer behavior is prevalent on a global scale. Research indicates that the incidence of impulse buying has increased substantially over time. According to Stern (1962), the percentage of impulse purchases in supermarkets increased from 38.2% to 50.9% of the total sales. Similarly, a study conducted by Bellenger and Robertson (1978) found that impulse purchases constituted a significant proportion of department store sales, ranging from 27% to 62% (Sirhindi, 2010).

Nearly half a century ago, researchers and marketers acknowledged the significance of impulse buying in traditional brick-and-mortar retail establishments. Consequently, they devised marketing strategies aimed at augmenting sales and fostering impulsive purchasing behavior. As internet usage has become increasingly prevalent among the general population and multi-channel shopping has rapidly expanded, individuals consistently encounter marketing cues that trigger impulsive buying behavior (Sirhindi, 2010).

The internet has ascended to become a significant shopping platform, surpassing all previous modes of purchasing (Brohan, 2007). As online shopping is appearing to have increasing prevalence, scholars and marketers are actively investigating innovative marketing strategies and expanding their focus to encompass a more diverse range of target markets. While numerous scholars have delved into the realm of impulse buying, with a predominant emphasis on elucidating the various factors and antecedents associated with this phenomenon, the study of impulse buying within the context of e-commerce has received limited scholarly attention. Research suggests that individuals who engage in internet shopping tend to exhibit higher levels of impulsivity compared to those who do not participate in online shopping (Donthu and Garcia, 1999). Furthermore, LaRose and Eastin (2002) have highlighted certain characteristics present in online retail platforms that facilitate unregulated purchasing, including impulsive buying tendencies. Despite the significance of this phenomenon, there is a limited number of recent studies that have examined the elements influencing online impulse buying. While some research studies have tried exploring this phenomenon, only a small number of them have yielded successful results (Dawson & Kim, 2009). The multifaceted nature of the phenomenon of impulse purchase on the internet presents significant potential for additional scholarly investigation (Sirhindi, 2010).

The present study aimed to investigate the concept of online impulse buying by identifying attractive features and factors associated with the internet and online websites that stimulate consumers to engage in impulse buying behavior. The present study employed S-O-R paradigm, which was used due to its comprehensive framework for understanding how environmental stimuli (S) can elicit psychological processes (O) leading to behavioral responses (R).

Specifically, the S-O-R model, as proposed by Mehrabian & Russell (1974), was employed to examine customers' impulse purchases because of the holistic approach it provides to integrating several external stimuli associated with impulse purchases (Chan et al., 2017; Chen & Yao, 2018; Gao et al., 2022; Lou et al., 2022). Convenience, security, diverse payment options, visually pleasing, variety of attractive products and shipping services were used as stimuli (S) that influence customer satisfaction (O), ultimately impacting impulse buying behavior (R) among consumers.

2. Literature Review

2.1 Online Impulse buying

The internet is evolving as a viable alternative platform for impulse buying, offering a swift shopping experience where every store is easily accessible with only a few clicks. As the internet is increasingly being used as a prominent platform for purchasing, scholars are currently examining various facets of impulse buying behaviour and exploring techniques to promote impulse purchases in the online context. The convenience offered by internet allows consumers to shop at their own leisure, enabling them to engage in purchasing activities around the clock and from the comfort of their own home (Phau & Lo, 2004). The enhanced convenience, compared to traditional brick-and-mortar retail establishments, benefits a wide range of buyers and may potentially foster impulse purchase behaviour (Sirhindi, 2010).

The proliferation of the internet has led to a significant rise in the global online consumerism. This can be attributed to the presence of international e-commerce platforms such as Amazon.com and eBay.com. Consequently, the phenomenon of impulse purchases has become a widespread phenomenon on a global scale. In response, numerous scholars have conducted extensive research on the subject, with a predominant emphasis on identifying the various factors that contribute to impulse purchasing behaviour in the online context (Sirhindi, 2010).

According to Donthu and Garcia (1999), there is evidence to suggest that individuals who shop online tend to have greater levels of impulsivity in comparison to those who do not shop online. Furthermore, research suggests that there exist various factors associated with online stores and websites that stimulate individuals to indulge in unregulated buying, including impulse purchases (LaRose and Eastin, 2002). Various strategies such as giving product suggestions, implementing point programmes, forwarding on-sale announcements, and sending repeat purchase reminders, have been proposed to reduce customer self-regulation during online shopping and promote impulse purchasing. Furthermore, LaRose and Eastin (2002) assert that many manifestations of unregulated consumer behaviour, including impulse, compulsive, and addictive purchasing, are noticeable inside the online realm, especially among young college students.

Furthermore, Costa and Laran (2003) conducted a quantitative study to investigate the phenomenon of online impulse buying. Their findings indicate that the online environment has a significant impact on individuals' level of impulsiveness, in-store browsing behaviour, and likelihood of making impulse purchases. Additionally, their research highlights a positive association between impulse purchases and the experience of positive emotions.

Adelaar and colleagues (2003) conducted an experimental study to examine the effect of several media forms (text, photos, and video) on impulse buy intentions within a website. In Koski's (2004) study, the researcher examined the factors contributing to impulse buying behaviour in the context of online shopping. These factors encompassed both product-related and person-related motivations. Subsequently, Dawson and Kim (2009) conducted a more recent investigation on the stimuli that promote impulse buying in online settings. Their research recalled the Consumption Impulse-Buying Enactment (CIFE) model proposed by Dholakia (2000) to better comprehend the phenomenon of impulse buying.

LaRose's (2001) theory posits that several aspects of the Internet make it more challenging for users to refrain from making impulsive purchases. For instance, Akram and colleagues (2017) in their study, examined that website quality (usefulness, ease of use, entertainment, and complimentary relationship) positively promotes online impulse buying. Moreover, they explained that credit card use improves website quality and online impulse purchase. Liu and colleagues (2013) examined how website cues such as product availability, usability, and visual appeal, as well as personality factors like rapid gratification, normative appraisal, and impulsiveness impact online impulse purchases. They proposed that perceived online cues like visual attractiveness, website ease of use, and product availability are precursors to the urge to buy impulsively, while personality traits like immediate gratification, normative appraisal, and impulsiveness are significant predictors of online impulse purchases.

In a series of studies, researchers have tried to investigate that website quality is greatly associated with online impulse purchases. Wells, Parboteeah, and Valacich (2011) found that website quality, encompassing security, navigation, and visual appeal directly increase the likelihood of impulse purchases, specifically among extremely impulsive consumers. This suggests that website quality plays significant role in fostering impulse buying. Additionally, Parboteah, Valacich, and Wells (2009) employed the Stimulus-Organism-Response model to investigate about the factors which influence impulse buying behavior. They discovered that task-relevant cues, such as navigability and mood-relevant cues, such as visual appeal, directly affects the likelihood and intensity of impulsive purchases, regardless of the website's quality. This reveals the significance of such cues in shaping consumer behavior. Further, Verhagen and van Dolen (2011) examined the impact of online impulse buying on store attitudes. Their model highlighted that representational delight, constituting enjoyment and website communication style and functional convenience, encompassing attractiveness and usability of online shop merchandise are linked to online impulse buying. This reveals that these factors contribute to the overall shopping experience and influence consumer behavior.

Floh and Madlberger (2013) endeavored to integrate impulse buying into the Stimulus-Organism-Response (S-O-R) model. They examined how virtual atmospheric cues affect online impulse buying and spending using environmental psychology. The study considered shopping enjoyment and impulsiveness to build a structural model linking three categories of electronic store atmospheric cues (content, design, and navigation) to approach behaviour variables (impulse buying behaviour and expenditure). The results supported the S-O-R model of impulsive buying, demonstrating that two virtual atmospheric cues, specifically navigation and

design, significantly contribute to the likelihood of impulse buying and subsequent spending.

Further, Ju and Ahn (2016) used the Stimulus-Organism-Response (S-O-R) paradigm to examine the interplay between social presence and environmental conditions on impulse purchases in social commerce. The study found that social presence on social commerce platforms creates a sense of shared shopping experience, thereby enhancing the likelihood of impulsive spending. Additionally, the study reveals the significance of music pace in social commerce, explaining that it can positively influence user experience. However, the study also highlighted that deal scarcity can negatively impact the effectiveness of music pace and pleasure. The findings of study suggest that social commerce sites must strike a balance between enjoyment and social interaction to be successful.

Zhang, Hu, and Zhao (2014) employed the Stimulus-Organism-Response (S-O-R) model to examine online how online social interactions affect impulse purchases on group purchasing websites. The research study suggested that social connections may drive online impulse purchases. Specifically, the researchers found that opinion-based social interaction, encompassing review quality and source trustworthiness and behavior-based social interactions, including observational learning affect perceived utility and positive affect (organism), which in turn encourage consumers to buy impulsively (reaction). It was found that source credibility and observational learning positively enhance perceived usefulness and positive affect. Moreover, review quality was found to influence perceived usefulness but not positive affect.

Park and colleagues (2012) conducted a study to examine relationship between product attributes, web browsing, and impulsive garment purchases. The results suggested that clothing features, including choice, affordability, and sensory characteristics, play a significant role in influencing consumer behavior. The study highlighted that web browsing can be categorized into hedonic and utilitarian types. Pricing was found to boost hedonic web browsing, while selection variety boosted utilitarian browsing. Furthermore, the study explained that hedonic web browsing is positively correlated with impulsive apparel purchases on e-commerce sites, whereas utilitarian web browsing has a negative impact on such purchases. Additionally, the study found that selection diversity and sensory aspects of clothing significantly influence impulse purchases online.

In a recent study published in 2021, Lee and colleagues proposed an S-O-R-based research model to investigate the factors influencing online impulse buying. The study separated task-relevant cues, encompassing price and convenience from mood-relevant stimuli, including visual appeal, vendor creativity, social impact, perceived usefulness, and perceived enjoyment to determine which variable influences online impulse buying. The findings indicate that convenience, visual appeal, social influence, and vendor innovation positively impact satisfaction. Additionally, convenience and social influence were found to be the best predictors of perceived usefulness and perceived enjoyment, respectively. Furthermore, the study revealed that perceived usefulness indirectly influences impulse buying through perceived enjoyment, and both impulse buying propensity and perceived enjoyment have significant effects on impulse buying.

2.2 The Stimulus-Organism-Response (S-O-R) model

Environmental psychology is grounded in the S-O-R paradigm, which states that the environment works as a strong stimulus comprising of multiple signals, when integrated, leaves a strong impact on an individual's response, resulting in determining an individual's behavior. Mehrabian and Russell (1974) developed an environmental theory aimed at demonstrating affective responses resulting from exposure to environmental stimuli. They explained that stimuli (S) induce alterations in an individual's internal state (O) of an individual, which ultimately leads to approach or avoidance responses (R). the theory also considers variations in environmental stimuli, such as ambient load, which is defined as the amount of ambient novelty and complexity present in the environment. information rate or burden are evident among environmental stimuli. Mehrabian (1977) explains novelty as an individual's environmental awareness and prognostic ability, while Russell and Mehrabian (1977) defines environmental complexity as the aggregate of its components, characteristics, and alterations. According to Donovan and Rossiter (1982) and Mehrabian (1980), a novel, unpredictable, and complex environment is characterized as one with a heavy burden. (Parboteeah, 2005) According to this environmental theory, retailers could modify the environmental cues to elicit specific emotional responses, thereby influencing consumer behavior.

The organism component of the S-O-R paradigm reflects the emotional responses of an individual to their environment, which is often referred to as temperament. This concept was initially explained by Pitrie (1967) as the emotional disposition of an individual. Mehrabian (1977, 1995) further refined this definition by explaining temperament as the average of a person's affective states across a sample of typical situations. Consequently, this average may serve as the foundation for a generalisation of emotional traits or temperament. The intensity, level of delight, and level of activation of prototypical emotional episodes can vary along particular dimensions, such as those identified by Russell and Pratt (1980). For instance, a bear pursuit is less distressing than a roller coaster ride. Russell and Barrett (1999) also examined that each exceptional circumstance is accompanied by a unique level of delight and stimulation. In addition, Mehrabian and Russell (1974) attempted to provide a three-dimensional temperament state to classify emotional responses into three distinct states: Arousal-Non-arousal (A), Pleasure-Displeasure (P) and Dominance-Submissiveness (D). these states are represented on a scale ranging from -1 to +1 along nearly independent axis. Various personality measurements are represented as straight lines intersecting the three axes, while people are points in this three-dimensional space and personality categories are denoted by areas (Russell and Pratt, 1980). Arousal is defined as an affective property ranging from sleep to frantic excitement, while pleasantness is characterized as the hedonic valence of an emotional reaction, resulting from the degree to which a stimulus aids in achieving an individual's goals. Dominance-submissiveness explains the distinction between feeling in control of one's environment and/or other individuals versus feeling influenced and controlled by external forces (Mehrabian and Russell, 1974, p. 18). The P-A-D temperament paradigm serves as a general heuristic for characterising personality. For instance, characteristics such as attachment extroversion, nurturing, and arousal seeking defined be a integration of pleasurable, arousing, and dominant characteristics. On the other hand, attractive, stimulating, and submissive traits symbolises dependence (Mehrabian, 1980, 1987).

Furthermore, Mehrabian and O'Reilly (1980) suggests that aggressiveness and hostility are undesirable, stimulating, and subservient traits, while neuroticism and anxiety are the opposite. Depression is marked by submissive and repulsive qualities, reflecting a lack of arousability (Mehrabian and Bernadine, 1991). In addition, Russell (1979) further asserts that pleasure and arousal entirely account for the variety of emotional responses, making the dominant component redundant. This framework has been applied in numerous contexts, including the study of attachment, extroversion and depression (Parboteeah, 2005).

The third and most important component of the S-O-R model is responses (R), which encompasses approach and avoidance behaviours. According to Mehrabian and Russell's theory, an individual's approach-avoidance behaviour is determined by their level of arousal and the gratification they receive from the environment. The essential components of approach-avoidance behaviour, which is the urge to enter or leave a specific setting, are the desire to examine an environment, the desire to interact with others in the environment, and satisfaction with the surrounding environment. As a result, a customer who finds a setting to be appealing and enticing will want to investigate the setting and engage in social interactions there, leading to a higher rating for the store (Donovan et al., 1994). This suggests that using environmental psychology theory, it is crucial to research emotional responses to understand the response of consumers to an atmosphere (Diener, Larsen, Levine, and Emmons, 1985; Larsen, Diener, and Emmons, 1986).

3. Research model and development of hypothesis

In this research, the Stimulus-Organism-Response (S-O-R) model has been developed to investigate the casual relationships between various factors and online impulse buying. The stimulus (S) component encompasses several constructs, consisting of Convenience, Security, Visually Pleasing, Variety of Attractive Products, Diverse Payment Options and Shipping Services, which collectively contribute to the online shopping environment. The Organism (O) aspect is represented by customer satisfaction as a construct. The response (R) variable is measured by online impulse buying, which is the outcome of the interplay between the stimulus and organism factors. The proposed S-O-R model is represented in figure 1, providing a comprehensive framework for understanding the underlying mechanisms driving online impulse buying.

STIMULUS **ORGANISM** **RESPONSE**

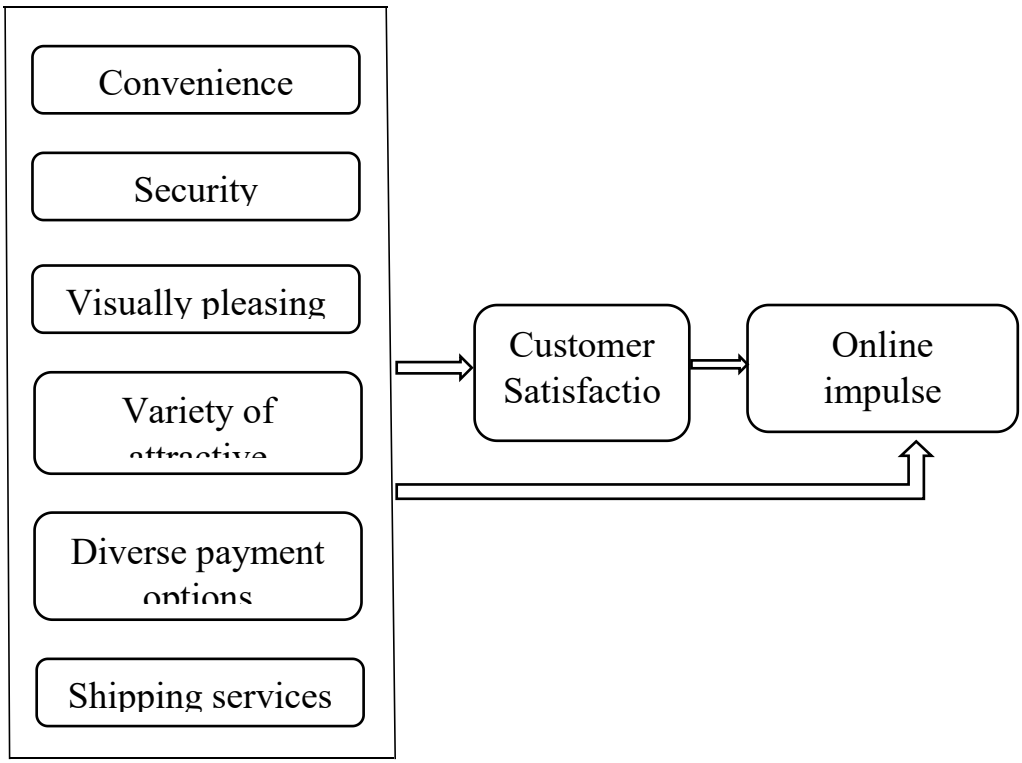

Fig. 1: Research model depicting interrelationships between variables and online impulse buying

3.1 Convenience

Convenience offered by online shopping platforms is one of the significant variables that has a profound impact on satisfaction of customers. Online shopping allows customers to browse and buy products from the comfort of their homes, which saves time and efforts that otherwise would be spent by visiting physical stores, thereby contributes to increased satisfaction. This increased convenience enables customers to compare products, read reviews and make purchases without any need of physically visiting the stores (Mofokeng and Tan, 2021). Moreover, online stores offer detailed product information, reviews and ratings, which empowers customers to make informed purchasing decisions, leading to higher satisfaction as customers feel more confident in their choices (Merugu and Krishan Mohan, 2020). The greater flexibility provided by online shopping also yield higher satisfaction. Customers can shop at any time, from any location and according to their own schedules and preferences, offering them greater control over their shopping experience (Mofokeng and Tan, 2021). Additionally, online stores use data and algorithms to provide personalized product recommendations, tailoring the shopping experience to individual preferences. This personalised experience enhances satisfaction as customers feel that their needs are taken care off and are being met (Mofokeng and Tan, 2021; Merugu and Krishan Mohan, 2020). All these parameters collectively contribute to enhanced satisfaction. Furthermore, the convenience and ease offered by online stores and websites enable consumers to spend less time and effort in shopping online, which reduces the barriers of navigating aisles, comparing prices and dealing with salesmen (Aragoncillo and Orus, 2018) to making unplanned purchases, making impulse buying more likely (Lee et al., 2021). Aragoncillo and Orus (2018)

further added that constant exposure to products offered by online stores enhances the probability of impulse buying, as consumers are more likely to make spontaneous purchases when products are easily accessible. Based on these findings, the following hypotheses are framed:
H1: Convenience has a positive effect on customer satisfaction.
H2: Convenience has a positive effect on online impulse buying.

3.2 Security

Website security is another major variable that positively influences customer satisfaction. It states that customers who are offered security features, such as safety of their personal information, card details and transactions, develop trust in that website or online retailer, leading to greater level of satisfaction (Fernandus and Legowo, 2020; Sanyal, 2019). Mofokeng and Tan (2021) added that online stores and websites implement robust security measures like SSL certificates, encryption and multi-factor authentication, to assure customers that their personal and financial information is safe and protected during transactions. This enhanced security enables to build customer trust and satisfaction (Mofokeng and Tan, 2021; Parmar, 2024). Effective fraud prevention measures, such as dual authentication and monitoring suspicious activities, offer peace of mind and confidence in the safety of purchases, which is essential for customer satisfaction (Ingaldi and Brozova, 2020; Parmar, 2024). Parmar (2024) further suggested that online stores that adopt proactive approach to cybersecurity, stay updated on the latest threats and implement necessary safeguards demonstrate their commitment to customer safety and satisfaction. Furthermore, the literature suggests that if customers feel secure in their online transactions, they have high chances of getting involved in impulse buying. This trust can be built by ensuring that websites are secure, have up-to-date SSL certificates and use encryption to protect sensitive information. With this security concern in mind, websites are designed to ensure that the personal and financial information of consumers is kept safe and secure. Customers will only make purchases online if they are confident in the website's safety and trustworthiness (Akram, Hui and Khan 2017; Bressolles and Durrieu 2008; Li *et al* 2009; Loiacono *et al* 2015; Parboteeah *et al* 2009; Parsuraman *et al* 2005). Therefore, the hypothesis is framed as:
H3: Security has a positive effect on customer satisfaction.
H4: Security has a positive effect on online impulse buying.

3.3 Visually pleasing

Another substantial feature of website includes visually pleasing ability. It means that the websites that are pleasing to the customers, such as possess professional appearance, excellent presentation and design features, appropriate font and color scheme, are considered more credible by users and therefore, offers much satisfaction (Porat and Tractinsky, 2012). The existing literature suggests that a website provides first impression of the online store or retailer. If it turns out to be visually appealing to eyes, it creates positive impression, leading to building of trust and credibility. Moreover, a well-designed website communicates professionalism and attention in detail, making it more possible for visitors to engage with the site and explore it (Potterman, 2022). Moreover, websites with high-quality images, typography and whitespace enhances the readability of content, making it easier for users to read and comprehend the

information presented, thereby yields higher engagement and satisfaction levels (Jehanne, 2023; Potterman, 2022). Further, visually appealing websites not only builds trust and enhances customer satisfaction but also trigger emotional responses and create a more immersive and engaging shopping experience, ultimately leading to impulse buying (Aragoncillo and Orus, 2018; Zhang and Shi, 2022; Goel et al., 2023). Therefore, the hypothesis is framed as:
H5: Visually pleasing has a positive effect on customer satisfaction.
H6: Visually pleasing has a positive effect on online impulse buying.

3.4 Variety of attractive products

A large variety of products constitute an essential feature of websites that promotes customer satisfaction. It states that the websites that offer greater variety in its attractive products encourage consumers to explore more products and services and ultimately, leads to greater level of satisfaction (Chang, 2011; Lyons et al., 2020; Mofokeng, 2021). The literature suggests that online stores which offer a wide variety of products makes it easier for customers to search what they require. This enhanced product variety may lead to greater satisfaction as customers are able to find what they are looking for (Mofokeng and Tan, 2021; Parmar, 2024). Ellis and Dudkina (2022) further added that the chances of a match between the preferences of customers and alternatives available increases when a wide variety of products are offered by online retailers or websites, leading to greater customer satisfaction. Furthermore, greater product assortment and variety is one of the impactful factors that motivate customers to indulge in impulse buying (Aragoncillo and Orus, 2018; Thomas, 2020). Since online stores have ability to provide much wider range of products for selection as compared to physical stores, which are limited by physical space issues. This enhanced variety of products which are just a click away makes it convenient for customers to search products that were not planned to be purchased, leading to more impulse purchases.

Therefore, the hypothesis is framed as:
H7: Variety of attractive products has a positive effect on customer satisfaction.
H8: Variety of attractive products has a positive effect on online impulse buying.

3.5 Diverse payment options

Offering various payment options represent an important characteristic of websites or online stores. It means that the websites which offer diverse payment methods such as debit/credit cards, e-banking, UPI methods (google pay, phonepay, paytm) enable customers to choose the option that is most convenient and familiar to them, thereby enhances their overall shopping experience and satisfaction (Sanyal, 2019; Linnworks, 2024). Moreover, the existing research highlights that customers expect a wide range of payment options and not offering their favored options can lead to abandonment of cart and sales are lost. Therefore, understanding customers and their payment preferences is essential in meeting their needs and enhancing satisfaction (Safane, 2024). Furthermore, the research indicates that offering diverse payment options makes checkout process more convenient and eliminates friction for customers, thereby encouraging more impulse buying decisions (Lahon, 2023). Studies revealed that payment flexibility options enhance customers' perceived control over their purchases and develop the feeling of empowerment for making spontaneous decisions, thereby leading to more impulse buying. In

addition to this, the enhanced convenience offered by diverse payment options can lead to emotional decision-making rather than rational deliberation, making customers to indulge in impulse buying (Halim et al., 2020). Therefore, the hypothesis is framed as:
H9: Diverse payment options has a positive effect on customer satisfaction.
H10: Diverse payment options has a positive effect on online impulse buying.

3.6 Shipping Services

Shipping facility is considered as a significant element that leads to customer satisfaction. It is defined as when customers don't have to worry about the delivery of goods, where goods reach them at promised time and without any hassle. The research highlights that websites offering various categories of shipping services (standard, express, urgent) can fulfil diverse customer needs and ultimately, satisfaction. Moreover, offering diverse shipping facilities and incentives, such as free shipping, can reduce the cart abandonment rates and enhances brand loyalty (Lopienski, 2023). Online stores and websites offer real-time tracking facilities throughout the shipping process, which are crucial for their shopping experience and enhanced satisfaction (Le, 2023). Furthermore, websites which provide various kinds of shipping facilities motivate customers to buy on impulse. Diverse shipping options like same-day delivery or next-day delivery make it easier and convenient for customers to act on their impulses as it reduces the time lag between purchase decision and receiving the product (Aprilia et al., 2023; Moser et al., 2019). Aragoncillo and Orus (2018) further added that free shipping facility for orders above a minimum threshold, encourages customers to add additional items to their cart qualifying for free shipping, lead to unplanned buying. Aprilia and colleagues (2023) highlighted that subscription-based shipping services such as that offered by Amazon Prime give the perception of "free" shipping, making customers more willing to indulge in unplanned buying since the shipping cost is already covered. Based on these findings, the following hypotheses are framed:
H11: Shipping services has a positive effect on customer satisfaction.
H12: Shipping services has a positive effect on online impulse buying.

3.7 Customer satisfaction

Pre-purchase satisfaction (with the website or online retailer) is one of the strongest predictors of impulse purchases. It means that only if a customer is satisfied with the selected website or online retailer and its service features like convenience, visually pleasing, offering wide variety of products, they will connect to the website or make a purchase from that retailer or website. Thus, it is used as an organism (inner state) that is felt due to a variety of factors (convenience, security, diverse payment options, diverse delivery options, visual appeal, and a variety of appealing products) and ultimately results in impulsive purchases (Bressolles, Durrieu and Giraud, 2015; Papatla and Liu, 2009). Hence, the hypothesis is framed as:
H13: Customer satisfaction has a positive effect on online impulse buying.

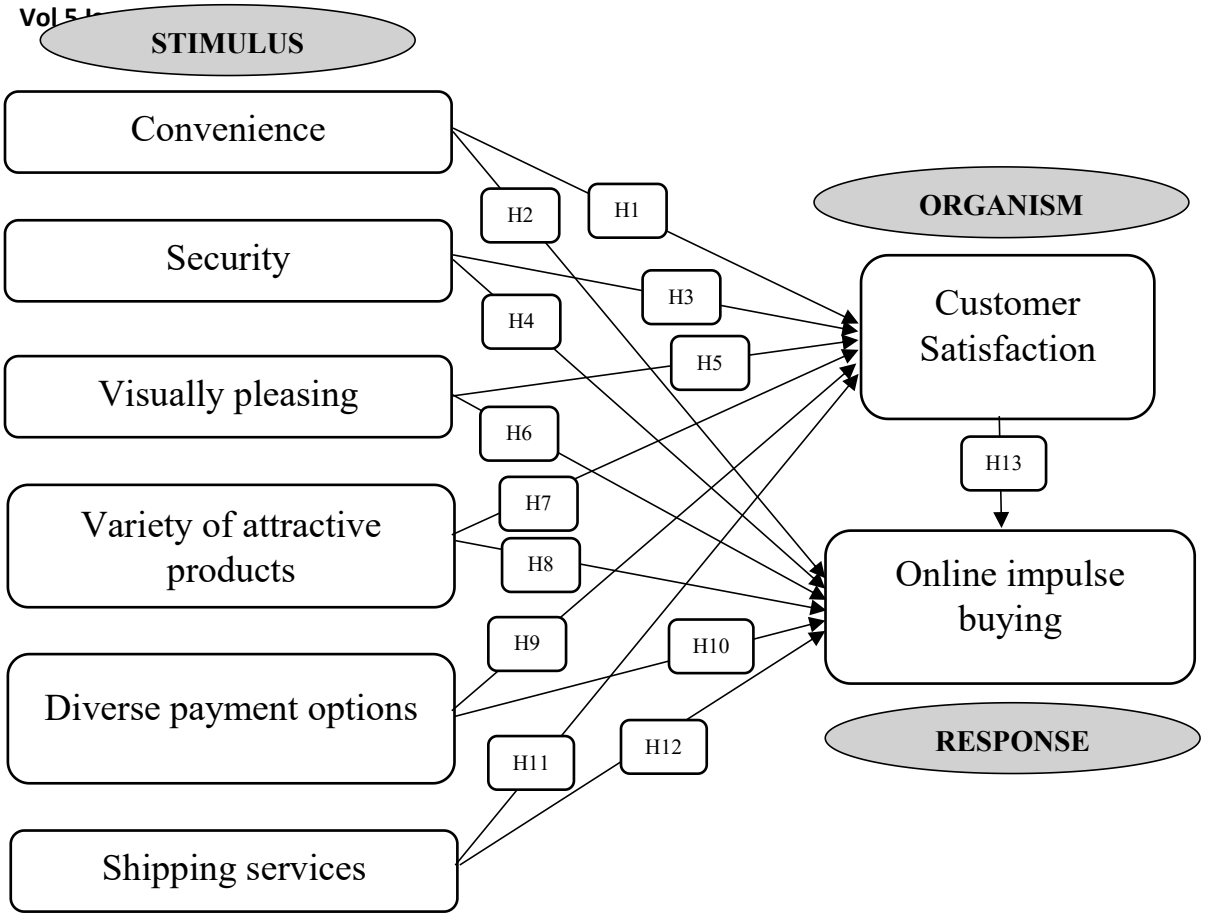

Fig. 2: Research model and hypothesised interrelationships between variables and online impulse buying

4. Research Methodology

An empirical study was conducted to investigate the relationship between various online factors and impulse buying behavior in the e-commerce context. A survey questionnaire was developed for this investigation. The study employed a survey methodology to gather the necessary data, the specifics of which are elaborated upon in the following sections.

4.1 Research Instrument

The present study encompasses eight key constructs: convenience, security, visually pleasing, diverse payment options, variety of attractive products, shipping services, customer satisfaction and online impulse buying. A questionnaire was formulated to estimate the underlying constructs. The research study employed a 7-point Likert scale, ranging from 1 representing strongly disagree to 7 representing strongly agree. The respondents were asked to indicate their degree of agreement with each statement. To obtain the information regarding aforementioned constructs, a questionnaire consisting of 28 statements (based on Likert scale) was developed. The stimulus (S) element of the study included various constructs, namely, convenience, security, visually pleasing, diverse payment options, variety of attractive products, shipping services, each measured through a set of 21 statements. The organism (O) in the study, operationalized as customer satisfaction, was measured using three statements, while online impulse buying, the response (R) variable, was measured through four related statements.

4.2 Data Collection

To attain the objective of this study, a primary data collection technique was employed. A Survey was conducted in April 2023 in Punjab, India, targeting individuals who had made at least one online purchase of any products/services within the previous six months. Prior to the main survey, a pilot study involving 25 buyers was carried out to ensure that the questions and wordings were easily understood by respondents. For the main survey, 300 buyers were contacted. To maximise the response rate, the questionnaire was administered through both online and paper-and-pen modes. In the electronic mode, questionnaire was distributed via email and WhatsApp application. Additionally, Facebook ads were posted, and online friends were asked to complete and share the questionnaire. A total of 264 responses were received, and some in-complete questionnaires were dropped. The final sample consisted of 225 usable responses, with 147 females and 78 males. The responses were obtained from respondents belonging to the age group of 20 to 50 years, with majority falling within the 20 to 35 years age bracket.

5. Data analysis

To identify the online factors that have a significant influence on impulse buying, the present study employed the Structural Equation Modelling (SEM) technique. This approach offers several advantages over other analytical techniques, as highlighted by various research scholars (Gefen, Rigdon and Straub, 2011; Ringle, Sarstedt and Straub, 2012). SEM is the best technique which enables the simultaneous analysis of factors and their various paths, while also considering aspects of reliability and validity. The research has adopted the AMOS 28 method to test the proposed hypotheses. AMOS-SEM employs a covariance-based methodology, as opposed to the component-based approach of PLS-SEM (Wu et al., 2020). It is a robust and user-friendly tool that offers several benefits for researchers. According to Wu et al. (2020), AMOS-SEM provides advanced computational methods and comprehensive model fit diagnostics, making it a valuable asset for complex data analysis. The estimation of multi-level structural equations in AMOS-SEM is based on maximum likelihood estimation (MLE) approach, as noted by Qureshi and Compeau (2009). This estimation method, however, necessitates the fulfilment of certain statistical assumptions, including sample size, multivariate normality and absence of multicollinearity (Wu et al., 2020). Importantly, the updated version of AMOS-SEM (Version 24.0) has further enhanced the accuracy of parameter estimation and simplified the analysis of intricate models involving multiple latent variables (Wu et al., 2020). This advancement in the software's capabilities has made it an even more powerful tool for researchers carrying out complex structural equation modelling analysis.

5.1 Measurement model

5.1.1 Reliability

Sapsford (2006) defined reliability as the stability of diverse measures used in the survey. To measure the reliability of survey data, the internal consistency of the survey questions designed to analyse the similar attributes is ascertained to determine the dependability of the measures. To quantify the internal consistency, the Cronbach alpha statistic is used which is computed from the pairwise correlation between survey items and its value ranges between 0 and 1. A higher Cronbach alpha value represents a greater degree of internal consistency. In the study, the Cronbach alpha score was calculated for each construct ("Convenience", "Security", "Visually

pleasing", "Variety of attractive products", "Diverse payment options", "Shipping services", "Customer satisfaction" and "Online impulse buying"). The results presented in Table 1, explains that all the constructs have achieved a high level of dependability. The values of Cronbach alpha between 0.6 and 0.7 are considered as adequate degrees of dependability while the values exceeding 0.7 are regarded as excellent degrees of reliability (Sekaran, 2003). The Cronbach alpha values for "Convenience" is 0.90, for "Security" is 0.90, for "Visually pleasing" is 0.89, for "Variety of attractive products" is 0.90, for "Diverse payment options" is 0.91, for "Shipping services" is 0.91, for "Customer satisfaction" is 0.91 and for "Online impulse buying" is 0.91, summarise that all the constructs have achieved a high level of dependability. Hence, these metrics are applicable and may be utilised for SEM analysis.

The dependability of a measurement model design is further evaluated through the assessment of Composite reliability (CR) scores. According to Hair et al. (2010), CR offers a greater retroactive method to determine the overall dependability and construct consistency, including their stability and equivalence. Various research scholars have suggested that a CR value of 0.70 or above is indicative of a reliable scale (Fornell and Larcker, 1981; Nunnally and Bernstein, 1994). Scores greater than this threshold indicate that the measures within a construct share a high proportion of variance in common. The composite reliability of "Convenience" is 0.90, "Security" is 0.90, "Visually pleasing" is 0.89, "Variety of attractive products" is 0.90, "Diverse payment options" is 0.91, "Shipping services" is 0.91, "Customer satisfaction" is 0.91 and "Online impulse buying" is 0.91 as depicted in Table 1 hence, we can conclude that the composite reliability of the measurement model's constructs is more than 0.70. This indicates that the measures within each construct share a high proportion of variance, demonstrating a strong level of composite reliability.

Table 1: Sources of constructs, reliability and validity

Constructs	Items	Standard Factor Loadings	Alpha	CR	AVE	MSV
CONVENIENCE *Adapted from Akram et al 2017; Aragoncillo and Orus 2018; Bressolles and Durrieu 2007; Le-Hoang 2020; Lee et al 2021; Loiacono et al 2015; Parboteeah et al 2009; Parsuraman et al 2005*	**CON1:** The website that I use to buy online operates 24/7. So, I can search and buy whenever I want.	0.83	0.90	0.90	0.66	0.43
	CON2: The website that I choose to buy loads quickly.	0.82				
	CON3: It's easy to get information from the website I need to carry out my purchases.	0.79				
	CON4: The website that I choose to buy online provides in-depth product specifications.	0.80				

	CON5: The website that I consider for my online purchases gives me personal attention.	0.83				
SECURITY *Adapted from Akram, Hui and Khan 2017; Bressolles and Durrieu 2008; Li et al 2009; Loiacono et al 2015; Parboteeah et al 2009; Parsuraman et al 2005*	**SEC1:** I trust the website that I use to purchase online, to keep my personal information and my card details safe.	0.88	0.90	0.90	0.77	0.39
	SEC2: I feel safe and secure while transacting with the website considered for purchases.	0.91				
	SEC3: I think that the unsuitable parties cannot intentionally observe the information I give during my transaction with the online merchant.	0.83				
VISUALLY PLEASING *Adapted from Aragoncillo and Orus 2018; Bressolles 2006; Floh and Madlberger 2013; Ganguly and Cyr 2008; Lee et al 2021; Liu, Li and Hu 2013; Parboteeah et al 2016; Tariq et al 2019; Wells and Parboteeah 2009; Wells and Parboteeah 2011*	**VP1:** The website used to buy online is visually pleasing and exciting to the senses.	0.86	0.89	0.90	0.76	0.38
	VP2: The website that I use looks professionally designed and well-presented.	0.85				
	VP3: The atmosphere of online store (color, innovation, presentation, design etc) that I consider for buying encourages me to explore more.	0.90				
VARIETY OF ATTRACTIVE PRODUCTS *Adapted from Aragoncillo and Orus 2018; Liu, li and Hu 2013; Park et al 2012; Verhagen and*	**VAP1:** The shopping website that I browse offers a wide range of products at different prices.	0.87	0.90	0.90	0.77	0.40
	VAP2: The chosen shopping website offers a large variety of products in various colors, brands, sizes and designs.	0.91				

Dolen 2011	**VAP3:** The website used for shopping offers products and services that have good alignment with my interests.	0.85				
DIVERSE PAYMENT OPTIONS *Adapted from Hendra and Kaihatu 2019; Karbasivar and Yarahmadi 2011; Liang and Lai 2002; Pradhan 2016; Rasheed et al 2017*	**DPO1:** The website considered for online purchases, offers various options for making the payments such as online payments (internet banking, credit card, debit card, google pay, phonepe) and cash on delivery.	0.88	0.91	0.91	0.77	0.37
	DPO2: The chosen website makes me feel comfortable and satisfied as it provides diverse payment options.	0.90				
	DPO3: The chosen website provides various options such as, SMS and email, to receive proof of payment.	0.86				
SHIPPING SERVICES *Adapted from Aragoncillo and Orus 2017; Bargavi and Kumar 2018*	**SS1:** The website browsed, offers many shipping options to find best fit for me.	0.89	0.91	0.91	0.74	0.21
	SS2: The website considered for purchases, deliver my product within expected time period.	0.83				
	SS3: The selected website provides tracking ability during shipping.	0.87				
	SS4: The website that I consider, often offers free shipping.	0.85				
CUSTOMER SATISFACTION *Adapted from Belanche, Casaló and Guinalíu 2012; Bressolles and*	**CS1:** Using the chosen website was the correct decision for me.	0.89	0.91	0.91	0.79	0.42
	CS2: I have had a satisfactory experience with the chosen website.	0.93				

Durrieu 2007; Hostler et al 2011	**CS3:** I am satisfied with the service offered by chosen website.	0.85				
ONLINE IMPULSE BUYING *Adapted from Floh and Madlberger 2013; Liu, Li and Hu 2013; Rook and Fisher 1995; Wells and Parboteeah 2011*	**OIB1:** I often buy from chosen online store without thinking.	0.85	0.91	0.91	0.72	0.43
	OIB2: Buy now, think about it later" describes me while purchasing from selected online store.	0.85				
	OIB3: Sometimes I feel out of control while making a purchase from my favorite online store.	0.82				
	OIB4: When I see something that really interests me on my chosen website, I simply buy it.	0.88				

Notes: CR, Composite Reliability; AVE, Average Variance Extracted; MSV, Maximum Shared Variance; CON, Convenience; SEC, Security; VP, Visually pleasing; VAP, Variety of Attractive Products; DPO, Diverse Payment Options; SS, Shipping Services; CS, Customer Satisfaction and OIB, Online Impulse Buying

5.1.2 Validity

Hair et al. (2010) conceptualized convergent validity as the degree to which the items within a specific domain exhibit a significant amount of shared variance. It highlights the idea that the indicators within a construct should demonstrate a significant correlation with each other, hence favoring the notion that they are indeed measuring the same underlying construct. Validity is ascertained by examining the standardised factor loadings of the observed variables on their respective latent constructs. If the computed standardised regression weights turn out to be statistically significant, it implies that the indicator variables adequately represent their corresponding latent variables. Hair et al. (2010) suggested that the latent to observable variable factor loadings must be above 0.50 to demonstrate convergent validity. As represented in Table 1, the factor loadings for all the observed variables in the measurement model range between 0.79 and 0.93. This implies that the observed variables are appropriate and are strongly linked with their respective latent constructs, adhering to the conceptual definitions of the constructs. Resultantly, we can establish the convergent validity of the concept.

On the other hand, discriminant validity, as defined by Hair et al. (2010), refers to the degree to which a construct is unique and different from other constructs. It is necessary to establish that the measures used to analyse a specific construct do not overlap with those employed to analyse other constructs with similar but distinct characteristics. Research typically assesses discriminant validity through two primary methods. Firstly, the calculated correlation between the measures of conceptually diverse constructs should be minimal. This suggests that the instruments

employed to analyse such constructs must exhibit high correlations with instruments that have equivalent but diverse qualities (Trochim, 2006). The extracted average variance (AVE) of the different constructs should be greater than their shared variances with other constructs and the value of the square root of AVE should be greater than the correlations between the constructs. The results presented in Table 1 indicate that the average variances extracted (AVE) of diverse constructs are more than their common variances with other constructs. Additionally, the square roots of the AVEs, represented in bold letters (Table 2) are more than the off-diagonal components in the corresponding rows. Furthermore, the columns outnumber the correlations that exists between a specific construct, which indicates that a single construct is more closely associated with its items as compared to other constructs included in the measurement model. Hence, discriminant validity is satisfactorily established at the concept level for all constructs.

Table 2: Square of correlation between constructs

	CS	CON	SEC	VP	VAP	DPO	SS	OIB
CS	**0.89**							
CON	0.65	**0.82**						
SEC	0.42	0.53	**0.88**					
VP	0.54	0.54	0.53	**0.87**				
VAP	0.56	0.56	0.57	0.61	**0.88**			
DPO	0.55	0.56	0.45	0.55	0.57	**0.88**		
SS	0.29	0.41	0.45	0.41	0.37	0.44	**0.86**	
OIB	0.60	0.65	0.63	0.62	0.63	0.61	0.45	**0.85**

Notes: CON, Convenience; SEC, Security; VP, Visually pleasing; VAP, Variety of Attractive Products; DPO, Diverse Payment Options; SS, Shipping Services; CS, Customer Satisfaction and OIB, Online Impulse Buying.

To evaluate the overall fit of the measurement model to the observed data, Hair et al. (2010) suggested the calculation of indexes, such as the Comparative Fit Index (CFI), the Goodness of Fit Index (GFI), the Normed Fit Index (NFI), the Tucker Lewis Index (TLI) and the Root Mean Square Error Approximation (RMSEA). Gefen and Straub (2000) proposed that to achieve an acceptable fit to the data, the values of χ^2/df, CFI, GFI, NFI and TLI must be greater than 0.90, while the RMSEA value must be less than 0.08. The results presented in Table 3 gives a summary of goodness-of-fit metrics: χ^2/df, CFI, GFI, NFI and TLI having values of 1.27, 0.98, 0.89, 0.92 and 0.98 respectively. The RMSEA score of 0.04 implies that it is a decent model fit. Based on results presented in Table 3, it has been established that the measurement model offers reasonable match to the collected data making to suitable for SEM testing of the structural model to continue.

Table 3: Summary of Measurement Model's goodness of fit metrics

Model Fit Index	χ^2/df	CFI	GFI	NFI	TLI	RMSEA
Model	1.27	0.98	0.89	0.92	0.98	0.04

5.2 Structural model

The estimation results from Amos 28 software are presented in Table 4. This table outlines the key properties of the structural model, including standardised path coefficients (β), standard error, critical ratio and hypothesis testing. The level of significance (α) was set at 0.05. The results presented in Table 4 highlights that convenience (H1) has a significantly positive effect on customer satisfaction ($\beta = 0.41$, $p < 0.01$). This result is consistent with the findings of (Harwani and Safitri, 2017), who also reported a positive relationship between the convenience factor and customer satisfaction. The result suggests that when buyers are offered convenience in their purchasing experience, such as website ease of use, easy to locate products, 24-hour availability and quick website loading, they tend to derive greater satisfaction from such purchases. This suggests that providing a convenient shopping environment is a significant factor in enhancing customer satisfaction. Furthermore, the study analysed the relationship between convenience (H2) and online impulse buying. The analysis indicates that convenience has a significantly positive effect on online impulse buying ($\beta = 0.19$, $p < 0.05$). It is interesting to find that the results obtained were found to be similar to the findings of Lui, Li and Hu (2012), who also reported a positive relationship between convenience factor and online impulse buying. The result suggests that when buyers are at ease and perceive the online shopping process as convenient, they are more likely to engage in buying impulsively. It indicates that a seamless and user-friendly shopping experience can motivate buyers to indulge in spontaneous purchases, as buyers feel at ease navigating the websites and making decisions.

Moreover, the study tried to analyse the relationship between security (H3) and customer satisfaction. The analysis reveals that security factor does not have a significant effect on customer satisfaction ($\beta = -0.04$, $p > 0.05$), failing to support the hypothesis. The finding is consistent with the studies conducted by Fernandus and Legowo (2020) and Sanyal (2019), who reported a non-significant relationship between security factor and customer satisfaction. The implication of this result suggests that even when websites claim to offer end-to-end encryption and assure users of their safety, buyers may still perceive risks and have doubts about the website's security. This highlights that the mere presence of security measures may not be enough to significantly impact customer satisfaction. However, these results differ from the findings of the studies conducted by other researchers, such as Park and Kim (2006), Raman and Viswanathan (2011) and Harwani and Safitri (2017). These studies proposed that when websites offer an appropriate level of security that meet the requirements of buyers, it can lead to increased trust and satisfaction among the users. In addition, the present study examined the association between security factor (H4) and online impulse buying. The analysis reveals that website security has a significantly positive effect on online impulse buying ($\beta = 0.23$, $p < 0.01$). The results obtained are consistent with the findings of the study conducted by Wells, Parboteeah and Valacich (2011), who also reported a positive relationship between security factor and online impulse buying. The result indicates that when websites offer robust security features, it makes buyers feel more secure and they are more likely to engage in impulsive buying. Thie significance of security feature can be seen in the role of trust in reducing perceived risks. When customers perceive website as secure, they are more likely to engage in making impulsive decisions, knowing that their personal and financial information is safe and protected.

Furthermore, the present research analysed the relationship between visually pleasing factor (H5)

and customer satisfaction. The analysis reveals that visual pleasing feature of websites has a significantly positive effect on customer satisfaction ($\beta = 0.17$, $p < 0.05$). This result is consistent with the study conducted by Porat and Tractinsky (2012), who also reported a positive relationship between visually pleasing factor and customer satisfaction. The result suggests that the websites that are visually appealing or pleasing to the customers, characterized by a professional appearance, appropriate font and a well-designed color scheme, are considered more credible by users. Thus, in turn, leads to greater satisfaction. The importance of visual appeal in shaping customer satisfaction can be attributed to the significance of first impressions and the role of aesthetics in developing trust and confidence in online platforms. A visually pleasing website not only creates a positive initial impression but also represents the professionalism and reliability of the business, which are necessary factors in fostering customer satisfaction. Furthermore, the relationship between visually pleasing factor (H6) and online impulse buying was also studied. The results indicate that visually pleasing factor has a significantly positive effect on online impulse buying ($\beta = 0.14$, $p < 0.05$). This finding is consistent with the study conducted by Wells, Parboteeah and Valacich (2011), who also reported a positive relationship between visually pleasing factor and online impulse buying. The result suggests that the websites that are visually pleasing motivate buyers to enagage in more impulsive purchasing behavior. A visually pleasing website, can lead to more engaging and captivating shopping experience, resulting in increased impulse buying.

The study further analysed the relationship between variety of attractive products factor (H7) and customer satisfaction. The findings reveal that the variety of attractive products has a significantly positive effect on customer satisfaction ($\beta = 0.17$, $p < 0.05$). This result is consistent with the findings of the studies conducted by Chang (2011), Lyons et al. (2020), and Mofokeng (2021), who also reported a positive relationship between the variety of attractive products factor and customer satisfaction. The result suggests that the websites offering a greater variety of attractive products are more likely to motivate consumers to explore further and ultimately yields greater satisfaction. A diverse product selection meets the diverse preferences and needs of customers, enhancing the chances of finding unique and desirable items. This access to a wide range of attractive options makes customers feel more empowered to take informed decisions, leading to improve overall satisfaction levels. Moreover, the study examined the impact of variety of attractive products factor (H8) on online impulse buying. The analysis highlights that the variety of attractive products factor has a significantly positive effect on online impulse buying ($\beta = 0.12$, $p < 0.10$). The study gave similar results as obtained by the studies conducted by Aragoncillo and Orus (2017), Liu, Li and Hu (2013) and Chen-Yu Seock (2002). The result suggests that the availability of a wide variety of products on a website often motivate buyers to engage in more impulsive purchasing behavior. It highlights the role of choice and novelty, where customers have access to a diverse range of attractive options making them more inclined to make spontaneous purchases, driven by the urge to explore and discover new products.

In addition, the study examined the association between diverse payment options factor (H9) and customer satisfaction. The findings highlight that diverse payment options factor has a significantly positive effect on customer satisfaction ($\beta = 0.18$, $p < 0.05$). This finding turned out to be similar to the results of the study carried out by Sanyal (2019), who also reported a positive

relationship between diverse payment options factor and customer satisfaction. The implication of this result is that websites offering a diverse range of payment methods, such as debit/credit cards, e-banking, UPI-based options (e.g., Google Pay, PhonePe, Paytm) more likely makes customers much satisfied. When customers are offered greater flexibility in choosing from various payment options, they can select the option most suitable to their preferences and needs, leading to higher levels of satisfaction. By offering multiple methods to make payment, businesses cater to the diverse financial preferences and constraints of their customers, ensuring that they can complete transactions seamlessly and without friction. It leads to satisfying experience for their customers, which ultimately leads to enhanced customer loyalty and repeat business. Additionally, the study also tried to analyse the relationship between diverse payment options factor (H10) and online impulse buying. The results indicate that diverse payment options factor has a significant positive effect on online impulse buying ($\beta = 0.16$, $p < 0.05$). The results turned out to be similar to the findings of the studies conducted by Handayani and Rahyuda (2020) and Yadav (2022), who also reported a positive relationship between diverse payment options factor and online impulse buying. The result suggests that the different options offered for payment online, such as debit/credit cards, e-banking and UPI-based methods, make buyers conveniently complete transactions according to their preferences. This convenience can encourage spontaneous purchases, as buyers feel empowered to make decisions without being constrained by limited payment options.

The study further, analysed the relationship between shipping services factor (H11) and customer satisfaction. The analysis shows that shipping services do not have a significant effect on customer satisfaction ($\beta = -0.07$, $p > 0.05$), failing to support the hypothesis. This finding is consistent with the studies carried by Gurjeet and Khanam (2015) and Haggerty (2022), who also reported a non-significant relationship between shipping services factor and customer satisfaction. The result suggests that customers may often get annoyed by issues related to shipping, such as delayed deliveries, unexpected fees and unfavourable delivery timings. These factors can lead to a decrease in their level of satisfaction, as the shipping experience does not meet their expectations. However, the results for shipping services factor were in-consistent with the results of other research studies, such as those by Oh et al. (2012) and Yingxia et al. (2018). The research scholars explained that accurate delivery and effective tracking services are positively linked with customer satisfaction in online shopping. Factors such as the specific shipping options offered, the reliability and timeliness of deliveries, and the overall customer experience with the shipping process may play a significant role in determining the effect of shipping services on satisfaction. Moreover, the study examined the relationship between shipping services factor (H12) and online impulse buying. The analysis reveals that shipping services do not have a significant impact on online impulse buying ($\beta = 0.06$, $p > 0.05$), failing to support the hypothesis. This finding is consistent with the studies conducted by Aragoncillo and Orus (2017) and Bargavi and Kumar (2018), who also reported a non-significant effect of shipping services factor on online impulse buying. The implication of the result is that the shipping or tracking services offered by online platforms may not be a significant driver of impulse buying behavior. This suggests that, regardless of the shipping options available, buyers may not be motivated to buy impulsively, which may be due to the time interval between the purchase and the actual delivery of the product. There can be several reasons for lack of a

significant relationship between shipping services and online impulse buying, such as long waiting period between the purchase and actual delivery of the product making lose the excitement for the item, the fear of non-delivery, especially in case of online payments as they may prioritize the reliability and security of the transaction over the immediate gratification of an impulse buy.

Lastly, the study analysed the link between customer satisfaction factor (H13) and online impulse buying. The results highlight that customer satisfaction has a significantly positive effect on online impulse buying ($\beta = 0.13$, $p < 0.10$). The results are consistent with the research findings obtained by Bressolles, Durrieu and Giraud (2015) and Papatla and Liu (2009), who also reported a positive relationship between customer satisfaction factor and online impulse buying. The result suggests that buyers who are satisfied with their website experiences are more likely to buy on impulses felt. It indicates that a positive customer experience can lead to enhanced buying impulses, resulting in more purchases being made impulsively. The role of customer satisfaction in shaping online impulse buying can be attached to the significance of satisfaction in building trust and confidence in online mode. When customers are happy and satisfied with their online interactions, they may feel more comfortable and are willing to make spontaneous purchases, driven by their positive experience.

Table 4: Structural results of the online variables that lead to online impulse buying

Hypothesis	Path	Estimate (β)	t-value CR	SE	p-value	Hypothesis Supported
H1	CON → Customer Satisfaction	0.41	5.05	0.12	0.00***	**Yes**
H2	CON → Online Impulse Buying	0.19	2.40	0.08	0.02**	**Yes**
H3	SEC → Customer Satisfaction	-0.04	-0.47	0.09	0.64	**No**
H4	SEC → Online Impulse Buying	0.23	3.37	0.07	0.00***	**Yes**
H5	VP → Customer Satisfaction	0.17	2.12	0.09	0.04**	**Yes**
H6	VP → Online Impulse Buying	0.14	1.93	0.06	0.04**	**Yes**
H7	VAP → Customer Satisfaction	0.17	1.98	0.09	0.04**	**Yes**
H8	VAP → Online Impulse Buying	0.12	1.64	0.06	0.09*	**Yes**
H9	DPO → Customer Satisfaction	0.18	2.29	0.09	0.02**	**Yes**
H10	DPO → Online Impulse Buying	0.16	2.18	0.07	0.03**	**Yes**
H11	SS → Customer Satisfaction	-0.07	-1.01	0.08	0.31	**No**
H12	SS → Online Impulse Buying	0.06	0.93	0.06	0.35	**No**

H13	CS → Online Impulse Buying	0.13	1.81	0.06	0.07*	**Yes**

Notes: β, Standardised beta coefficients; SE, Standard error; CR, Critical ratio. ***p<0.01; **p<0.05; *p<0.10; CON, Convenience; SEC, Security; VP, Visually pleasing; VAP, Variety of Attractive Products; DPO, Diverse Payment Options; SS, Shipping Services; CS, Customer Satisfaction and OIB, Online Impulse Buying

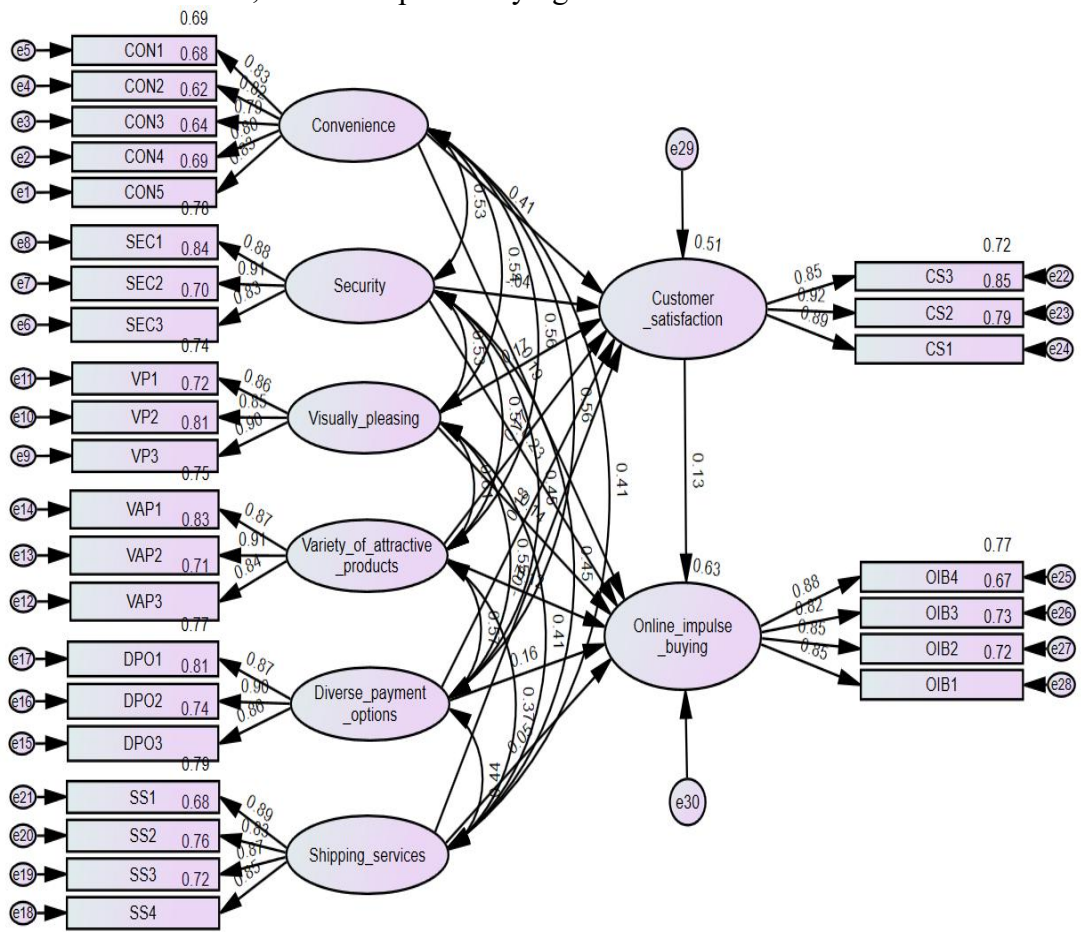

Fig. 2: SEM Model of online variables leading to online impulse buying

6. Conclusion:

This research explores the phenomenon of impulse buying by identifying the underlying factors that promotes impulse buying in the online channel. The study is grounded in the Stimulus-Organism-Response (SOR) model, which posits that environmental stimuli (S) influence an individual's internal states (O), which in turn shape their behavioral responses (R). The authors acquired relevant items and indicators from existing studies on impulse buying to construct their research model. The stimulus (S) component included the constructs such as convenience, security, visually pleasing, diverse payment options, variety of attractive products and shipping services. The organism (O) aspect considered customer satisfaction with the website and online retailer prior to making a purchase. The response (R) component captured online impulse buying behavior. The results of the empirical analysis, conducted using Amos 28, support the proposed

model's ability to explain impulse buying behavior. Specifically, convenience had a significant positive effect on both customer satisfaction and online impulse buying. Security had a non-significant effect on customer satisfaction, but a significant positive effect on online impulse buying. Visually pleasing, variety of attractive products and diverse payment options had significantly positive effects on both customer satisfaction and online impulse buying. Shipping services had a non-significant effect on both customer satisfaction and on online impulse buying. Customer satisfaction was found to have a significantly positive effect on online impulse buying.

7. Implications

This research offers valuable managerial insights for online businesses, retailers, and marketers seeking to understand and promote impulse buying behavior in the digital world. It is imperative for them to prioritise the utilisation of website cues and implement strategies aimed at optimising the online purchasing experience for buyers. Firstly, online retailers should try to streamline the shopping experience, eliminate friction and make it convenient as possible for buyers to search, select and purchase products. This may include features such as one-click ordering, saved payment information and seamless cross-device functionality. In this way, by prioritizing convenience, retailers can develop an environment that is conducive to unplanned purchasing. Secondly, online retailers must prioritize security and build trust with buyers to facilitate a sense of safety and confidence in the purchasing process. They must adopt certain measures such as clear security policies, third-party certifications and transparent data handling practices to address security concerns and enable impulse buying. Third major implication underscores the significance of aesthetics in the online shopping environment. Retailers must invest in high-quality product images, engage in visual merchandising and visually coherent branding across all touchpoints. They must focus on effective use of color, typography and layout that can create a visually stimulating experience capturing customer attention and encouraging buyers to make unplanned purchases. Moreover, an attempt must be made to regularly test and optimise the visual design of the websites which can enable maximising their impact on impulse buying. Another significant consideration for online retailers includes offering flexibility to buyers for making payments. Providing a range of payment methods, from credit cards to digital wallets to buy-now-pay-later options, can enable to eliminate barriers to impulse buys and meets the preferences of diverse buyer segments. E-retailers must regularly review and broaden their payment methods to stay highly competitive and encourage unplanned purchases. Since the present study highlighted the significance of product variety in encouraging impulse buying and enhanced satisfaction, online retailers should curate product offerings to include a mix of famous, trending and unique items that meet the diverse needs and preferences of their target customers. They must regularly analyse customer data, study market trends and secure customer feedback to prepare the product offerings that include items which are highly attractive and engaging. Effective product discovery tools, such as search and recommendations, can further improve the customer experience and lead to impulse purchases. While specific factors such as convenience, security, visual appeal, diverse payment options and variety of product offerings emerged to be significant drivers of impulse purchases, it is imperative to consider that the customer journey is a holistic experience. Online retailers, marketers and businesses must adopt a customer-centric approach and optimize every touchpoint, beginning from initial awareness to post-purchase engagement, to development of a seamless and compelling experience that leads to impulse

purchases. Certain tactics such as personalized recommendations, abandoned cart reminders, targeted marketing and post-purchase upsells and cross-sells must be included. By adopting this comprehensive view of the customer journey and regularly testing and refining their strategies, online retailers can maximize the impact of the strategies to encourage impulse buying.

Declaration of Interest:
There is no conflict of interest among authors or authors with any person/organisation.

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