



Impulsive buying behaviour among University going female students in South Africa: An entrepreneurial perspective

Pezile Scina¹  & Medicine Magocha¹ 

¹ Department of Business Management and Economics, Faculty of Economic and Financial Sciences Walter Sisulu University, Mthatha, Eastern Cape, South Africa.

ABSTRACT

Impulsive buying plays a vital role in marketing communication and influences customer purchasing decisions. These, in turn, facilitate the entrepreneurs' strategic planning decisions. Manufacturers and marketers, as entrepreneurs, have established factors that influence impulsive buying as part of their marketing and planning strategy. It has been entrepreneurially perceived that females generally have higher levels of impulse buying than males, and because sensual cues promote impulse purchase, enterprises can use sensory signals in stores with products that appeal to female students. The study used factors that are more personal and psychologically based than those of previous studies. The study examined some factors influencing impulsive buying behaviour among female students at a selected institution in South Africa. Data was obtained from a self-administered questionnaire for female students who go shopping in purposively selected Spar supermarkets in six provinces of South Africa. Constructs such as sensory marketing, in-store environment, packaging design, and the use of stimulus-organism-response were discovered to have a substantially positive correlation with impulse purchase. Based on these findings, the study revealed that entrepreneurs perceived that manufacturers and marketers should consider customers' impulsive buying behaviour important, as it is one of the marketing tools that increases sales in Small, Micro and Medium Enterprises (SMMEs) in South Africa. This study contributes to scholarship by providing empirical evidence on how multiple factors in retail and consumer behaviour jointly influence impulsive buying, offering fresh insights relevant to marketing theory and retail strategy.

Keywords: Impulsive Buying, Impulsive Buying Behaviour, University, Female Student, South Africa, Entrepreneurial, Stimulus-Organism-Response.

INTRODUCTION

In the 1940s, from an entrepreneurial point of view, the phrase impulsive buying was originally used to describe irrational behaviour.¹ The original definition of an impulsive purchase was a purchase that is unplanned by the customer, which came from the DuPont customer buying habits study that occurred

¹ Ahmed Rizwan Raheem, Parmar Vishnu, and Amin Muhammad Ahmed, "Impact of Product Packaging on Consumer's Buying Behavior," *European Journal of Scientific Research* 122, no. 2 (2014): 125–34.

CORRESPONDENCE – Pezile Scina Email: phezilescina@gmail.com

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from 1948 to 1995.² This concept was later updated to relate to a client's strong desire to purchase an item immediately, which often causes cognitive dissonance in the customer. It is now becoming an important factor for retailers in South Africa, specifically in Transkei, as this type of activity generates a lot of money for them. According to Ntobela and Mbukanma, in supermarkets, there are too many products that compete to attract the customer's attention.³ At selected Spar supermarkets, University students face many choices within a single shopping session. This shows that clients are exposed to an excessive number of products, while the shopping session does not allow them to examine each product carefully, which is the gap that producers have found to attract consumers' attention. The need for market distinction and the desire to stay ahead of the curve are fuelled by this competition.⁴

This study attempts to explore impulsivity among female students at six selected universities in South Africa using proximity to supermarkets. Many university students consume products, including groceries, cosmetics, appliances, and many other basic needs of students living in university residences. Male and female students are at risk of impulsive buying, but female students are more likely to experience post-purchase dissatisfaction.⁵ This was the most common perception of the local enterprises.

Many studies on impulsive purchases have been conducted in industrialized countries such as the United States, Canada, and England, and they are gaining prominence in developing economies as well.⁶ Despite a growing number of studies of the influence of packaging design on impulsive buying, an integrative sensory perspective on the topic is still missing. Previous research on impulsive purchase behaviour has mostly focused on characteristics such as impulsive buying traits, available finance, and shopping enjoyment.⁷ Researchers almost forget the important part/activity in between seeing the product and coming to a solution of purchasing it. Consumers will evaluate food products based on product cues such as packaging and branding, and create sensory expectations in customers' minds, allowing them to repeat the purchase if they are pleased with the previous purchase.⁸ This research attempts to assess sensory marketing, packaging design, stimulus organism response of a customer, and in-store environment as important factors that producers and entrepreneurs must take into consideration. This study aims to contribute to the filling of a previously identified research gap.

The contention of this article is provoked by impulsive buying behaviour, which is a growing aspect that has contributed a lot to retailing enterprises, but there is hardly any in-depth research on impulsive buying behaviour in supermarkets among female varsity students in South Africa. The situation is that literature related to impulsive buying has shown that maximum research work has mainly concentrated on a few character indications, alongside other situational and external cues. Female customers make up a larger chunk of society. Women in their early adulthood (young adults) have a greater tendency to become obsessive shoppers.⁹ Entrepreneurs have an idea that many marketing tools play a role in impulsive buying by students, more often female students, but the entrepreneurs have hardly focused on how to manage and manipulate customers' minds by appealing to their senses. This study acknowledges that entrepreneurs create a link or channel of communication between the exterior (a brand, a product, a service) and the internal (the consumer, their needs, desires, and sensory perception). The entrepreneur's role is to mold the consumer's interpretation and experience of what is

² Anant Jyoti Badgaiyan, Anshul Verma, and Saumya Dixit, "Impulsive Buying Tendency: Measuring Important Relationships with a New Perspective and an Indigenous Scale," *IIMB Management Review* 28, no. 4 (2016): 186–99.

³ Thandazile Samukelisiwe Ntobela and Ifeanyi Mbukanma, "Exploring the Impact of Sensory Marketing on Impulsive Buying Behaviour of Millennials in Mthatha, Eastern Cape, South Africa," *Academic Journal of Interdisciplinary Studies* 12, no. 5 (September 5, 2023): 192, <https://doi.org/10.36941/ajis-2023-0137>.

⁴ Fabián Cuesta, Gabriela Paida, and Irene Buele, "Influence of Olfactory and Visual Sensory Stimuli in the Perfume-Purchase Decision," *International Review of Management and Marketing* 10, no. 1 (2020): 63–71.

⁵ V. Vijaya Lakshmi, D Aparanjini Niharika, and G Lahari, "Impact of Gender on Consumer Purchasing Behaviour," *IOSR Journal of Business and Management* 19, no. 8 (2017): 33–36.

⁶ Nadeesha M Gunaratne et al., "Effects of Packaging Design on Sensory Liking and Willingness to Purchase: A Study Using Novel Chocolate Packaging," *Heliyon* 5, no. 6 (2019).

⁷ Dipanjan Kumar Dey and Ankur Srivastava, "Impulse Buying Intentions of Young Consumers from a Hedonic Shopping Perspective," *Journal of Indian Business Research* 9, no. 4 (2017): 266–82.

⁸ Gunaratne et al., "Effects of Packaging Design on Sensory Liking and Willingness to Purchase: A Study Using Novel Chocolate Packaging."

⁹ D. E. Papalia, S. W. Olds, and R. D. Feldman, *Human Development*, 10th ed. (New York: McGraw-Hill, 2008).

being signified.¹⁰ Customers' views are shaped by their senses, which have a significant impact on their purchasing decisions. By stimulating all senses and triggering emotions, sensory marketing is increasingly seen as a significant method of enhancing the link between brand and the consumer.¹¹ Impulsive buying behaviour emanates from a poorly informed society, and it consequently leads to financial challenges among female university students. In the end, the female students will look for mechanisms to subsidize their pocket money by engaging in non-academic activities like getting into commercial sex work.

LITERATURE REVIEW

The literature review theoretically grounded this study on previous studies of similar concepts, followed by the diagrammatic representation of the conceptual model. This study categorizes the research variables into two groups, that is, predictor variables and outcome variables. These groups will then be used to propose hypothetical relationships and decide on the direction of causality between and among the research variables based on logic and theory.

Clarification of the key Concepts

The key concepts of this paper include sensory marketing, In-store environment, packaging design, S-O-R, and impulsive buying by female students.

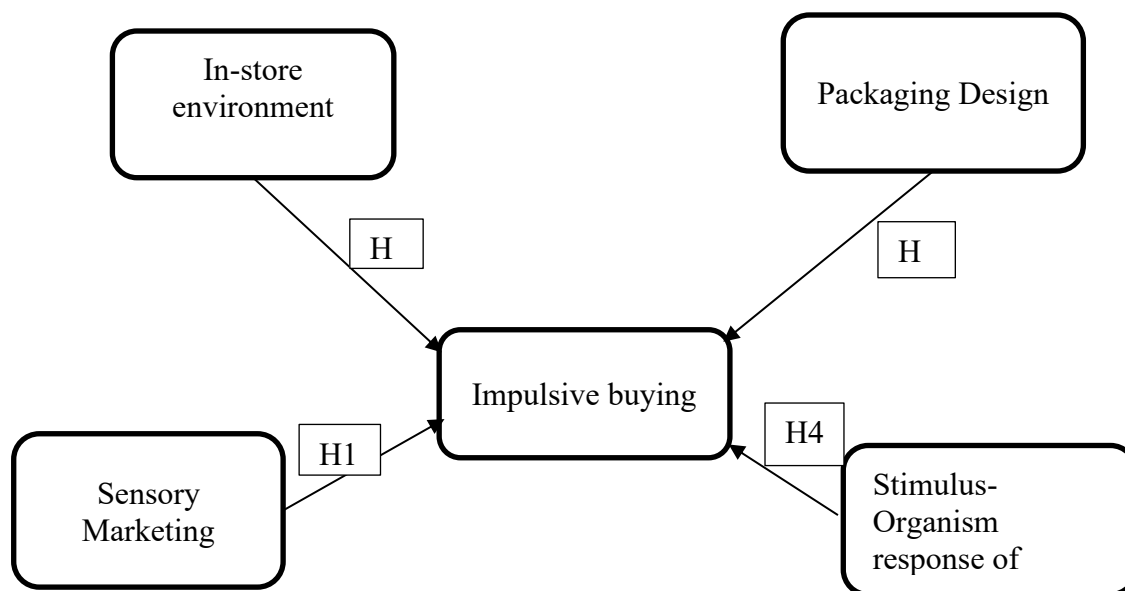


Figure 1: Research model proposed by author.

The conceptual model developed in this study explains how marketing stimuli within the retail environment influence impulsive buying behaviour among female university students. The model incorporates four key predictor variables, sensory marketing, in-store environment, packaging design, and the Stimulus-Organism-Response (S-O-R) framework, to demonstrate how external marketing cues trigger internal emotional or cognitive reactions that ultimately lead to unplanned purchases.

Impulsive buying

The concept of impulse buying dates to research by Applebaum, who believed that shoppers are exposed to stimuli in stores and that their purchase behaviour is a reaction to those stimuli.¹² In a similar vein,

¹⁰ Tinashe Chuchu, Marike Venter de Villiers, and Richard Chinomona, "The Influence of Store Environment on Brand Attitude, Brand Experience and Purchase Intention," *South African Journal of Business Management* 49, no. 1 (2018): 1–8.

¹¹ R. Mzamano and T. Serra, "Sensory Marketing: Straight to the Emotions," 2019, <https://www.ie.edu/insights/articles/sensory-marketing-straight-to-the-emotions/>.

¹² William Applebaum, "Studying Customer Behavior in Retail Stores," *Journal of Marketing* 16, no. 2 (1951): 172–78.

Shahjahan found that impulsive buying was positively related to neuroticism (emotional instability), implying that people who feel emotional instability, anxiety, moodiness, irritation, or melancholy are more likely to engage in impulsive purchasing.¹³ Kumar et al. also mentioned that psychological aspects contribute significantly to purchasing decisions.¹⁴ Although everything drive buys can be considered as impromptu, not all spontaneous buys are viewed as hasty.¹⁵ In South Africa, impulsive buying has raised concern among females of all ages; however, attention was drawn to university female students in this study. This study was conducted from an entrepreneurial perspective.

Impulsive Buying from Women's Perspective

With a growing number of women in the workforce, easy access to credit, and discretionary spending, businesses can no longer ignore the purchasing power of female customers. Women today are more aware than ever of a wide range of brands and retail services, and they are more demanding than ever before.¹⁶ Mooij suggested that customers from various cultures perceive products differently, and their purchasing habits will differ as a result.¹⁷ Mariani argued that many customers, particularly women, make purchases on the spur of the moment, and minimal information on products in supermarkets/grocery stores is searched, and products are not evaluated.¹⁸

Another explanation why youthful females are more inclined to indiscreet purchasing than guys is that motivation purchasing is connected to libertine utilization, and since ladies score higher in Brand responsibility, drive purchasing, and gluttonous utilization than men, we can anticipate that they should show more significant levels of motivation purchasing too. Weisbaum postulated that men and women both shop on impulse for approximately the same amount, but how they feel and how much they spend varies. Weisbaum further explained that men spend more money on impulse than women, but women are as likely to buy impulsively when they are sad.¹⁹ Therefore, with such research points in the existing literature on female emotional association, this study attempts to address factors that affect the impulsivity of university female students in a grocery store, based on gender.

Sensory Marketing

Sensory marketing utilizes a variety of strategies to engage a customer's senses and influence behaviour based on how they feel about the brand and its methods. In a study by Mattila and Wirtz, they found that when a consumer perceives that their senses are over-stimulated by factors like packaging and store environment, they are more likely to make an impulsive purchase.²⁰ In another study, Krishna et al. looked at how olfactory (touch) perceptions are influenced by the presence of smell, resulting in sensory experience and aesthetic satisfaction. For this goal, two different experiments were performed. The authors investigated the relationship between smell and touch within the area of texture in study 1. In study 2, they looked at temperature (hot-cold) as a semantic element of smell–touch and looked at how it affected perceived effectiveness.²¹ However, sight and touch are the most powerful influences on

¹³ Riyad Ahmed Shahjahan, "Decolonizing the Evidence-based Education and Policy Movement: Revealing the Colonial Vestiges in Educational Policy, Research, and Neoliberal Reform," *Journal of Education Policy* 26, no. 2 (2011): 181–206.

¹⁴ Abhishek Kumar et al., "Impulse Buying and Post-Purchase Regret: A Study of Shopping Behavior for the Purchase of Grocery Products," *Abhishek Kumar, Sumana Chaudhuri, Aparna Bhardwaj and Pallavi Mishra, Emotional Intelligence and Its Impact on Team Building through Mediation of Leadership Effectiveness, International Journal of Management* 11, no. 12 (2021): 2020.

¹⁵ Yong Seok Sohn and Man Ting Ko, "The Impact of Planned vs. Unplanned Purchases on Subsequent Purchase Decision Making in Sequential Buying Situations," *Journal of Retailing and Consumer Services* 59 (2021): 102419.

¹⁶ P Vinish et al., "Impulse Buying Behavior among Female Shoppers: Exploring the Effects of Selected Store Environment Elements," *Innovative Marketing* 16, no. 2 (May 28, 2020): 54–70, [https://doi.org/10.21511/im.16\(2\).2020.05](https://doi.org/10.21511/im.16(2).2020.05).

¹⁷ M. Mooij, *Consumer Behavior and Culture*, 3rd ed. (SAGE Publications, 2019).

¹⁸ Marco Giovanni Mariani, Chiara Biselli, and Salvatore Zappalà, "Impulsive Consumption: Gender, Personality Traits and Emotions.," *BPA-Applied Psychology Bulletin (Bollettino Di Psicologia Applicata)* 65, no. 278 (2017).

¹⁹ H. Weisbaum, "Guess Which Gender Spends More on Impulse," 2014, <https://www.today.com/news/guess-which-gender-spends-more-impulse-1D80314130> Accessed 21/11/2022 .

²⁰ Anna S Mattila and Jochen Wirtz, "Congruency of Scent and Music as a Driver of In-Store Evaluations and Behavior," *Journal of Retailing* 77, no. 2 (2001): 273–89.

²¹ Aradhna Krishna, Ryan S Elder, and Cindy Caldara, "Feminine to Smell but Masculine to Touch? Multisensory Congruence and Its Effect on the Aesthetic Experience," *Journal of Consumer Psychology* 20, no. 4 (2010): 410–18.

consumer behaviour when examining product packaging, according to Peck and Wiggins.²² Barloso suggested that sensory marketing, often known as sensory advertising, is a method of using sensory appeal to appeal to the audience's five senses. It emphasizes the creation of content that appeals to the five senses of sight, touch, sound, smell, and taste. He further suggested that experiences are provided to consumers through the five senses, visual, which is the most powerful of all the senses, where colour can elicit a positive emotional response, sound is a musical sense that does not require effort to operate. There is also olfactory, which is the presence of aroma that positively influences consumer attitudes, and touch is a sense that helps people make better purchasing decisions. Instrumental desire and enjoyment in touching are included in 'the need for touch' and taste, which is a sense that is frequently used in the food and beverage industry because it relates to the preferences of consumers.²³

Packaging

The science, art, and technology of containing or protecting items for distribution, storage, sale, or use is referred to as packaging.²⁴ Teofilus et al. stated that packaging and marketing require innovation because packaging may be utilized as a marketing tool.²⁵ Verbal packaging and visual elements can affect emotions.²⁶ According to Rundh, packaging piques a consumer's interest in a particular brand, enhances its image, and stimulates the consumer's impression of the product.²⁷ Furthermore, product packaging serves as a tool for differentiation, assisting consumers in deciding which product to purchase, and stimulating consumer purchasing behaviour. This study links the primary packaging with impulsive buying behaviour.

Stimulus organism response

Mehrabian and Russell proposed the S-O-R model, which combines environmental stimuli (S), organism (O), and behavioural response (R).²⁸ The S-O-R model has mostly been used in consumer behaviour research. Consumers have three emotional states, according to this study's model: stimulus, organism, and response. The initial component of S-O-R model is the stimulus. Hardianto and Maya define stimulus as a collection of elements that can influence the interior circumstances of living beings.²⁹ Writing, colour, picture, sound, fragrance, and taste are all examples of stimuli. The organism is the second component, which refers to a person's cognitive feelings and how they influence stimuli and reactions. The final component is a response, which refers to the outcome of the stimulus and organism, as well as the consumer's reaction to the product, which will influence the consumer's final decision.

Store Environment

The store environment can be used as a marketing strategy. Kotler first introduced store atmosphere to marketing in 1973, defining it as a component of the retail image along with other characteristics such as brightness and crowdedness.³⁰ The store's physical atmosphere, such as the store layout, lighting,

²² Joann Peck and Jennifer Wiggins, "It Just Feels Good: Customers' Affective Response to Touch and Its Influence on Persuasion," *Journal of Marketing* 70, no. 4 (2006): 56–69.

²³ K. Barloso, "Autism Stimming: What Are the Key Causes and Behaviors?," 2021, <https://www.autismparentingmagazine.com/autism-stimming-causes-management-and-types/>.

²⁴ W. Soroka, *Fundamentals of Packaging Technology*, 3rd ed. (Naperville: Institute of Packaging Professionals, 2002).

²⁵ Teofilus Teofilus, "The Elements of Packaging That Form a Brand Personality. A Case Study on Aroma Premium Sekoteng Products," *MIX: Jurnal Ilmiah Manajemen*, 2019.

²⁶ Asep Maulana, "Pengaruh Merek Dan Kemasan Terhadap Keputusan Pembelian Produk Teh Pucuk Harum Pada Siswa-Siswi SMKN 1 Jatisari," *Value: Journal of Management and Business* 4, no. 1 (2019): 54–64.

²⁷ Bo Rundh, "Packaging Design: Creating Competitive Advantage with Product Packaging," *British Food Journal* 111, no. 9 (2009): 988–1002.

²⁸ SooCheong Shawn Jang and Young Namkung, "Perceived Quality, Emotions, and Behavioral Intentions: Application of an Extended Mehrabian–Russell Model to Restaurants," *Journal of Business Research* 62, no. 4 (2009): 451–60.

²⁹ A. W. Hardianto and A. J. Maya, "Analysis of Stimulus-Organism-Response Model in the Dove 'Campaign for Real Beauty' 2004–2017," *Transaksi* 11, no. 1 (2019): 194–220.

³⁰ M C Kaunang, WJFA Tumbuan, and E M Gunawan, "The Importance-Performance Analysis Of Store Atmosphere At Matahari Department Store Manado Town Square," *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi* 9, no. 3 (2021): 1858–66.

music, and goods arrangement, is a key part of marketing.³¹ Environmental aspects of the store have been discovered to have a major impact on the financial performance of the store.³² The store layout, visual merchandising, brand availability, and loyalty points are crucial factors to consider while selecting a retail business.³³ People in the store can exhibit a wide range of behaviours due to the store's setting, where some factors can persuade visitors to spend more time in the store, increasing the likelihood of them buying an item.³⁴ In contrast, store components can also have a negative impact on customer behaviour by causing people to depart too soon. However, environments that persuade shoppers to buy things they didn't want to buy assist sales reps in building closer relationships with them, resulting in increased rates of repeat business from these customers.

THEORETICAL FRAMEWORK

The emotional or impulsive decision-making view of consumer decision-making is anchored and conceptually underpinned by impulsive buying.³⁵ Consumers are more prone to associate sensations or emotions such as joy, love, fear, hope, sexuality, fantasy, and even a little magic with specific products or belongings, according to this viewpoint. Consumers, particularly women, are likely to make many of these purchases on impulse, on a whim, because they are emotionally oriented, rather than meticulously exploring, discussing, and assessing options before buying.

Hawkins Stern impulse buying theory

This study is grounded in the Hawkins Stern impulse buying theory. Although many of the consumerism theories, like Maslow's motivation-need theory and the Theory of Planned Behaviour (TPB) proposed by Ajzen in 1985, believe in rational action, Hawkins Sterns was a firm believer in the concept of irrationality. According to this theory, marketers can persuade customers to buy more than they had anticipated.³⁶

Carlson applied the four categories of impulsive buying that Stern established to a practical example: The first category includes purchases made solely on impulse, such as a candy bar purchased at a grocery store checkout line.³⁷ Second, reminder impulse buying occurs when consumers are reminded of a need for a product upon seeing it in a store, even though they had not planned to purchase it. Third, suggested impulse buying occurs when consumers see a product for the first time and perceive a need for it. Fourth, planned impulse buying takes place when consumers intend to buy certain items but make their final purchase decisions based on promotions or discounts. Therefore, this study emphasizes the concepts of sensory marketing, in-store environment, packaging design, and the S-O-R model used by entrepreneurs to trigger young females, especially students, into impulse buying, as shown in Figure 2 below.

³¹ Chiu-Han Wang and Sejin Ha, "Store Attributes Influencing Relationship Marketing: A Study of Department Stores," *Journal of Fashion Marketing and Management: An International Journal* 15, no. 3 (2011): 326–44.

³² Chuchu, Venter de Villiers, and Chinomona, "The Influence of Store Environment on Brand Attitude, Brand Experience and Purchase Intention."

³³ G. Prakash et al., "Gender Effect on Impulse Buying Behavior," *Emerald Emerging Markets Case Studies* 7, no. 7 (2017): 1–12; Vinish et al., "Impulse Buying Behavior among Female Shoppers: Exploring the Effects of Selected Store Environment Elements."

³⁴ Geetha Mohan, Bharadhwaj Sivakumaran, and Piyush Sharma, "Impact of Store Environment on Impulse Buying Behavior," *European Journal of Marketing* 47, no. 10 (2013): 1711–32.

³⁵ Didit Darmawan and John Gatheru, "Understanding Impulsive Buying Behavior in Marketplace," *Journal of Social Science Studies* 1, no. 1 (2021): 11–18.

³⁶ T., Dutta and M. Mandal, *Neuromarketing in India: Understanding the Indian Consumer* (London: Routledge, n.d.).

³⁷ D. J. Carlson, "Hawkins Stern Impulse Buying Theory," 2021, <https://www.linkedin.com/pulse/hawkins-sternimpulsebuyingtheorydjohncarlson>.

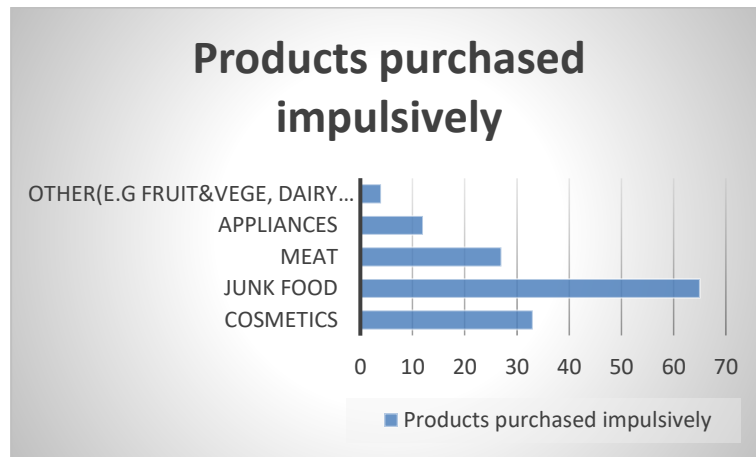


Figure 2: Common target products of impulse buying

The respondents were allowed to tick 1 to 5 (all) types that they have recently bought without planning to do so. There were 97 picks from the respondents, of which 23.4% respondents say they bought cosmetics, 46.1% bought junk food, 19.2% of respondents bought meat, 8.5% recently bought small appliances, and 2.8% bought other products like fruit and vegetables. From an entrepreneurial perspective, junk foods attract a lot of attention from female university students in South Africa. This behaviour is in large part consistent with Hawkins Stern's impulse buying theory, where there is a huge percentage of irrationality in buying.

The Psychological Continuum Model (PCM)

This research is also backed by the Psychological Continuum Model's foundation (PCM). PCM is a framework that was created to model the upward and downward movement of sports fans' alliances while considering various psychological relationships. The PCM posits that an individual's progressive growth is governed by psychological and sociological processes that occur in four stages: awareness, attraction, attachment, and allegiance. Even though the implementation of this model in the retail setting is new, Edirisinghe claims that it can bring new insight into the relationship between customer behaviour and retail consumption.³⁸

These four identified aspects of leisure activity are said to promote the development of the psychological connection to activity, including pleasure. The researcher relates the model to the variables of this study, especially with the Stimulus-Organism-Response theory, which states that there is a stimulus that causes an organism's (person) internal sentiments or behaviour to obtain a response.³⁹

METHODOLOGY

Since this study looks at specific customer behaviour, online surveys are considered a good choice for data collection.⁴⁰ This quantitative approach was used to eliminate the problem of duplicate results; the quantitative approach focuses only on the actual data. Despite the randomization, the data validates itself because the findings consistently point to the same data. Conveniently purposive random clusters were selected in Limpopo (Turfloop), Gauteng, Pretoria Soshanguve, Free State (Welkom), Northwest (The Crossing), KwaZulu-Natal (Pietermaritzburg) and Eastern Cape (Mthatha). This kind of sampling was convenient and cost-effective. The provinces were randomly selected because the study was not going to be easy and affordable using all the provinces of South Africa.

³⁸ Ruwini Edirisinghe, "Is the Smart Safety Vest a Brutal Innovation? Evaluation of Microclimate Performance Using a Thermal Manikin," 2017. <https://www.researchgate.net/publication/321161666>_ Accessed 21/11/2024

³⁹ Xuesong Zhai, Minjuan Wang, and Usman Ghani, "The SOR (Stimulus-Organism-Response) Paradigm in Online Learning: An Empirical Study of Students' Knowledge Hiding Perceptions," in *Cross Reality (XR) and Immersive Learning Environments (ILEs) in Education* (Routledge, 2023), 48–63.

⁴⁰ Huang, Y. C., Backman K.F, Backman J., & Chang L.L. (2016). Exploring the Implications of Virtual Reality Technology in Tourism Marketing: An Integrated Research Framework. *International Journal of Tourism Research*, vol 18, issue 2, p116–28.

The sampling frames were developed in supermarkets close to the university in all provinces, making the sampling process much more convenient. The target population for this research was 83,196 female students who were enrolled on the selected University campuses in the provinces. The sample frame is the precise pool of respondents from which the sample is drawn. It could be a source that specifically defines who will and who will not be included in the sample. From 83,196 students at the selected University campuses, in six selected Provinces, this study framed about 42,000 female students, mutually inclusive of all the sites who are also customers at nearby walkable supermarkets. The study found them more representative because the supermarkets are located just at a proximate distance.

The sample size for this research was calculated as follows: from an estimated 42,000 female students who are shoppers at the selected supermarkets, a 95% confidence level was allowed, using a 5% confidence interval and 10% margin of error. The researchers calculated a sample size of at least 97 university female students using the Rao-soft® sample size calculator.

The study explored the influence of Sensory marketing, in-store environment, packaging design, and the use of stimulus-organism-response (S-O-R) model factors on the impulse buying behaviour among female customers. To measure the five constructs: impulsive buying behaviour, sensory evaluation, marketing, in-store environment, Packaging design, and the stimulus-organism-response, existing scales in the literature were altered.

To collect data from the targeted audience, this research provided questions in the form of a questionnaire that included a sequence of questions to acquire information from respondents. Using a quantitative research method, 97 self-administered online surveys were distributed to selected female university students residing in six different Provinces' university campuses. Respondents answered the questions by indicating a number of strongly disagree, disagree, neutral, agree, and strongly agree.

The researchers used Google Forms as a form of mobile data collection technique. These questionnaires were distributed to willing respondents from female students and shoppers from selected universities in selected supermarkets. The researchers collected contact details from students visiting the supermarkets so that questionnaires could be forwarded via WhatsApp and/or email.

Before being analysed, the information gathered was entered into an Excel spreadsheet to better understand the characteristics of each variable. Descriptive statistical analysis was used, with the mean and standard deviation of each factor displayed. The researcher then used Statistical Packages for the Social Sciences (SPSS) to analyse the data.

All ethical issues were duly considered, ensuring that participants were well informed of the whole process.

PRESENTATION OF FINDINGS AND DISCUSSION

Reliability and Validity of Measurement Instruments

This section analyses the reliability and validity tests of the study to authenticate the findings and establish how valid they can influence decisions, regulations and policies. Table 1 below shows the inferential statistics values that were generated using SPSS statistical software.

Table 1: Reliability tests, Cronbach's Alpha values of the variables

Variables		N	Mean	Std. Deviation	Variance	Cronbach's alpha value
Sensory Marketing	SM1	97	3.695	.895	.802	0.824
	SM2		3.453	1.112	1.237	
	SM3		3.516	1.055	1.113	
	SM4		3.684	.987	.974	
In-store Environment	IE1	97	3.642	.994	1.237	0.801
	IE2		3.716	.866	1.113	
	IE3		3.684	.811	.658	
	IE4		3.526	1.065	1.134	

Packaging Design	PD1		3.547	1.054	1.111	0.761
	PD2		3.463	.938	.880	
	PD3		3.747	.917	.841	
Stimulus-organism-response (S-O-R)	SOR1		3.726	1.020	1.041	0.813
	SOR2		3.611	1.145	1.311	
	SOR3		3.874	.885	.784	
	SOR4		3.737	.965	.931	

The Cronbach's alpha coefficient was used to examine the measuring scales for this investigation. Cronbach's alpha coefficients varied from 0.76 to 0.82, above 0.7. This range of values proved that the study is highly reliable, and it can be replicable and generalizable to different contexts.

Results After Testing H1-H4

To further shade confidence and significance levels of the study, the researchers tested the hypothesis through path analysis. The hypothesis tests outcomes are as shown in Table 2 below.

Table 2: Path Analysis Results

HYPOTHESIS	EFFECT	p	t-VALUE	REMARKS
H1	SM-IB	0.012	3.137	Significant
H2	IE-IB	0.002	1.721	Significant
H3	PD-IB	0.029	4.183	Significant
H4	SOR-IB	0.101	2.418	Significant

**IB is Impulsive buying, SM is Sensory marketing, IE is In-store environment, PD Packaging design, and SOR is Stimulus-Organism-Response*

H₁: *Visual and touch sensory marketing positively influence the impulsive buying behaviour of university female students.*

According to Rajain and Rathee, every sensation in the body, such as touch, sound, smell, sight, and taste, increases the consumer's impression of an object, which is then used to make a purchase choice.⁴¹ Impulsive buyers employ their senses of sight and touch to make purchasing judgments when they view product packaging. The feel of your brand may resonate with a client on an intimate level, whether it's the texture you employ in your packaging or the material used in your product. Among the five senses used by sensory marketers, sight is by far the most detailed. In a handful of seconds, customers can recognize well-designed logos and colours. The study conducted in South Africa reflected that female customers of university-going age tend to buy more than they have planned when they come across an attractive and impressive display, and they spend too much of their time picking, looking and dropping products and sometimes tasting, fitting and asking colleagues for approval. In this study, it was also established that most of the respondents agreed that sensory advertising has an impact on impulsive buying. The findings are reflected in Figure 3 below.

⁴¹ Rupa Rathee and Pallavi Rajain, "Sensory Marketing-Investigating the Use of Five Senses," *International Journal of Research in Finance and Marketing* 7, no. 5 (2017): 124–33.

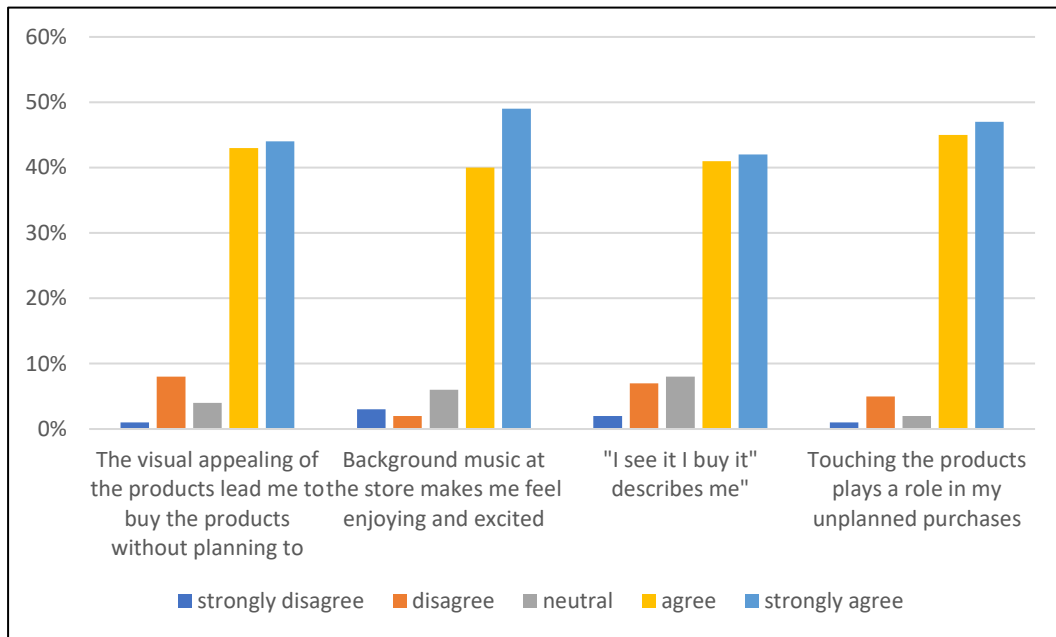


Figure 3: Visual and touch sensory marketing

In Figure 3, the study finds that visually appealing products lead university female students to buy without proper planning, as reflected by 1% of them strongly disagreeing with the statement that they buy spontaneously; 8% of respondents disagreed; 4% were neutral; 43% of respondents agreed, and 44% strongly agreed. It was also found that background music (ergonomics) at the store makes university female students feel joyful and excited, as reflected in Figure 3, where 3% of the respondents strongly disagree with the statement that they buy spontaneously; 2% of respondents disagreed; 6% were neutral; 40% of respondents agreed, and 49% strongly agreed. In the same vein, the “customer sees it, customer buys it” spontaneous buying was also found to be a trigger of impulsive buying. 2% of the respondents strongly disagreed with the statement that they buy spontaneously; 7% of respondents disagreed; 8% were neutral; 41% of respondents agreed, and 42% strongly agreed. In addition to that, touching the products plays a role in university female students’ unplanned purchase, as reflected in the above figure 3, where 1% of respondents agreed, and 5% strongly agreed; 2% were neutral; 45% of respondents disagreed, and 47% of the respondents strongly disagreed with the statement that they buy spontaneously. Summative above 96% of university female students in South Africa agreed that entrepreneurs should work on sensory marketing in order to improve their sales.

The results indicate that sensory marketing positively influences impulsive buying ($\beta = 0.137$, $t = 3.137$, $p = 0.012$). This supports the literature showing that sensory cues-sight, touch, smell, and sound can trigger emotional responses leading to unplanned purchases.⁴² In line with Hawkins Stern’s impulse buying theory, the findings suggest that exposure to appealing sensory stimuli in retail environments encourages female students to act on immediate desires rather than rational evaluation.

In-store Environment and Impulsive Buying (H2)

H₂: *Supermarkets’ store environment influences the impulsive buying behaviour of university-going female students in South Africa.* Several studies have primarily focused on the influence of various retail environment characteristics on impulse purchase behaviour, and Various visual and audio signals that inspire immediate interest or cognitively persuade buyers about specific demands have been discovered to serve as inspiration for impulse purchases.⁴³ There is also a distinction between intended and

⁴² Shadma Shahid et al., “The Role of Sensory Marketing and Brand Experience in Building Emotional Attachment and Brand Loyalty in Luxury Retail Stores,” *Psychology & Marketing* 39, no. 7 (July 25, 2022): 1398–1412, <https://doi.org/10.1002/mar.21661>.

⁴³ Mohan, Sivakumaran, and Sharma, “Impact of Store Environment on Impulse Buying Behavior”; Hyo Jung Chang, Ruoh-Nan Yan, and Molly Eckman, “Moderating Effects of Situational Characteristics on Impulse Buying,” *International Journal of Retail & Distribution Management* 42, no. 4 (2014): 298–314.

perceived atmospheres, with intended referring to the atmosphere the company wants the customer to have and perceived referring to the customer's actual experience, which varies depending on culture and other factors such as perceptions of colour, sound, and smells. The study found that the in-store atmosphere and décor were appealing to 93% of the university's female students during the time they were purchasing goods impulsively. On this note, entrepreneurs perceived that the supermarkets must look beautiful and well organised. 93% of the studied university students in South Africa agreed that they tend to buy more than they had planned when they come across an attractive and impressive displayed store, as shown in Figure 4 below.

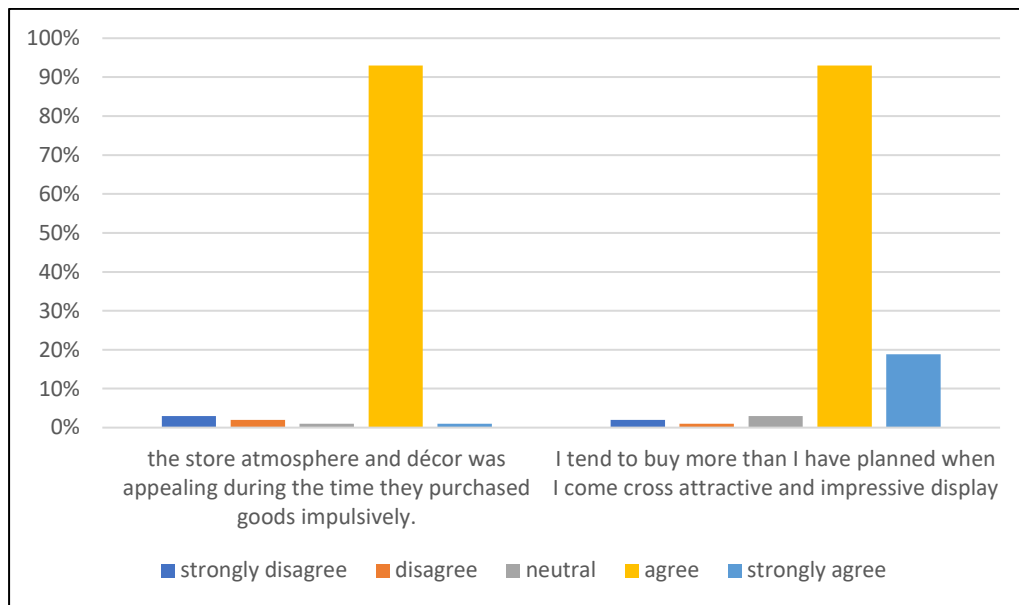


Figure 5: In-store Environment and Impulsive Buying

Table 2 shows that the in-store environment also showed a significant positive effect on impulsive buying ($\beta = 0.102$, $t = 1.721$, $p = 0.002$). This aligns with Kotler's concept of store atmosphere, where lighting, layout, music, and product placement influence consumer behavior.⁴⁴ In South African university settings, supermarkets with well-designed store layouts may increase the likelihood that female students spend more time in-store and make unplanned purchases.

Packaging Design and Impulsive Buying (H3)

H3: *There is a positive relationship between packaging design and impulsive buying among university going age female students in South Africa.* Customers purchase a higher quantity of well-labelled goods after seeing them. As a response, labelling influences consumer purchasing behaviour, but there are many other factors that influence consumer purchasing behaviour. As a result, product packaging plays a crucial role in presenting a company's brand image, which is sometimes aimed at conveying high-quality images while other times implying a low price. The relationships are illustrated in Figure 5 below.

⁴⁴ Philip Kotler, "Atmospherics as a Marketing Tool," *Journal of Retailing* 49, no. 4 (1973): 48–64.

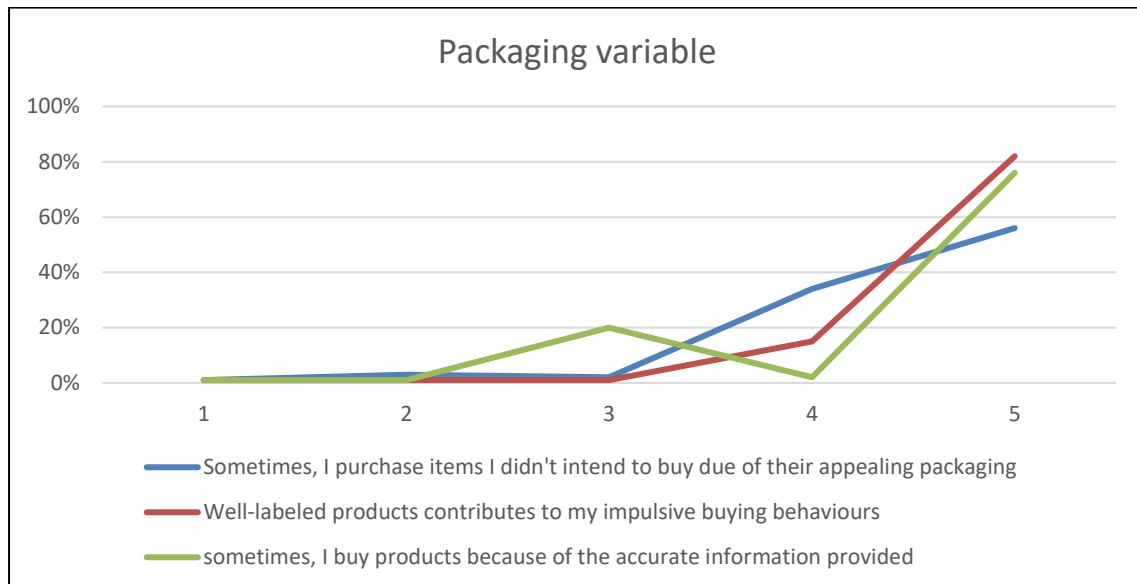


Figure 5: Packaging Design and Impulsive Buying

Sometimes, university female students purchase items they did not intend to buy due to their appealing packaging. Figure 5 above shows that 34 % of respondents agreed; 56% strongly agreed, 2% were neutral, 1% of respondents disagreed, and 3 % of the respondents strongly disagreed with the statement. The study also found that well-labelled products contribute to university female students' impulsive buying behaviours 15% agreed; 82% were neutral; 1% disagreed; and 1% strongly agreed with the statement, and 1% strongly disagreed. It was also found that sometimes, female university students in South Africa buy products because of the accurate information provided. From the information in Figure 5, out of 97 respondents, 2 % agreed; 20% were neutral; 76 % strongly agreed with the statement, 1 % disagreed, and 1% strongly disagreed. This brings a perception that university female students are selective and need well-informed, organised and appealing packaging of products in supermarkets.

Table 2 shows that packaging design significantly influenced impulsive buying ($\beta = 0.183$, $t = 4.183$, $p = 0.029$), confirming that visual and textual elements on products can elicit positive emotional responses.⁴⁵ Attractive packaging captures attention and motivates immediate purchase decisions, supporting the notion that packaging serves not only functional but also psychological and marketing purposes.

Stimulus-Organism-Response and Impulsive Buying (H4)

H4: *There is a positive relationship between cognitive response and impulsive buying amongst female university students in South Africa.* Mehrabian and Russell proposed the S-O-R model, which combines environmental stimuli (S), organism (O), and behavioural response (R).⁴⁶ Using an extended SOR model, this study adds the attachment to the emotional state in addition to customer buying behaviour. Ntobela and Mbukanma found a link between consumer impulsivity, optimal stimulation level, impulse buying, and variety-seeking behaviour.⁴⁷ This is further described below in Figure 6.

⁴⁵ Rundh, "Packaging Design: Creating Competitive Advantage with Product Packaging"; Teofilus, "The Elements of Packaging That Form a Brand Personality. A Case Study on Aroma Premium Sekoteng Products."

⁴⁶ Albert Mehrabian and James A. Russell, *An Approach to Environmental Psychology* (MIT Press, 1974).https://mitpress.mit.edu/9780262130905/an-approach-to-environmentalpsychology/?utm_source=chatgpt.com

⁴⁷ Ntobela and Mbukanma, "Exploring the Impact of Sensory Marketing on Impulsive Buying Behaviour of Millennials in Mthatha, Eastern Cape, South Africa."

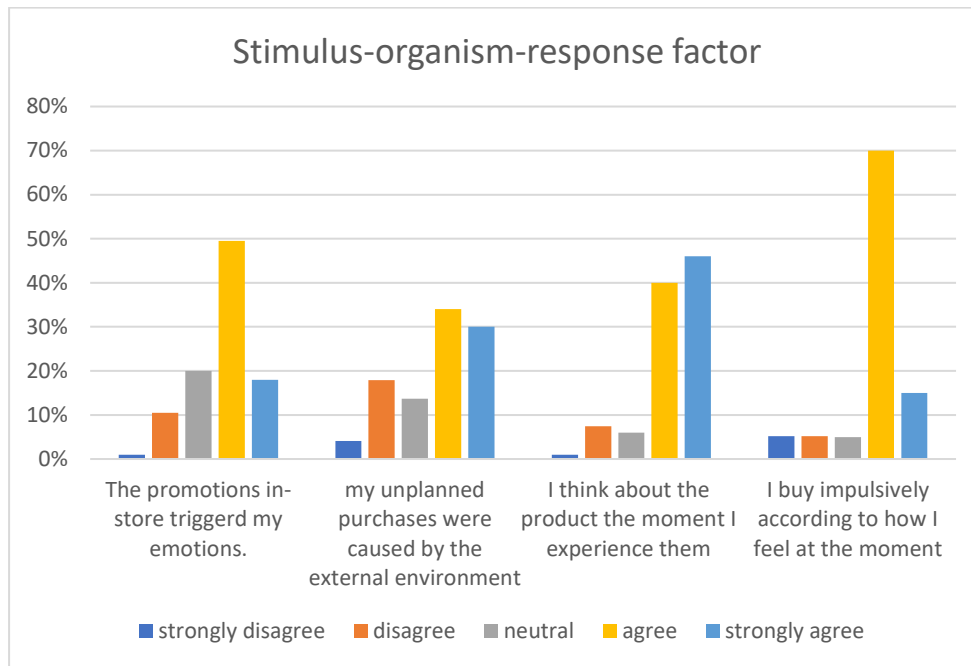


Figure 6: Stimulus-organism-response vs impulse buying

As illustrated by Figure 6, the study finds that the promotions in-store triggered university female students' emotions when buying. From the information above, out of 97 respondents: 1% agreed; 11% were neutral; 20% strongly agreed with the statement 50% disagreed; and 18% strongly disagreed with the statement. On another note, 30% strongly agreed; 34% agreed; 7% disagreed; 6% were neutral; 1% strongly disagreed. South African universities' female students' unplanned purchases (impulse buying) were caused by the external environment. The study also established that university female students also think about the product the moment they experience it. Figure 6 also shows that 46%strongly agreed; 40% agreed with the statement; 6% were neutral; 7% disagreed; 1% strongly disagreed with the statement. On a lighter note, university female students buy impulsively according to how they feel at that moment.

The S-O-R model was a significant predictor of impulsive buying ($\beta = 0.101$, $t = 2.418$, $p = 0.001$), demonstrating that stimuli trigger internal emotional and cognitive responses that lead to behavioral outcomes. These results echo Mehrabian and Russell's model and indicate that female students' impulsive purchases are mediated by internal affective states in response to environmental cues.

Overall, the findings reveal that all predictor variables, sensory marketing, in-store environment, packaging design, and S-O-R, significantly influence impulsive buying behavior among female university students. Therefore, the null hypothesis (there is no impact) is rejected. These results corroborate existing literature suggesting that external marketing cues and internal emotional responses jointly drive impulsive consumption.⁴⁸ Importantly, the study fills a contextual gap in the literature by focusing on female students in South African supermarkets, showing that sensory-driven marketing strategies can have a pronounced impact in developing country contexts. From a practical perspective, entrepreneurs and marketers can strategically design store layouts, sensory stimuli, and packaging to stimulate impulsive buying, thereby enhancing revenue while also being mindful of ethical considerations related to young consumers' financial well-being.

RECOMMENDATIONS

Based on the findings of this study, several recommendations are proposed for retailers operating in South African supermarkets, particularly those located near universities or serving large student populations. The results confirmed that sensory marketing, in-store environment, packaging design, and

⁴⁸ Mattila and Wirtz, "Congruency of Scent and Music as a Driver of In-Store Evaluations and Behavior."

the Stimulus-Organism-Response (S-O-R) mechanism significantly influence impulsive buying among female university students. Therefore, retailers are encouraged to adopt strategies that enhance these marketing dimensions while ensuring ethical responsibility.

First, retailers should enhance sensory marketing elements within stores. The results showed that visual and tactile cues in particular strongly encourage unplanned purchases among female students. Therefore, supermarkets and campus-adjacent stores should improve the visual attractiveness of product displays, lighting quality, and colour coordination to stimulate positive sensory responses. Background music may also be used strategically to improve the experience in the store, as research indicates that ambient music influences emotional states and browsing behaviour. However, such strategies should be applied ethically to avoid excessive pressure on young consumers with limited financial resources. Therefore, sensory marketing should not be employed as a manipulative tool, but as a means of reinforcing product quality, value, and customer satisfaction.

Second, improvements to the in-store environment are recommended. Since the study found that 93% of female students were influenced by the aesthetic and organisational features of the store, retailers should maintain clean, well-organised, and modern layouts that encourage browsing. Kotler's concept of store atmospherics remains relevant, as décor, lighting, aisle arrangement, and visual merchandising influence time spent in the store and impulse purchase likelihood. Recent studies also show that well-designed retail spaces create emotional arousal that strengthens purchase intention. Therefore, supermarkets serving student consumers could integrate appealing décor, seasonal product zoning, and in-store promotional islands to capture attention and stimulate unplanned purchases.

Third, the study recommends that retailers refine packaging design to better resonate with young consumers. Packaging was found to significantly affect impulsive buying, particularly when products were visually appealing, clearly labelled, and perceived as informative. Retailers, especially those offering private-label items, should invest in packaging that uses modern colour schemes, concise textual communication, clear nutritional and pricing information, and student-relevant branding. Evidence suggests that visually engaging, customer-driven packaging increases attention and stimulates emotional responses that lead to spontaneous purchases. Co-creation, such as involving consumers in packaging feedback or design surveys, may strengthen product appeal and brand loyalty in the student market.

Fourth, the findings show that the S-O-R model is an important mechanism explaining how external marketing stimuli influence internal states and lead to impulse buying. Therefore, retailers should design marketing activities that enhance positive cognitive and emotional responses, such as student promotions, time-limited discounts, or product sampling. However, the emotional pathway highlighted in the S-O-R model also raises ethical considerations. Since students may be financially vulnerable, retailers must avoid excessive psychological pressure, misleading pricing, or exploitative emotional triggers. Instead, emotionally persuasive marketing should align with value creation, product transparency, and long-term trust building. Research suggests that ethical marketing enhances favourable attitudes and strengthens sustainable customer relationships.

Finally, the study recommends that both retailers and university institutions promote responsible consumer awareness. Since impulse buying is significantly influenced by marketing stimuli, financial literacy education could help students understand the marketing mechanisms shaping their buying decisions. Educational initiatives or budgeting programmes, led by universities or delivered in partnership with retailers, could reinforce responsible consumption. Recent findings indicate that financial and brand literacy reduces the negative effects of emotional buying and improves consumer decision-making. Greater collaboration between retailers and academic institutions may therefore support student well-being alongside commercial objectives.

Overall, the study concludes that while sensory-driven marketing and retail atmospherics can substantially enhance retail performance, such strategies should be implemented responsibly to balance business profitability with ethical sensitivity towards young consumers.

CONCLUSION

The study revealed that it can be inferred that the behaviour of buying on impulse is common in the shopping patterns of female university students in South Africa. It is critical that people, entrepreneurs, university administration, funding agencies and the government are aware of this reality so that they can budget for their families, customers, female students, funding methods and the disadvantaged, respectively. This can be an opportunity for entrepreneurs (shop owners/retailers) to increase sales by including more amenities such as a pleasant store environment, special deals, and so on. As a result, this research emphasizes the need to leverage creativity and innovation to gain a competitive advantage in the retail industry and entrepreneurial vision.

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ABOUT AUTHORS

Pezile Scina, MCom, PhD candidate, Department of Business Management and Economics, Faculty of Economic and Financial Sciences Walter Sisulu University, Mthatha, Eastern Cape, South Africa.

Medicine Magocha, PhD, Senior lecturer, Department of Business Management and Economics, Faculty of Economic and Financial Sciences Walter Sisulu University, Mthatha, Eastern Cape, South Africa.