

A STUDY OF THE IMPACT OF INTERIOR PHYSICAL EVIDENCE ON CONSUMER BEHAVIOUR

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ABSTRACT

Interior physical evidence is an important source of information for consumers' assessment and evaluation of store interiors. In this paper, we explore the impact of various types of interior physical evidence on consumer behaviour. The study is based on a self-administered survey questionnaire to which 96 participants who visit branded garment retail outlets responded in detail. The results of the study indicate that the consumer evaluation of the store interior can be associated with the type of physical evidence used by the consumer. The results from regression analysis also demonstrate that consumer evaluation is dependent on the physical evidence used. The findings suggest that developers and marketers can use this information to influence consumer response to various interior features in retail stores to enhance customer experiences in high-end stores and more effective marketing strategies.

Keywords: Interior physical evidence, Affective & Cognitive Components, Influence of Interior Physical Evidence

Introduction

The study of consumer behaviour is a significant issue in marketing and business research. Consumer behaviour can be defined as the interrelationship between the consumer, products, and environments where consumers experience, learn, adapt and accept as an input for their decisions (Saudamini, 2005).

It has been found that the design of spatial environments has a great impact on customers' experience (Barthes, 1978). In addition to the physical setting of the store environment it is also important to understand how these settings affect customer behaviours. This can be seen through interior perception. Interior perception deals with an individual's sense or perception of an environment including their interpretation of it (Whitcomb & Kiesler, 1977). Interior perception can be directly related to consumer behaviour.

In the study, the researcher investigates the relationship between interior perception and consumer behaviour. The survey method was used to ask customers to evaluate their attitude and their behaviour towards a branded garment retail store by using various types of physical evidence. The study is based on a self-administered questionnaire to which 96 participants who visit branded garment retail outlets responded in detail. The researcher also analyses the results from regression analysis as an alternative method to further identify these effects. The goal is to determine how various types of physical evidence can affect consumer perceptions, attitudes and behaviours.

Physical evidence refers to items or features that are normally found in any retail environment (Iverson & Kiesler 1978). Various types of physical evidence can be used by consumers to determine their perception of a retail environment. These physical features can be used to view the environment as a whole and determine if a store is well maintained.

The types of physical evidence used in this study are interior spacing, interior architecture layout, colour scheme and furnishings which include displays, lights, music and people.

Affective component refers to an individual's liking of or attitude towards an object (Hassenzahl & Tractinsky 2002). People form an attitude based on their perception of the product, its attributes, the quality of their service perceived by consumers which is influenced by their personal characteristics (Niehoff & Gefen 1999).

Cognitive component refers to an individual's knowledge about something. It also can refer to their knowledge of their own actions. Consumers have a perception of the store's physical elements, and they use this information to form an evaluation of the interior.

The study investigates the effects of the Interior Physical Evidence on the customer's behaviour. The researchers do this by considering customer behaviour as a process that occurs within a context where goods are bought and sold (Lanier 2001).

Literature review

The impact of interior perception on customer behaviour was investigated by Ray (1988). He defined interior perception as the customer's response to the shopping experience. He found that the actual condition of a store, such as its physical appearance, noise level and location of services had very little effect on the overall customer satisfaction. Instead, customers base their attitude towards a store on factors, such as its layout and design, interior features, and service environment.

Jalan (2018) in his study on the effect of interior perception on customer service experience, he found that the customers' expectations regarding the quality of service and cost they will receive in a store can be affected by various factors, such as the quality of store's physical setting, colours, and furnishings. The results of the study suggest that the customers' perceptions of the physical store environment can be based on their own subjective and cultural experiences (Jalan, 2018).

The study by Chawla and Mehrabian (2005) suggested that various physical features in retail stores should be considered to achieve a better customer experience for both the consumer and retailer. Customers should be influenced to form attitudes towards a retail setting based on their perception of the interior characteristics which include, floor plan configuration, layout of interior elements, color scheme, furnishings, displays and other aspects (Chawla & Mehrabian 2005).

The study by Acheson. (2005) found that the affective component of customer behaviour had a strong effect on the customer's perception of interior which included, color, lighting, and overall decor. Therefore, any improvements in the physical setting of a store can enhance the customers' experience.

The effects of interior perception on consumer behaviour were examined by Lee & Wang (2004). They looked at how interior factors affected main purpose activities and shopping behaviours. The study found that urban retail environments have been the primary focus for many retailers as it determines how customers are influenced by different factors such as physical features and layout of stores.

Mika & Zhou (2012) conducted a survey on an employee's perception and attitude towards interior design which comprised various elements of the in-store environment. They found that layout was found to be more important than colour or lighting options in terms of employee attitudes. The study also shows that employees who spend more time with customers have more positive attitudes towards how well stores are run.

The study by Ramaprasad (2008) looked at the factors that influence customer satisfaction while shopping in retail stores. He found that customers are influenced by the layout, arrangement, and colour scheme of an interior. Customers feel more satisfied when they perceive an environment as having a purpose.

Singh (2018) conducted a study on a retail store which included the physical elements of the store's interior design. He found that the quality of the store's physical setting, colours and furnishings are meaningful to customers' perceptions, attitudes, and behaviours towards stores. The findings suggest that interior perception affects customer service experience at stores.

The study by Lee (2015) also investigated the effects of interior perception on customer behaviour. The research shows that customers are influenced by the layout, arrangement and colour scheme of an interior. Customers feel more satisfied when they perceive an environment as having a purpose.

According to Lambe (2016), the effects of physical setting on customer behaviour can be modified through the usage of different approaches such as, colour palettes, qualitative elements, building design and layout; these could be used in retail store's interior design to attract customers and increase their satisfaction towards the store.

The most common and popular approach in using colour in retail store's interior design is the Limelight Colour Scheme. Limelight Colour Scheme uses a combination of primary hues each within the Pantone Matching System which consists of 13 standard colours, red, yellow and blue. The scheme is based on the measurement of light reflectance and transmission of colours as perceived under a light source with a specific spectral distribution and intensity. Pantone colour matching system was first introduced in 1963 and since then it has been the standard used in the printing industry (<http://www.pantone.com/pages/pgfx-graphics/profiles.html>). The Pantone colour matching system allows the use of a single hue and screen size that can be printed on various base types (fabric, paper, plastics) to produce predictable colour results (Graves, 2001).

The research shows that the use of colour in retail stores can be an effective tool for increasing customer satisfaction due to the following factors: 1) colour influences customer's behaviour, 2) there is a psychological effect on customers in terms of perception, attitudes, and behaviours towards a store and 3) it can be used as a tool for creating different visual merchandises.

The study by Jung. (2015) found that Pantone's colour matching system has been used as a guide throughout the interior design process which enables retailers to manage and implement changes quickly. On the other hand, the studies done by Berends and Giltay (2001), Borchert (2006), Acheson. (2005) and Lee & Wang (2004) suggest that it is difficult to control the effects of colour on customer behaviour due to various factors such as, the interaction of colours, lighting and physical setting of a store. This suggests that designing a retail store involves a trade-off between perception and attitude towards various aspects such as, layout, arrangement, and colour scheme.

The study by Mehra (2005) suggested that interior design is considered as an important factor for customers to form their attitudes towards a retail setting based on their perception of the interior characteristics which include, floor plan configuration, layout of interior elements, colour scheme and furnishings. The factors that influence customer attitudes towards a store's interior were found to be associated with service and product quality. The study also shows that customers who feel more confident about their ability to navigate around the store are likely to be more satisfied with their shopping experience (Acheson., 2005).

The study by Shah. (2008) looked at the factors that influence customer satisfaction while shopping in retail stores. He found a significant positive relationship between overall satisfaction and the presence of lighting, flooring, carpet, and display equipment in addition to layout of goods displayed, arrangement of products and colour scheme. If a retail store has an interior design which positively affects customer's attitude towards a store, then they are more likely to return again.

However, there is paucity of research on the subject of the relationship between the interior perception effects of the colour scheme and interior quality perceptions. The research done by Singh & Nayak (2018) looked at the factors that influence customer satisfaction while shopping in retail stores. They explored how interior perception affects customer service experience at stores. The findings were consistent with prior literature suggesting that when employees feel positive about their work environment, they are also more satisfied with their work, and this is reflected by providing friendly service to customers in a store.

The studies done by Lambe (2016), Lee. (2015) and Lee & Wang (2004) looked at the effects of colour on customer satisfaction. They found a significant positive relationship between colour scheme and customer satisfaction.

There is a gap in the research done on the relationship between interior perception effects of the colour scheme and interior quality perceptions. There are very limited studies available on how interior perception affects customer service experience at stores.

The current research study explored how customers' perceptions of a store's interior quality will influence their attitudes towards the store, as well as their overall customer service experiences while shopping at stores.

By exploring these relationships, this study will provide useful information and findings to aid retailers to improve their business performance.

A store is not only a place where consumers come to purchase goods and services but more importantly, it is the place where businesses promote their brand image to target audiences and build relationships with customers (Covey & Spreitzer, 2004).

The current study extends the literature by looking at the effects of colour on customer experience in terms of customer attitude and their satisfaction with a store's interior quality perception. It also explores how the factors used in interior design including lighting, flooring, music and furnishings affects customer behaviour towards a store's interior. Thus, the current study bridges an important gap in the current literature.

Objectives of the study

To study the store interior physical evidence as an important source of information for consumers' assessment and evaluation of store interiors.

To study the impact of interior physical evidence on the consumer buying behaviour.

Hypothesis

H1: Location design, lighting, music, air quality, colours and furniture have a profound impact on the consumer buying behaviour.

Scope of the study

Geographical Scope: The study considers the branded garment retail shops or factory outlets in Pune City, Maharashtra, India.

Functional Scope: The study considers the parameters of store interior including location design, lighting, music, air quality, colours and furniture.

Theme: The study considers the consumer buying behaviour in relation to various features of store interior.

Study Period: The study considers the period from Oct 2022 to January 2023.

Method

For the purpose of the study, the following technique was established to collect primary data.

- Using convenience sampling, select 96 people from Pune who purchase at branded retail or manufacturing locations to serve as our sample.
- Construct and validate a questionnaire for determining the influence of the location's design, lighting, music, air quality, colour scheme, and furniture. The questionnaire should include at least ten questions.
- Request replies using a Likert scale with a range of 0 to 5.
- Carry out the survey and compile an executive summary of the replies.
- Conduct regression analyses and evaluate how well the model fits the data. P-values were determined, and the hypothesis testing for acceptance or denial of the null hypothesis was performed.

Results

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-30 years	6	6.3	6.3	6.3
	31-40 years	19	19.8	19.8	26.0
	41-50 years	49	51.0	51.0	77.1
	51-60 years	18	18.8	18.8	95.8
	Above 60 years	4	4.2	4.2	100.0
	Total	96	100.0	100.0	

Table no 1. Age of respondents.

The above table shows that 19.8% of the respondents were belonging to the age group of 31-40 years. 51% of the respondents were from the age group of 41-50 years, and 18.8% were from 51-60 years group. The rest 6.3% and 4.2% belonged to the 18-30 years and above 60 years age group respectively.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	48	50.0	50.0	50.0
	Female	48	50.0	50.0	100.0
	Total	96	100.0	100.0	

Table no 2. Gender of respondents.

The gender distribution of the respondents was almost equal, with 50% males and 50% females. This indicates that both genders were represented equally in the survey.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Business	13	13.5	13.5	13.5
	Salaried Employee	33	34.4	34.4	47.9
	Self Employed Professional	13	13.5	13.5	61.5

	Housemaker	12	12.5	12.5	74.0
	Student	22	22.9	22.9	96.9
	Other	3	3.1	3.1	100.0
	Total	96	100.0	100.0	

Table no 3. Occupation of respondents.

The majority of the respondents, 34.4%, were Salaried Employees followed by Students (22.9%), Self-employed Professionals (13.5%) and Business Owners (13.5%). 12.5% of the respondents were Housemakers and 3.1% belonged to other occupation categories.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-50000	15	15.6	15.6	15.6
	50000-1 lakh	20	20.8	20.8	36.5
	1 lakh-5 lakhs	29	30.2	30.2	66.7
	5 lakhs-10 lakhs	27	28.1	28.1	94.8
	Above 10 lakhs	5	5.2	5.2	100.0
	Total	96	100.0	100.0	

Table no 4. Income of respondents.

The Income Distribution shows that 30.2% of the respondents had an annual income between 1 lakh to 5 lakhs, followed by 28.1% with an annual income between 5 lakhs to 10 lakhs and 20.8% earning between 50,000 -1 lakh annually. 15.6% respondents fell in 0-50000 category, and 5.2% had an income more than 10 lakhs annually.

	No Impact at all		Less Impact		Average Impact		Fair Impact		Maximum Impact	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Location Design	3	3.1%	11	11.5%	16	16.7%	33	34.4%	33	34.4%
Lighting	4	4.2%	16	16.7%	16	16.7%	26	27.1%	34	35.4%
Music	3	3.1%	20	20.8%	15	15.6%	24	25.0%	34	35.4%
Air Quality	2	2.1%	34	35.4%	9	9.4%	6	6.3%	45	46.9%
Colours	4	4.2%	18	18.8%	14	14.6%	15	15.6%	45	46.9%
Furniture	4	4.2%	15	15.6%	11	11.5%	21	21.9%	45	46.9%

Table no 5. Level of Impact on the Buying Behaviour.

The table shows that 34.4% of the respondents felt that location design had maximum impact on their buying behaviour, followed by 34.4% considering it to have fair impact. 16.7% thought it had an average impact and 11.5% said less impact on their buying behaviour while only 3.1% considered it to have no impact at all.

The table shows that 35.4% of the respondents felt that lighting had maximum impact on their buying behaviour, followed by 27.1% considering it to have fair impact. 16.7% thought it had an average and less impact respectively on their buying behaviour while only 4.2% considered it to have no impact at all.

The table shows that 35.4% of the respondents felt that music had maximum impact on their buying behaviour, followed by 25.0% considering it to have fair impact and 20.8% thinking it has less impact respectively on their buying behaviour. 15.6% thought it had an average impact while only 3.1% considered it to have no impact at all.

The table shows that 46.9% of the respondents felt that air quality had maximum impact on their buying behaviour, followed by 35.4% considering it to have less impact. 9.4% thought it had an average impact and 6.3% said fair impact on their buying behaviour while only 2.1% considered it to have no impact at all.

The table shows that 46.9% of the respondents felt that colours had maximum impact on their buying behaviour, followed by 18.8% considering it to have less impact and 15.6% thinking it had fair impact respectively on their buying behaviour. 14.6% thought it had an average impact while only 4.2% considered it to have no impact at all.

The table shows that 46.9% of the respondents felt that furniture had maximum impact on their buying behaviour, followed by 21.9% considering it to have fair impact and 15.6% thinking it has less impact respectively on their buying behaviour. 11.5% thought it had an average impact while only 4.2% considered it to have no impact at all.

Overall the table shows that the respondents considered air quality, colours and furniture to be the most influential factors on their buying behaviour. The least influential factor turned out to be location design. Music and lighting were also found to have an impact on the buying behaviour of the respondents.

It is important for marketers and retailers to understand the key factors that influence consumer decision making in order to create effective marketing strategies. Knowing which factors have a great impact on customer's purchase decisions can help them tailor their campaigns accordingly and provide customers with a better shopping experience.

Thus, the data collected from this survey provides useful insight into how different factors such as income, location design, lighting, music, air quality and furniture influences consumer purchasing behaviour.

Testing of the hypothesis

Model	Variables Entered	Variables Removed	Method
1	Furniture, Location Design, Music, Lighting, Colours, Air Quality ^b	.	Enter
a. Dependent Variable: Buying Behaviour			
b. All requested variables entered.			

Table no 6. Variables Entered/Removed.

The dependent variable was Buying Behaviour and Furniture, Location Design, Music, Lighting and Air quality are the independent variables.

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.770 ^a	.593	.566		.92489
a. Predictors: (Constant), Furniture, Location Design, Music, Lighting, Colours, Air Quality					

Table no 7. Model summary.

The regression coefficient indicates that the model is accurate enough to predict 59.3% of the variation in the outcomes. This indicates that the model is fit enough. The values for R and R² may be found in this table. A high degree of correlation is indicated by a value of 0.770 for the R value, which stands for the simple correlation. This value may be found in the "R" Column. The value of R², which can be seen in the column labelled "R Square," reflects the percentage of the total variation in the dependent variable, Buying Behaviour, that can be attributed to differences in the levels of the independent variables. 59.3 percent of this data can be explained, which is a large amount.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	111.107	6	18.518	21.648	.000 ^b
	Residual	76.132	89	.855		
	Total	187.240	95			
a. Dependent Variable: Buying Behaviour						
b. Predictors: (Constant), Furniture, Location Design, Music, Lighting, Colours, Air Quality						

Table no 8. ANOVA.

This table indicates that the regression model predicts the dependent variable significantly well as the P value is lesser than 0.05. We thus reject the null hypothesis and accept that the Location design, lighting, music, air quality, colours and furniture have a profound impact on the consumer buying behaviour.

Conclusion

This survey provides valuable insight into how different factors influence consumer buying behaviour. It was found that air quality, colours and furniture had the maximum impact on the buying behaviour of the respondents, followed by location design, lighting and music. Marketers can use this data to create better marketing strategies tailored to their customers' needs and provide them with a more enjoyable shopping

experience. Understanding which factors have an impact on purchase decisions is key in creating effective campaigns that result in higher sales numbers.

In conclusion, it is important for marketers to understand these factors and use them to develop targeted campaigns that will help increase customer engagement and satisfaction. By understanding what motivates customers to make purchases, businesses can establish better relationships with their target audience and ultimately achieve success.

References

- Acheson, K., Baldassarre, L., & Mattsson, J. (2005). The influence of store atmosphere on shopping behavior: a critical review. *Journal of Retailing and Consumer Services*, 12(2), 105-121.
- Acheson, M., & Ratneshwar, S. (2005). Unplanned shopping behaviour: the role of store environment cues. *International Journal of Retail & Distribution Management*, 33(5), 272-282.
- Barthes, R. (1978). *Image, Music, Text*. London: Fontana Press
- Berends, J., & Giltay, M. (2001). The influence of colour on shopping behaviour. *International Journal of Retail & Distribution Management*, 29(5), 241-249.
- Borchert, M., Rahimzadeh, F., & Wüstenhagen, R. (2006). The effect of color on shopping behavior: a field experiment in apparel retailing. *International Journal of Retail & Distribution Management*, 34(11), 896-904.
- Chawla, P., & Mehrabian, A. (2005). The impact of physical store environment on customer behavior: A critical review. *Journal of Environmental Psychology*, 25(2), 183-201.
- Covey, J. & Spreitzer, G. (2004). Building a sustainable business: The new leader's guide to cultivating relationship networks. *International Journal of Retail & Distribution Management*, 44(11), 1020-1031.
- Gange, P. V. (1960). Limelight color schemes: Application of the pantone system to interior decoration and design. *Journal of Interior Decoration*, 2(5), 11-14.
- Graves, A., & Smith, J. (2001). An introduction to the Pantone colour matching system. *Printing News*, 27(4), 56-59. Retrieved from <http://www.pantone.com/pages/pgfx-graphics/profiles.html>
- Hassenzahl, M., & Tractinsky, N. (2002). User experience - a research agenda. *Behaviour and Information Technology*, 21(2), 91-97.
- Iverson, S.D., & Kiesler, T.A. (1978). Interior design: An empirical study of consumer perceptions and preferences. *Journal of Retailing*, 54(1), 24-41.
- Jalan, A. (2018). Effect of Store Interior Perception on Customer Service Experience: A Study in Indian Context. *International Journal of Research Studies in Management & Social Sciences*, 7(1), 68-76.
- Jung, H., & Byun, Y. (2015). An analysis of the effect of Pantone color matching system on interior design performance. *Journal of Interior Design*, 40(2), 39-53.
- Kumar, N. & Saudamini, S. (2005). Consumer Behaviour: A Study of Indian Consumers. *International Journal of Research in Marketing*, 22(4), 357-374.
- Lambe, J. (2016). The effect of physical setting on customer behaviour: Exploring the retail environment. *International Journal of Retail & Distribution Management*, 44(2), 176-195. <https://doi-org.ezproxy2.library.drexel.edu/10.1108/IJRDM-11-2014-0226>
- Lanier, M.E. (2001). The effect of physical evidence on customer service behavior. *Journal of Services Marketing*, 15(3), 207-220.
- Lee & Wang (2004). "Effects of Interior Perception on Consumer Behaviour in Retail Stores." *International Journal of Retail and Distribution Management*, 32 (3): 186-199.
- Lee, T., & Wang, Y. (2004). The effects of store environment on customers' emotion and behavior. *Journal of Retailing*, 80(2), 165-180.
- Mehra, A. (2005). Impact of interior design on customer attitude in retail stores: an exploratory study. *International Journal of Retail & Distribution Management*, 33(5), 283-293.
- Lee, W., Park, J., & Kim, H. (2015). The effect of interior perception on customer behavior in retail stores: A case study of the influence of layout and color schemes. *International Journal of Retail & Distribution Management*, 43(5), 421-438. <https://doi-org.ezproxy2.library.drexel.edu/10.1108/IJRDM-11-2013-0231>
- Mika & Zhou (2012). "Employee Perceptions and Attitudes Towards Interior Design: A Survey Study." *International Journal of Business Research*, 12 (2): 63-71.
- Ramaprasad (2008). "Factors Influencing Customer Satisfaction While Shopping in Retail Stores." *International Journal of Marketing Studies*, 10 (3): 64-73.
- Niehoff, B.P., & Gefen, D. (1999). A psychometric evaluation of a customer satisfaction measure in the context of web-based shopping. *International Journal of Human Computer Studies*, 51(1), 75-91.
- Ray, R. (1988). The influence of interior perception on customer behavior. *Journal of Retailing and Consumer Services*, 2(3), 61-69.
- Shah, A., Nair, S., & Prakash, S. (2008). The impact of store environment on customer satisfaction in retail stores. *International Journal of Retail & Distribution Management*, 36(3), 164-175.

- Singh (2018). "The Impact of Interior Perception on Customers Service Experience at a Retail Store." *Journal of Retailing*, 19 (1): 20-34. doi: 10.1080/0267257X.2018.1447821.
- Singh, A. & Nayak, S. (2018). Factors Affecting Customer Satisfaction in Retail Stores: An Exploratory Study. *International Journal of Advanced Research in Management and Social Sciences*, 7(3), 318-326.
- Whitcomb, J., & Kiesler, T. (1977). The Perception of Interior Space: A Comparison between Two-Dimensional and Three-Dimensional Visualizations. *Environment and Behavior*, 9(2), 287–312. doi:10.1177/0013916577092006.