



Physical store and online store environment interplay on consumer shopping pattern

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Abstract

As the retail store continues to evolve from a simple sales outlet to an “interactive theater” or “experience stager” (Mathwick, Malhotra, & Rigdon, 2001), the concept of environment is being paid growing managerial and research attention both in traditional and online retail contexts. The terms atmospherics, shelf space studies, environmental psychology, and services capes all have been used in the literature over the last 30 years of exploration and conceptual development in this literature stream. The objective of this paper is to outline the environmental cues affecting the online and physical store environment, to understand the influence of environmental cues in physical stores, to explore the integrated shopping experience and understand from which store is the shopping happens. An online form was created and 410 respondent’s responses collected. The data collected showed physical environment like scent, lighting, music are correlated with shopping patterns and surprisingly majority of the respondent’s mentioned that they initiate their shopping journey through physical store. So, to conclude physical and online store need to have a seamless interplay among them for a smooth shopping journey.

Keywords- Physical store, Online store, Music, Lighting, Shopping

Introduction

As retail stores transform from mere sales points to dynamic experience hubs, the significance of store environments has garnered increasing attention from both managers and researchers in physical and digital retail settings. Extensive research has been conducted on environmental influences within brick-and-mortar stores, alongside growing interest in their impact on online shopping.

In-store marketing aims to stimulate impulsive purchasing at the point of sale, driving revenue and profitability. To leverage these spontaneous buying decisions, retailers implement various shopping cues, often referred to as servicescape elements, store atmospherics, and environmental factors. These cues create an appealing shopping environment that enhances customer experience and fosters brand loyalty. Retailers and service providers have increasingly embraced these techniques, sparking renewed academic interest in consumer behavior studies.



Recent research has explored consumer reactions to shopping cues through methods like in-store video analysis, social influence studies, sensory cue experiments, and investigations into nonverbal communication and emotional responses. Insights from these studies highlight the importance of store environments in shaping purchase decisions.

As highlighted during an LSA symposium on cross-channel commerce, consumer shopping habits are becoming more fragmented due to evolving lifestyles and the digital ecosystem. This shift challenges the traditional separation between physical and online shopping experiences, prompting a re-evaluation of retail strategies.

Over the past three decades, the literature has employed various terms to describe these environmental effects on consumer behavior, including atmospherics, shelf space analysis, environmental psychology, and servicescapes, reflecting the continuous evolution of this research field.

The rise of online platforms, such as websites, introduced multi-channel retailing, compelling traditional retailers—those relying on physical stores and catalogs—to choose between embracing digital channels or continuing with offline methods. The advent of smart devices has further advanced omni-channel retailing, which prioritizes cohesive consumer experiences across various platforms (Verhoef et al., 2015). Unlike multi-channel strategies that address online and offline sales independently, omni-channel strategies incorporate numerous touchpoints, including mobile devices like smartphones and tablets, as well as traditional media such as television and radio. Seamless integration of these channels is essential for providing a unified retail experience, which multi-channel strategies often overlook (Baxendale et al., 2015; Neslin et al., 2006). From a retail perspective, multi-channel strategies assess sales by individual channels, whereas omni-channel strategies emphasize total sales across all platforms.

Retail atmospherics has become a critical competitive strategy, significantly shaping consumer experiences through overall store ambience. Beyond enhancing the shopping experience, the ambience may also subtly influence consumers' perceived needs and purchasing decisions, potentially leading to unintended behavioral outcomes.

The influence of atmospherics, including physical design and decor elements, on both consumers and employees is widely acknowledged in marketing, retailing, and organizational behavior literature. The physical environment's impact on behavior and brand image is particularly significant in service industries like hotels, restaurants, offices, banks, retail stores, and hospitals.

Environmental psychology highlights that shoppers typically respond to store atmospheres through either approach or avoidance behaviors. Positive responses include a willingness to stay, explore, and engage, while negative responses result in a desire to leave quickly. Research has shown that atmospheric elements such as color, music, and crowding affect customer satisfaction, store image, time spent in-store, sales, and impulse purchases.

Berman and Evans (1995) classified atmospheric stimuli into four categories: store exterior, general interior, layout and design, and point-of-purchase and decoration variables. Over the past few decades, consumer expectations have shifted beyond product attributes to



include a pleasant store atmosphere. Elements like lighting, color, music, and scent enhance the shopping experience, making atmospherics a critical differentiator and competitive advantage for retailers.

A well-designed store atmosphere can serve as an effective marketing tool, influencing consumer emotions and behaviors. Research has established that environment-induced emotional states positively affect in-store behavior, leading to longer visits and increased spending. The store's format and ambiance also shape customer perceptions, dress, and communication patterns, reinforcing the importance of atmospherics in retail success.

Interaction with store staff and reactions to in-store communication can shape customer behavior, even for individuals indifferent to shopping. Research by Bowen and Shoemaker (1998) highlights that sensory and environmental cues within a store, referred to as in-store atmospherics, help establish a store or brand image, influencing consumer perceptions and encouraging positive behaviors such as extended time spent in-store, improved mood, higher purchase intentions, and greater customer loyalty. The store atmosphere encompasses three key elements: ambience, spatial design and functionality, and symbolic cues such as signage and artifacts. Its importance lies not only in prompting immediate purchases but also in fostering repeat visits.

Retail atmospherics is categorized into four components: exterior design, interior elements, store layout, and visual merchandising (Vedmani, 2003).

Mehrabian and Russell's (1974) Stimulus–Organism–Response (S–O–R) framework illustrates how environmental stimuli (such as color, scent, sound, and lighting) affect consumers' emotional states (pleasure, arousal, and dominance), leading to approach or avoidance behaviors. Ha and Lennon (2010) also emphasize that sensory elements in everyday environments evoke emotional reactions, influencing browsing, purchasing, and revisiting intentions.

Browsing for shopping outlets and making purchase or repurchase decisions are influenced by the S–O–R framework, which highlights the effect of environmental factors on consumer behavior (Ha & Lennon, 2010; Mummalaneni, 2005). Robert and John (1982) pioneered its application in retail, defining stimuli as atmospheric elements, organisms as consumers' emotional states, and responses as approach or avoidance behaviors. Eroglu, Machleit, and Davis (2001) explored its relevance in e-commerce, revealing that online shoppers' engagement and responsiveness to atmospherics influence their purchasing behavior, time spent, and site revisit frequency. Menon and Kahn (2002) found that a well-designed website encourages product exploration, extended browsing, and impulse buying, with initial emotional responses shaping future shopping patterns. The framework has also explained online shopping motivations and satisfaction (McKinney, 2004), showing that web atmospherics influence emotional states, mediated by pleasure and arousal (Mummalaneni, 2005). Richard (2005) noted that website design affects consumer attitudes and behaviors, while Koo and Ju (2010) highlighted that online cues impact emotions and buying intentions. Wang, Hernandez, and Minor (2010) confirmed the link between web aesthetics, service quality, and satisfaction, with Ha and Lennon (2010) emphasizing the positive relationship between website atmospherics, shopper satisfaction, purchase intentions, and engagement.



Objective of the study

- To outline the environmental cues affecting the online and physical store environment
- To understand the influence of environmental cues in physical stores
- To explore the integrated shopping experience that bridges the gap between online and physical stores.

Literature Review

Kotler (1973) was the first to introduce the concept of store atmosphere, highlighting four sensory dimensions: visual, aural, olfactory, and tactile. Over time, these dimensions expanded to include social and human elements. Baker (1986) incorporated the social dimension, focusing on store employees and customers, while Turley and Milliman (2000) further included employee and customer characteristics. Store atmosphere components were extended to cover external elements, interior design, store layout, point-of-purchase factors, and decor.

With the advent of the internet, researchers like Dailey (1999) and Vrechopoulos et al. (2000) adapted traditional atmospheric principles to the virtual space, introducing elements such as virtual layout, site aesthetics, sound, scent, and animation techniques. Manganari et al. (2007) later explored mobile commerce atmospherics, adding virtual social presence to the mix. Park et al. (2014) expanded this concept to include social networking atmospheres.

While online store atmospheres encompassed various digital channels, it wasn't until Poncin and Mimoun (2014) combined Baker's and Turley & Milliman's frameworks into one comprehensive study on store atmospherics. Their research highlighted the impact of in-store technologies and multichannel integration on consumer behavior but did not account for the growing omnichannel phenomenon.

The term 'omnichannel,' derived from the Latin word 'omnis' meaning 'all,' first emerged in the business realm to emphasize the simultaneous use of multiple channels by consumers, distinguishing it from the multichannel approach (Parker & Hand, 2009; Ortis & Casoli, 2009). Rigby (2011) defined omnichannel retailing as an integrated sales experience that blends the benefits of physical stores with the rich informational experience of online shopping. This hybrid approach, merging online and offline atmospheric cues, is recognized as the Omnichannel Retailing Store Atmosphere (ORSA) (Lazaris et al., 2015).

Research Methodology



The present study employed an exploratory quantitative empirical research design. The data collection instrument was an online questionnaire which received 500 answers from Internet users (410 after data sorting and analysis). The questionnaire was created in Google form. Specifically, store atmosphere criteria included both offline & online ones, with the inclusion of shopping initiations. Convenience sampling method is adopted for the study. Responses on online and physical environmental cues affecting the customers have been captured from a sample composed of 500 customers of different retail stores. The Primary data was collected by means of a survey sheet as well as a questionnaire. . To study the various elements of retail store atmospherics this totally depends upon observations, perception and experimentation.

Result and Discussion

This research investigates the impact of both online and brick-and-mortar store environments on consumer shopping behaviours. Digital stores offer accessibility, extensive product variety, and tailored suggestions, encouraging both impulsive and deliberate purchasing decisions. Conversely, physical retail spaces deliver tactile engagement, immediate product acquisition, and social interactions, influencing consumer product interactions. Elements such as user-friendly navigation, atmosphere, and service quality across both platforms significantly affect consumer choices. The study seeks to examine the equilibrium between these retail modes, highlighting critical factors that determine consumers' shopping preferences, methods, and motivations.

DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Table: 4.1. Gender				
	Frequency,	Percent,	Valid Percent,	Cumulative Percent,
Male	250.0	61.00	61.00	61.00
Female	160.0	39.00	39.00	100.00
Total	410.0	100.00	100.00	

The study's sample includes 410 participants, with 250 (61%) being male and 160 (39%) being female. This indicates a higher proportion of male respondents compared to female respondents. There are no missing values for gender, as the valid percentage matches the total percentage. The cumulative percentage confirms that both male and female participants collectively represent 100% of the sample. This gender distribution highlights a male-dominated sample, which should be taken into account when analyzing results related to consumer behavior and other demographic-based insights.

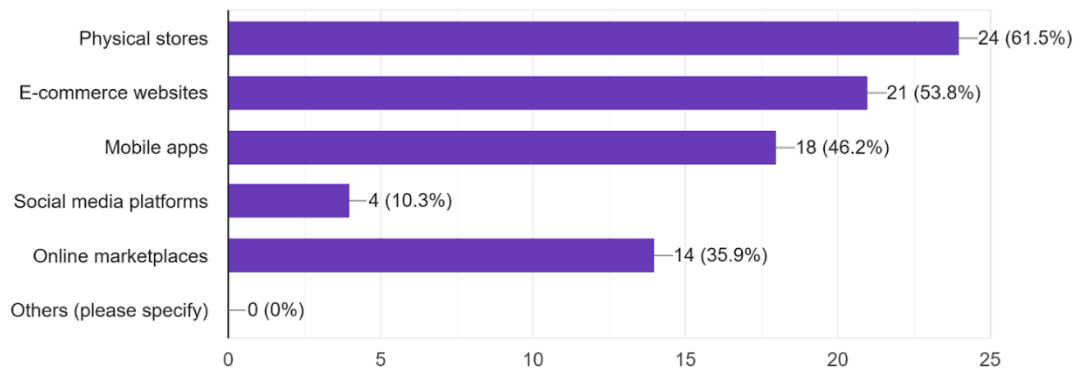
For the question on which channel you initiate most of your shopping journeys? The respondents surprisingly answered physical stores (61.5%) as their preferred choice next



ecommerce websites (53.8%) and then came mobile apps (46.2%). This shows that physical stores are still the preferred mode and the environment and tactile cues can be worked on.

5. On which channel do you initiate most of your shopping journeys?

39 responses



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Table: 4.33. Correlations of physical store environment

		Store layout and design	Lighting, music, and scent	Cleanliness and organization	Interaction with store staff	Availability and accessibility of products	Comfort and stress levels in the shopping environment	Confidence and trust in the store	Excitement and satisfaction when shopping	Intent to buy
Store layout and design	Pearson Correlation	1	.150*	.148**	.090	.346**	.341**	-.037	.107*	-.138*



	Sig. (2-tailed)		.002	.003	.068	.000	.000	.456	.030	.005
	N	410	410	410	410	410	410	410	410	410
Lighting, music, and scent	Pearson Correlation	.150**	1	.701**	.122*	.013	.156**	.316**	.267**	.274*
	Sig. (2-tailed)	.002		.000	.013	.786	.002	.000	.000	.000
	N	410	410	410	410	410	410	410	410	410
Cleanliness and organization	Pearson Correlation	.148**	.701*	1	.018	-.180**	.183**	.431**	.120*	.079
	Sig. (2-tailed)	.003	.000		.717	.000	.000	.000	.015	.110
	N	410	410	410	410	410	410	410	410	410
Interaction with store staff	Pearson Correlation	.090	.122*	.018	1	-.029	-.046	.070	.110*	.048
	Sig. (2-tailed)	.068	.013	.717		.557	.353	.159	.026	.328
	N	410	410	410	410	410	410	410	410	410
Availability and accessibility of products	Pearson Correlation	.346**	.013	-.180**	-.029	1	.197**	-.112*	-.010	-.002
	Sig. (2-tailed)	.000	.786	.000	.557		.000	.023	.843	.972
	N	410	410	410	410	410	410	410	410	410
Comfort and stress levels in the shopping environment	Pearson Correlation	.341**	.156*	.183**	-.046	.197**	1	.225**	-.015	-.229*
	Sig. (2-tailed)	.000	.002	.000	.353	.000		.000	.754	.000
	N	410	410	410	410	410	410	410	410	410



Confidence and trust in the store	Pearson Correlation	-.037	.316*	.431**	.070	-.112*	.225**	1	.377**	.012
	Sig. (2-tailed)	.456	.000	.000	.159	.023	.000		.000	.806
	N	410	410	410	410	410	410	410	410	410
Excitement and satisfaction when shopping	Pearson Correlation	.107*	.267*	.120*	.110*	-.010	-.015	.377**	1	.219*
	Sig. (2-tailed)	.030	.000	.015	.026	.843	.754	.000		.000
	N	410	410	410	410	410	410	410	410	410
Intention to buy	Pearson Correlation	-.138**	.274*	.079	.048	-.002	-.229**	.012	.219**	1
	Sig. (2-tailed)	.005	.000	.110	.328	.972	.000	.806	.000	
	N	410	410	410	410	410	410	410	410	410
**. Correlation is significant at the 0.01 level (2-tailed).										
*. Correlation is significant at the 0.05 level (2-tailed).										

The analysis identifies key relationships between store attributes, customer satisfaction, and purchasing behavior. Store layout and design positively correlates with lighting, music, scent (.150**), cleanliness and organization (.148**), and comfort and stress levels (.341**), indicating that a well-planned store layout enhances the shopping experience. However, its negative correlation with purchase intention (-.138**) implies that while a well-designed layout increases satisfaction, it does not always boost buying decisions. Lighting, music, and scent show a strong positive correlation with cleanliness and organization (.701**), reinforcing that a pleasant ambiance enhances the store's perceived cleanliness. This ambiance positively impacts excitement and satisfaction (.267**), confidence and trust (.316**), and purchase intention (.274**), emphasizing its role in driving customer satisfaction and sales. Cleanliness and organization significantly correlate with confidence and trust (.431**), though it negatively affects interaction with staff (-.180**), suggesting that a well-maintained store may reduce the perceived need for assistance. Comfort and stress levels enhance confidence and trust (.225**) but show a negative correlation with purchase intention (-.229**), indicating that comfort alone may not drive sales. Confidence and trust in the store strongly correlate with excitement and satisfaction (.377**), which positively influences purchase intention (.219**). The study concludes that product quality and variety are primary drivers of purchase decisions,



closely followed by store atmosphere. Retailers should target specific segments and product categories to boost sales. With most customers spending 30 minutes to an hour in-store, creating an engaging and attractive environment is crucial. A well-maintained store atmosphere can enhance customer experience, encourage positive buying behavior, and increase sales through simple actions like clean dressing rooms, quality background music, well-lit spaces, and odor-free environments. Adequate aisle spacing and organized checkout counters further enhance the shopping experience, while thoughtful product displays and store layouts that align with customer needs can significantly impact spending behavior.

Findings & Conclusion:

The survey conducted was showed a skewed responses from males than females and for the question on which channel you initiate most of your shopping journeys? The respondents surprisingly answered physical stores (61.5%) as their preferred choice next ecommerce websites (53.8%) and then came mobile apps (46.2%). This shows that physical stores are still the preferred mode and the environment and tactile cues can be worked on. The product quality & variety influences the purchase decisions the most but strongly followed by the impact of store atmosphere. Here retailers can select their target segment & the products' category where they can lay emphasis to increase the sales. Most of the customers spent only 30 min to 1hr in the store so there must be something very interesting and attractive to hold them inside the store for long thus arousing interest in them to purchase more. Retailers, can't afford to turn off a single customer and image is everything for them. Generally store atmosphere is an inexpensive way to attract customers and turn them towards positive buying intentions.

Limitation:

This research has some limitations along with its fruitful results. First our targeted areas were limited to Telangana Region. Our research was not selective to some particular retail outlets, we collected data from general retail customers who usually do shopping. Survey was based on small sample of customers. Due to time constraint some customers did not respond properly.

Future direction: Moreover, few open-ended response questions should be added into questionnaire survey. By using this type of question, we can reveal unanticipated opinions from respondents towards this study. Those unforeseen opinions may improve the overall result of the research. Sample size of research is a matter that will influence the result of research as well. The greater the sample sizes of respondents, the more reliable the result. Future researchers need to determine the suitable sampling technique in order to reach the



targeted sample accurately in turn to deliver a more accurate and reliable result for research.- paraphrase so as to get 0% similarity on plagiarism software

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