

The Psychological Impact of Sensory Branding on Brand Recall and Purchase Intent



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The objectives of this study are to investigate the impact that sensory elements have on purchasing intentions and brand recall, in the context of hotels, looking at sight, sound, smell, taste and touch. Based on the analysis of 464 responses of clients of hotels and hotel managers, in the territory of Gujarat state of India, the research utilizes Structural Equation Modelling (SEM) and regression analysis which outlines the fact that there is, however, a fairly good association between sensory elements' presence and any consumer activities, brand recognition, and purchasing intentions being the targets. Emphasis is placed on the efforts which need to be made in sensory branding so that it can be used better for enhancing the customer experience and retention in the hotel industry.

Keywords: Sensory Branding, Brand Recall, Purchase Intent, Hotel Sector, Consumer Behaviour, Sensory Cues.

1. Introduction

In the increasingly harsh competition of the hospitality business, sensory branding has emerged as one important factor that has to be used by firms to sway consumer buying behavior and go for long-term brand loyalty (Kapoor, A. P., & Vij, M., 2017). Sensory branding strategies are uniquely positioned as the means for establishing emotional differentiation in a crowded marketplace, as they leverage the various senses to ensure the creation of strong brand recall. Through the effective use of sensory stimuli, hotels have the ability to build up emotions towards their brands increasing the level of customer loyalty and purchase intention (Tran, T. H. L., et al., 2022). In the current state of global marketing where there is more focus towards the experience of the customer or marketing as an experience, sensory branding has emerged as one of the most effective tool in customer engagement strategies (Hultman, M., et al., 2021). On the other hand, as hospitality brands are integrating multi-sensory elements, studies suggest that these experiences may shape customers' images and improve their attitudes toward the brand (Feldman & Smith, 2020). Sensory branding therefore departs from the conventional branding approach by concentrating on the positive experiences of the consumers. Ideally, this is very important in the hotel industry (Ashton, A. S., et al., 2008). In hospitality, sensory branding stands out due to its capacity to influence both cognition and emotion, which in turn has an effect on attitudes and perceptions (Aberdeen, N. I., et al., 2016). As the researchers found, consumers exposed to many senses tend to be more favorably inclined to the certain brand due to higher recall rates and feeling toward the brand as well as the concept (Alalwan, A. A., et al., 2017). This link between sensory and cognitive promotion, has to be noted as useful especially for the hotels that want to establish deeper emotional connections with their consumers (Baldauf, A., et al., 2003).

Empirical research underscores the role of sensory inputs in shaping positive consumer attitudes that are relevant in brand loyalty and purchase intention (Baldinger, A. L. and Rubinson, J., 1996). It has been found that sensory branding is able to construct environments that capture the attention of customers and add value to the brand. In the case of hotels, such surroundings enable them to develop stronger brand loyalty, hence customers are willing to spend more on enhanced sensory experience (Barreda, A. A., et al., 2015).

In the contemporary competitive landscape, the impact of sensory branding on the consumers' intention to purchase in the hotel industry is quite acute (Bloemer, J., et al, 1999). An increase in the number of hospitality brands providing sensory cues to their products suggests that, such cues not only make the consumers happier but also increase their intention to buy and their chances of repeat purchases (Boateng, H. and Okoe, A. F., 2015). This calls for the effectiveness of sensory branding as a positioning strategy (Chang, Y.-H., 2012).

Another consideration touches on the influence of such factors on the effectiveness of sensory branding, which has been described in the research as a contextual moderating variable (Chandra, A. T., & Balqiah, T. E., 2023). Culture or age relates to the way how the customers interpret the sensory factors and thus, the overall experience and loyalty to the brand. For the hoteliers, grasping these demographic differences helps in the provision of specific sensory experiences in relation to consumers who belong to the target markets (Wang, H., 2022).

As Jain, S., & Kaur, J., 2018 have shown, sensory branding in hospitality has emerged as a relevant avenue because it can be used to strengthen consumers' experiences and increase their loyalty. The hotel field is very competitive, and applying stylistic elements as a way of differentiating corporate identities has become a fairly reliable way of customer retention and building good relations with consumers. This trend has attracted attention and recognition as a way of gaining sustainable competitive advantage in the market (Chandrasekhar, A., & Rajendran, N., 2016).

Sensory branding is possessed with the capability to influence the emotions of potential buyers which provides a reason in as to why this practice has been embraced in the hotel industry (Brunn, P., & Grunert, K. G., 2011). As consumers look for more unique and unforgettable experiences, such as the ones offered through sensory branding, brands are able to create environments that are more relevant to consumers and promotes both recall and preference (Batra, R., et al., 2008). Therefore, sensory branding has become an effective marketing strategy in nurturing consumer fidelity in regard to hotel brands and thus improving its overall value proposition (Hultén, B., et al., 2009).

2. Literature Review

Sight-Based Sensory Branding

Visual branding plays an important role in developing the perceptions of the consumers as it forms the first points of contact in sensory branding (Byon, K. K., and Zhang, J. J., 2010). It has been noted that consumers' high regard and recall for brands are affected by visual aspects including brand colors, logos, and designs (Yang, K., 2023).

Sound-Based Sensory Branding

Through sounds and music, a brand's identity can also be developed, which can then provoke emotions as well as foster brand loyalty. According to studies, the use of carefully selected music and sound cues in hotels can improve the environment and consumer attitudes and purchase intention (Varshni, R. K., & Indhumathi, G., 2024).

According to several empirical research, music has a positive relationship with the amount of time spent shopping demonstrating its ability to evoke strong emotions in customers and influence their purchasing decisions. Jingles, voices, music, environment themes and advertisements, sound brands, and characteristic sounds are just a few examples of the various sensory expressions that may help with a sound experience and be employed consistently across a firm's sensory marketing to establish uniqueness (Saribaş, Ö., & Demir, C., 2024).

Scent-Based Sensory Branding

Covert and intentional use of scent is seen in the hospitality space to create an emotion that draws the customer in (Martinez & Rivera, 2020). Pleasant aroma have been found to enhance mood and satisfaction of the consumers, and thus lead to better positioning of the brand and a higher intent to purchase (Brown, T. J., et al., 2006).

According to Chen, C. F., & Tsai, W. C. (2007), olfaction is a hedonic sense that is based on an accurate appraisal of odours and influences consumers' emotions and psychological arousal. Additionally, studies have shown that pleasant scents can influence customer shopping behaviour in terms of increased expenditures and more money spent in the store. Smells may be strategically employed in sensory marketing to represent a brand's identity and enhance its reputation or as a promotional tool to promote a product. (Baker, J., & Milliman, R. E., 2002)

Taste-Based Sensory Branding

The field of culinary arts during luxury hotel service is important for branding and adding value to the hotel (Chang & Kim, 2021). It has been proven that some flavors are unique enough in the market space that they help improve attachment towards the brand while also changing brand loyalty (Brunn, P., & Grunert, K. G., 2011).

Due to its ability to encourage social interactions, its internal linkages to other senses, and the high amount of interpersonal engagement between businesses and consumers, the sense of taste is regarded as one of the most clearly emotive. According to research, a good taste experience makes people remain in a store longer, which increases their consumption. Businesses may add flavours to a brand to offer it new hedonic dimensions communicated via various sense expressions (Cardello, A. R., et al., 2008).

Touch-Based Sensory Branding

It is important to note that there is also a brand experience that that is created using tactile cues such as textures and even physical structures that add value to a brand (Hwang & Park, 2020). Aspects like high-end fabric furnishing in hotels also allow the guest to have a luxury experience which in turn helps the brand develop a positive image in the eyes of the customers (Chaudhuri, A., & Holbrook, M. B., 2001)

According to Latus, D. (2002), research on the tactile sense highlights individual variations in motives for touching, product qualities that enable touching, and situational circumstances that assist touching as the sources of individualized perceptions. Positive emotional responses may lead to more favourable sentiments towards a product by employing touch as a person's preference for receiving information about a product (Krishna, A., & Schwarz, N., 2010).

Brand Recall Influence

Brand recall becomes crucial once again when we talk about decision making amongst the consumers especially when there is competition in the market. Hence, an effective sensory branding may improve the brand recall as it makes the experience of the consumers more memorable which they can easily associate with the particular brand. According to the studies, it has been discovered that memory recall is more effective in non-purchasing activities when aided with certain sensory triggers such as music or even scent (Anderson, E. W., & Srinivasan, V., 2003).

Purchase Intent Propensity

Purchase intention in sensory branding is often relatively a consequence of the holistic emotional and sensory experience. As per study, one of the virtues of multi-sensory branding is the creation of positive brand associations which increases the chances of consumers buying again and retaining their loyalty on the brand.

Consumer company identification is a process where a customer's self-definition of their belief in a company and its values occurs. Customers will be defined with comparable properties in this case, whereas non-customers will be defined with the opposite attributes. Simply said, consumer company identification refers to the relationship between a customer and a business in the many situations when customers might recognize the business. In addition to increasing staff and customer retention, it also has a favourable impact on consumer purchase intentions (Ananthasuresh, G., & Banerjee, S., 2012).

3. Conclusion

To summarize, it can be said that, as the concepts of sensory branding include different sensory constructs, each of these has a different effect on the consumers' attitudes and behaviors towards the products. The introduction of these factors presents a rather comprehensive method of dealing with factors such as purchase intention, brand loyalty and development of enduring customer relationships within the hospitality industry (Elder, R. J., & Krishna, A., 2011).

Constructs Used in the Study

Sr. No	Name of Construct	Author Detail
1	Sight	Byon, K. K., & Zhang, J. J. (2010); Yang, K. (2023)
2	Sound	Varshni, R. K., & Indhumathi, G. (2024); Saribaş, Ö., & Demir, C. (2024)
3	Smell	Martinez & Rivera (2020); Brown, T. J., et al. (2006); Chen, C. F., & Tsai, W. C. (2007); Baker, J., & Milliman, R. E. (2002)
4	Taste	Chang & Kim (2021); Brunn, P., & Grunert, K. G. (2011); Cardello, A. R., et al. (2008)
5	Touch	Hwang & Park (2020); Chaudhuri, A., & Holbrook, M. B. (2001); Latus, D. (2002); Krishna, A., & Schwarz, N. (2010)
6	Brand Recall	Anderson, E. W., & Srinivasan, V. (2003)
7	Purchase Intention	Ananthasuresh, G., & Banerjee, S. (2012)

4. Research Gap and Need for Study

There has been an increase in the number of researchers working in the sensory branding field lately, however, it appears that there are no comprehensive investigations exploring each sense's effect on consumers' attitudes towards hotels or their purchasing intentions. Previous studies, in particular, effectively dealt with holistic integrated multi-sensory experiences, which is helpful to the understanding of the whole, but does not facilitate the appreciation of the unique contributing sensory elements (Nguyen & Chen, 2020). A specific academic gap also relates to the research of demographic parameters that might impact the effectiveness of sensory branding in terms of different markets (Sharma & Li, 2021).

Therefore, this research addresses these gaps as it investigates the unique effects of sensory branding on consumer attitudes and their purchase intention within the hospitality sector. For hoteliers, the results will help them to effectively use sensory branding in their marketing mix in order to enhance consumer loyalty and purchase intention (Xu & Wei, 2020).

5. Scope of the Study

The area of concern in this study relates to the hotel industry and specifically the individual sensory cues and how they influence consumer attitudes and purchase intentions in Gujarat, India. Findings will be relevant to the hotels aiming at gaining competitive edge through sensory branding (Martinez et al., 2020).

6. Research Objectives

1. To evaluate the impact of individual sensory elements on consumer attitudes in the hotel industry.
2. To investigate the influence of sensory branding on consumer purchase intentions in hotels.
3. To analyze the demographic variables affecting consumer perceptions of sensory branding.

7. Research Methodology

This investigation employs quantitative analysis to determine the extent to which advertising elements impact the consumer behavior as well as the intention to purchase in the scope of the hotel industry. Distributing questionnaires is particularly useful in such a huge sample. Since the surveys are instrumented in the form of three questionnaires, they will seek responses from Target Hotel guests and Hoteliers in Gujarat, India, to clarify how each of the senses in branding (visual, auditory, olfactory, tactile, and gustatory) assists in appealing the consumers' perceptions and behaviors differently. The number of responses was believed to be 464 in order for statistically valid conclusions to be derived enabling generalisable information in the scope of the hotel sector in Gujarat.

For this study, IBM SPSS Statistics and IBM SPSS AMOS will be utilized in data analysis. IBM SPSS Statistics will provide for data reliability analysis and regression analysis between such data and the variables. Next, Structure Equation Modelling

will be executed through IBM SPSS AMOS to evaluate the complex relationship schema that was developed wherein sensory branding components are together with consumer perceptions towards different sensory elements, brand recall and purchase intention in one model. This study makes great use of SEM since the design of the study allows for the assessment of both the direct and indirect impact on the various constructs within the presented model on the consumer response to each of the sensory components. This kind of method has been resonated by recent investigation on sensory branding in their deliberation of the need for strong statistical approaches that build on multidimensional constructs (Kumar & Lee, 2021).

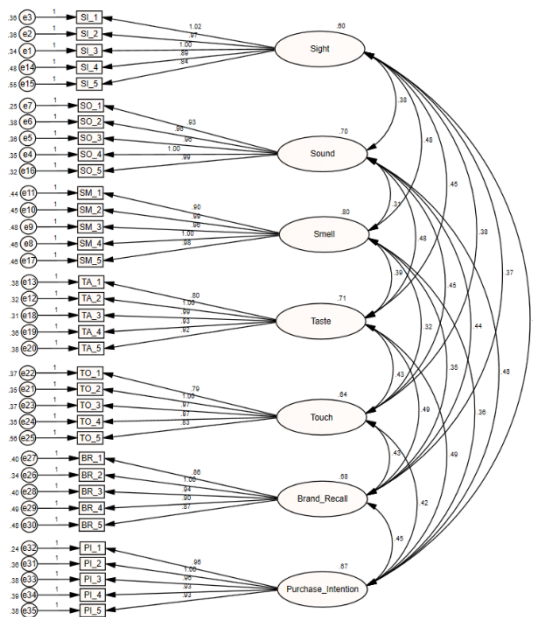
8. Data Analysis

Reliability Analysis

Constructs	No. of Items	Cronbach Alpha Value
Sight	5	.864
Sound	5	.907
Smell	5	.890
Taste	5	.895
Touch	5	.867
Brand Recall	5	.870
Purchase Intention	5	.896

When analysing this research in terms of reliability as measured by the Cronbach’s Alpha, it’s evident to say there is a high internal consistency in all of the constructs used in this study. The constructs have an Alpha value over the commonly accepted 0.70, the level that is believed to ensure the reliability of the items of the sensory cues and outcome variables. In particular, Sound ($\alpha = 0.907$) has the highest internal consistency, followed by Taste ($\alpha = 0.895$), Smell ($\alpha = 0.890$) and Purchase Intention ($\alpha = 0.896$) in terms of overall rating. Meanwhile, Touch ($\alpha = 0.867$), Sight ($\alpha = 0.864$) and Brand Recall ($\alpha = 0.870$) were significantly reliable as well. These results indicate that the items contained in each construct successfully measure the specified sensory or psychological traits that the construct is aimed at which supports the constructs towards the detailed analysis on brand recall and purchase intention of customers in the hotel sector. (Carmines, E. G., and Zeller, R. A., 1979)

Confirmatory Factor Analysis (CFA)



In order to evaluate whether a particular model is consistent with and successfully captures all of the variables, Confirmatory Factor Analysis (CFA) is used in this study. Within the boundaries of CFA, the researcher is attempting to verify and test how correct the model is that has been suggested for evaluation by means of a hypothetical relation between unobservable (in this case sensory) components and the related observed components. Specifically in CFA, the suitable fit indices to model parameters includes the Chi-square statistic, Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA) among several others. The validity of the proposed factor structure demonstrating a good fit in the CFA model implies that, a good fit explains that the operationalized factors adequately reflect the contemplated constructs. With the understanding that a hypothesized sensory branding has a number of components in the hotel sector, CFA confirmed that, all items that measure brand reinforcement (sight, sound, smells, taste, and touch) and purchase intention can in fact achieve the intended measurement which ensures dependable and reliable outcome in later assessment. (Byrne, B. M., 2001)

Convergent Validity

Factors	Estimate	AVE	CR
Brand_Recall	0.745	0.573	0.870
	0.816		
	0.775		
	0.729		
Sight	0.717	0.563	0.865
	0.795		
	0.782		
	0.799		
	0.706		
Sound	0.660	0.663	0.908
	0.841		
	0.790		
	0.800		
Smell	0.816	0.619	0.890
	0.823		
	0.770		
	0.796		
	0.778		
Taste	0.797	0.633	0.896
	0.792		
	0.737		
	0.831		
	0.831		
Touch	0.793	0.571	0.869
	0.782		
	0.720		
	0.802		
	0.784		
Purchase_Intention	0.798	0.636	0.897
	0.663		
	0.845		
	0.806		
	0.789		
	0.771		
	0.775		

Findings of the analysis using convergent validity show that all constructs satisfy the requirements of both AVE and CR, which means a good level of convergent validity. Each construct shows an AVE greater than the 0.50 threshold, meaning that more than 50% variance in the items of each construct is accounted for by the underlying factor. For instance, Sound (AVE = 0.663, CR = 0.908) and Purchase Intention (AVE = 0.636, CR = 0.897) show these values to be particularly high, which further emphasizes strong convergence between these constructs. Also, the values related to the CR of all the constructs are greater than the recommended benchmark which is 0.70 that indicates good internal consistency. These results collectively indicate that the items associated with each factor will measure what they are supposed to measure, justifying their use in assessing the psychological effects of sensory branding on brand recall and purchase intention. In this case, the constructs have been justified for use in the hotel sector. (Carmines, E. G., and Zeller, R. A., 1979)

Discriminant Validity

Factors	Brand_Recall	Sight	Sound	Smell	Taste	Touch	Purchase_Intention
Brand_Recall	0.757						
Sight	0.577	0.750					
Sound	0.635	0.594	0.814				
Smell	0.477	0.692	0.420	0.787			
Taste	0.700	0.683	0.688	0.516	0.796		
Touch	0.656	0.615	0.676	0.453	0.644	0.755	
Purchase_Intention	0.672	0.617	0.711	0.488	0.720	0.647	0.798

The discriminant validity incorporated into the present study using the Fornell-Larcker criterion indicates that each construct in the model is distinct from the other, affirming the validity of the factor structure. Discriminant validity is said to exist when the square root of the Average Variance Extracted (AVE) for each of the constructs (which are represented along the diagonal

in the table) is particularly greater than its correlations with other constructs. For example, Brand Recall has an AVE square root of 0.757, which is higher than its correlations with Sight (0.577), Sound (0.635) and so on, establishing its stand as a construct. In the same way, Sound has an AVE square root of 0.814, which is higher than its highest correlation with Purchase Intention (0.711), so the Sound construct is adequately separate. Similarly, Purchase Intention with an AVE square root of 0.798, surpasses all its inter-construct correlations with the highest being 0.720 with Taste. The model is able to achieve the discriminant validity requirements, meaning that the constructs are sufficiently distinct enough and are relevant for detailed analysis on how they influence brand recall and purchase intention respectively. (Carmines, E. G., and Zeller, R. A., 1979)

Nomological Validity Covariances

			Estimate	S.E.	C.R.	P	Label
Sight	<-->	Sound	.384	.042	9.145	***	par_29
Sight	<-->	Smell	.479	.048	9.896	***	par_30
Sight	<-->	Taste	.446	.045	10.004	***	par_31
Sight	<-->	Touch	.381	.041	9.210	***	par_32
Sight	<-->	Brand_Recall	.368	.041	8.875	***	par_33
Sight	<-->	Purchase_Intention	.390	.042	9.309	***	par_34
Sound	<-->	Smell	.313	.044	7.175	***	par_35
Sound	<-->	Taste	.484	.047	10.228	***	par_36
Sound	<-->	Touch	.450	.045	9.919	***	par_37
Sound	<-->	Brand_Recall	.436	.045	9.606	***	par_38
Sound	<-->	Purchase_Intention	.484	.047	10.300	***	par_39
Smell	<-->	Taste	.388	.046	8.367	***	par_40
Smell	<-->	Touch	.323	.043	7.472	***	par_41
Smell	<-->	Brand_Recall	.351	.045	7.794	***	par_42
Smell	<-->	Purchase_Intention	.356	.045	7.982	***	par_43
Taste	<-->	Touch	.433	.045	9.673	***	par_44
Taste	<-->	Brand_Recall	.485	.047	10.232	***	par_45
Taste	<-->	Purchase_Intention	.495	.047	10.424	***	par_46
Touch	<-->	Brand_Recall	.431	.045	9.654	***	par_47
Touch	<-->	Purchase_Intention	.421	.044	9.607	***	par_48
Brand_Recall	<-->	Purchase_Intention	.451	.046	9.882	***	par_49

The results found of nomological validity assesses whether the relationships between the constructs are as anticipated in the context of the study concerning the influence of sensory branding on brand recall and the intent to purchase. The findings of the covariance analysis show the statistically significant reciprocal structures' relations ($p < 0.001$) which validates the proposed model. For example, the large positive and significant covariance between Sight and Taste (Estimate = 0.446, C.R. = 10.004) indicates an important relation and further implies that the two may integrate to improve the sensory experience. Sound and Purchase Intention also exhibit a positive and significant relation (Estimate = 0.484, C.R. = 10.300), and thus sounds may be important in making a consumer intend to buy. Also the relation of brand recall and purchase intention showed strong (Estimate = 0.451, C.R. = 9.882) which confirms the expectation that better brand recall will lead to higher purchase intention. Generally, these high covariate values provide practical evidence to support the nomological network which was hypothesized and that sensory branding constructs have interrelationships that are in line with hotel sector. (Carmines, E. G., and Zeller, R. A., 1979)

9. Results

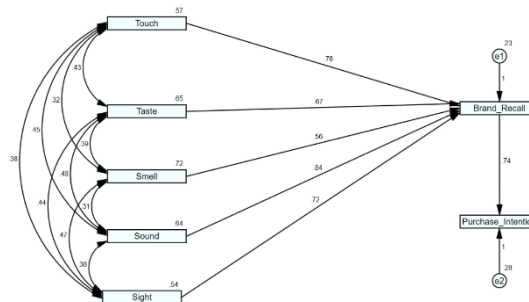
Goodness of Fit Analysis

Measure	Model fit	Threshold
Chi-square		876.117
CMIN/DF	1.625	< 3 great; < 5 acceptable
CFI	0.967	> .90 good; > .95 great
NFI	0.919	> .90 good; > .95 great
IFI	0.967	> .90 good; > .95 great
TLI	0.964	> .90 good; > .95 great
SRMR	0.0381	< .08
RMSEA	0.037	< .08

The evaluation of the goodness of fit for the model is favorable since its fit indices are all above set benchmarks, thus affirming the adequacy of the hypothesized model in explaining the relationships among the constructs under study. The Chi-square value of 876.117 is substantial but like the other sample quantitative measures, it is moderated by sample size which often leads Chi-square to show lesser fit in large samples. To address this issue, the CMIN/DF (Chi-square to degrees of freedom ratio) is also provided and in this case the value obtained was 1.625 which is considerably lower than the upper cut-off value of 3. The statistical indicators are therefore consistent and pointing out accurately obtained covariances which is a very important parameter of ascertaining the proposed structure in sensory branding research. (Anderson, J. C., and Gerbing, D. W., 1988) Also supporting the model fit are the Comparative Fit Index (CFI), Normed Fit Index (NFI), Incremental Fit Index (IFI) and Tucker-Lewis Index (TLI) with all having values close to or above the recommended threshold of 0.90 and recording levels of about 0.95 (CFI = 0.967, NFI = 0.919, IFI = 0.967, TLI = 0.964). The authors explain that these indices indicate some improvement of the model in question against a model with no relationships as baseline thus making this sensory branding model perform statistically better than a null model. With high CFI, NFI, IFI and TLI values, it can be concluded that the proposed model is not only a superior one than the baseline model but explains the correlation structure of the data well. This further emphasizes that constructs such as sensory cues and their influence on the patterns of brand recall and purchase intention are adequately embedded within the model. (Anderson, J. C., and Gerbing, D. W., 1988)

The Standardized Root Mean Square Residual (SRMR), as well as the Root Mean Square Error of Approximation (RMSEA), is very adequate to regard the model presented as an efficient one. The SRMR value of 0.0381 is quite lower than the cut-off value which was specified, that is 0.08. This means that there is very little average residual between the predicted and observed values which demonstrates the accuracy of the estimates made by the model. Also, the RMSEA value of the model is 0.037 which is also within the limit of tolerance given as 0.08. Hence RMSEA signifies a good model fit and supports the model's progression in an encompassing context, as the lowest error estimates were observed during the model estimation stage. Taken all together, these fit indices have demonstrated that the model is applicable when investigating the psychological effect of sensory branding on hotel brand recall and purchase intention as a solid basis for further research and conclusions. (Anderson, J. C., and Gerbing, D. W., 1988)

Structural Equation Model



The relationships between the variables, which were estimated by the imputed path analysis model that integrated sensory cues and their impact on brand recall and brand purchase intention, were all strong and significant since all the paths had p-values less than 0.001. The most pronounced impact was made by Sound which affected Brand Recall with a value of $\beta = 0.84$: it can be assumed that the sound component is the most efficient in making consumers remember the brand. Touch ($\beta = 0.78$) and vision ($\beta = 0.72$) also had equally impressive beta values indicating the role of tactile and visual mediums in enhancing brand recall. Although less than the two, other organ of senses such as Taste ($\beta = 0.67$) and Smell ($\beta = 0.56$) still produced significant results that were worth noting and emphasizing the essence of multi-sensory interaction on brand recall. (Anderson, J. C., and Gerbing, D. W., 1988)

Moreover, Brand Recall has a strong direct impact on Purchase Intention ($\beta = 0.74$), which means that improvement of brand recall through any of the sensory cues directly affects consumers' purchase intention. In order to test the reliability of the estimates, bootstrapping at 2000 sample was carried out which utilized bias-corrected confidence intervals at the 95 percent level and verified the accuracy of the path coefficients. This extensive analysis gives empirical evidence to the proposed model, supporting the notion that sensory branding increases brand recall, which in-turn increases the purchase intention within the hotel industry as well. (Anderson, J. C., and Gerbing, D. W., 1988)

Sr. No.	Path	Effect (Direct)	Beta Coefficient	p-value
1	Touch → Brand Recall	Direct	0.78	< 0.001
2	Taste → Brand Recall	Direct	0.67	< 0.001
3	Smell → Brand Recall	Direct	0.56	< 0.001
4	Sound → Brand Recall	Direct	0.84	< 0.001
5	Sight → Brand Recall	Direct	0.72	< 0.001
6	Brand Recall → Purchase Intention	Direct	0.74	< 0.001

Regression Analysis

Hypothesis-1:-

Null Hypothesis H₀:- There is no significant impact of the Touch element on the Brand Recall in the hotel sector.

Alternative Hypothesis H₁:- There is a significant impact of the Touch element on the Brand Recall in the hotel sector.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.785 ^a	.616	.615	.49784

a. Predictors: (Constant), Touch

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	172.416	1	172.416	695.391	.000 ^b
	Residual	107.869	462	.233		
	Total	280.285	463			

a. Dependent Variable: Brand_Recall

b. Predictors: (Constant), Touch

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.107	.130		8.515	.000
	Touch	.780	.032	.785	24.293	.000

a. Dependent Variable: Brand_Recall

According to the present regression analysis, it can be determined that there is a strong positive relationship between the touch element and brand recall in the hospitality industry. It is also stated that the model summary shows an R Square value of 0.616 which means 61.6% of the variance in brand recall is due to the touch element. The ANOVA table precisely ratifies this conclusion and claims that the relationship is of statistical significance (F = 695.391, p < 0.001). Also, based on the standardized coefficient Beta (Beta = 0.785), it indicates that there is a strong touch element influence on brand recall. This substantiates the alternative hypothesis (H1) which stated that touch has a positive effect on brand recall within the context of hotel operations.

Hypothesis-2

Null Hypothesis- H₀:- There is no significant impact of the Taste element on the Brand Recall in the hotel sector.

Alternative Hypothesis- H₁:- There is a significant impact of the Taste element on the Brand Recall in the hotel sector.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.818 ^a	.669	.668	.45907

a. Predictors: (Constant), Taste

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	187.563	1	187.563	890.131	.000 ^b
	Residual	92.722	462	.201		
	Total	280.285	463			

a. Dependent Variable: Brand_Recall

b. Predictors: (Constant), Taste

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	1.075	.120		8.958	.000
	Taste	.778	.026	.818	29.834	.000

The analysis of regression states a positive link between the taste factor and brand recall with respect to the hotel industry. As per the model summary, value of $R^2 = 0.669$ meaning that 66.9% of the variation in the brand recall can be described by the taste factor. The results of ANOVA are in line with this contention and they indicate that the model is significant $F = 890.131$, $p < 0.001$. The standardized coefficient was (Beta = 0.818), suggesting a major impact of the taste factor on brand recall. In addition, the alternative hypothesis (H1) is also confirmed showing that taste is an important factor for brand recall among consumers in the hotel industry.

Hypothesis-3

Null Hypothesis H_0 :- There is no significant impact of the Smell element on the Brand Recall in the hotel sector.

Alternative Hypothesis H_1 :- There is a significant impact of the Smell element on the Brand Recall in the hotel sector.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.742 ^a	.551	.550	.54261

a. Predictors: (Constant), Smell

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	154.508	1	154.508	525.303	.000 ^b
	Residual	125.777	462	.272		
	Total	280.285	463			

a. Dependent Variable: Brand_Recall

b. Predictors: (Constant), Smell

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
1	(Constant)	2.359	.130		18.146	.000
	Smell	.656	.029	.742	22.913	.000

a. Dependent Variable: Brand_Recall

According to the present regression analysis, there existed a strong positive relationship between smelling element and brand recall among the respondents in the hotel industry. The model was able to account for 55.1% of the variation in brand recall due to the smell element, with the R Square value being 0.551. The ANOVA results go even deeper showing that this relationship is statistically significant ($F = 525.303, p < 0.001$). The Beta value of smell or the standardized coefficient stands at 0.742 which shall imply the strong effect of the aspects of smell on brand recall. This reinforces the alternative hypothesis (H1) demonstrating the influence of the smell element on brand recall among consumers in the hotel sector.

Hypothesis-4

Null Hypothesis H₀:- There is no significant impact of the Sound element on the Brand Recall in the hotel sector.

Alternative Hypothesis H₁:- There is a significant impact of the Sound element on the Brand Recall in the hotel sector.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.922 ^a	.849	.848	.35456

a. Predictors: (Constant), Sound

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	238.056	1	238.056	437.274	.000 ^b
	Residual	42.229	462	.091		
	Total	280.285	463			

a. Dependent Variable: Brand_Recall

b. Predictors: (Constant), Sound

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
1	(Constant)	1.454	.130		11.179	.000
	Sound	.677	.031	.922	21.801	.000

a. Dependent Variable: Brand_Recall

Here, the regression analysis showed that there is high positive correlation between the sound element and brand recall in the hotel sector. A good model explains 84.9% of the variance of brand recall (R Square = 0.849) which shows that sound had a significant effect on brand recall. The ANOVA results show that this correlation is significantly high across the board. $F = 437.274$, $p < 0.001$. It is also evident from the standardized coefficient $Beta = 0.922$ that sound has a very strong impact on brand recall, thus supporting the alternative hypothesis H1 which confirms that sound element improves brand recall in the hotel industry.

Hypothesis-5

Null Hypothesis H₀:- There is no significant impact of the Sight element on the Brand Recall in the hotel sector.

Alternative Hypothesis H₁:- There is a significant impact of the Sight element on the Brand Recall in the hotel sector.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.854 ^a	.730	.729	.41957

a. Predictors: (Constant), Sight

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	204.799	1	204.799	328.873	.000 ^b
	Residual	75.486	462	.163		
	Total	280.285	463			

a. Dependent Variable: Brand_Recall

b. Predictors: (Constant), Sight

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.588	.130		12.204	.000
	Sight	.684	.027	.854	25.508	.000

a. Dependent Variable: Brand_Recall

The study also found that there is a strong positive correlation value between sight and brand recall within the hotel sector. The model has an R Square value of 0.730 which implies that 73% of the variation in brand recall is explained by the model. The ANOVA outcomes further indicate that this relationship is significant; $F = 328.873$, $p < 0.001$. The strength of sight on brand communication is evident from the High Beta value of 0.854 so sight is a powerful communicator of brand recollection. This once again supports the H1 hypothesis under the alternative hypotheses confirming that sight in terms of advertisements helps more than any other factor in assuring brand recall to the target customers in the hotel business.

Hypothesis-6:-

Null Hypothesis H₀:- There is no significant impact of the Brand Recall on the Purchase Intention in the hotel sector.

Alternative Hypothesis H₁:- There is a significant impact of the Brand Recall on the Purchase Intention in the hotel sector.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.866 ^a	.749	.748	.45261

a. Predictors: (Constant), Brand_Recall

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	211.754	1	211.754	553.262	.000 ^b
	Residual	70.529	462	.153		
	Total	282.283	463			

a. Dependent Variable: Purchase_Intention

b. Predictors: (Constant), Brand_Recall

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.027	.120		8.556	.000
	Brand_Recall	.741	.030	.866	24.587	.000

a. Dependent Variable: Purchase_Intention

Regression analysis shows a significant positive correlation between brand recall and purchase intention. The model accounts for 74.9% of the variance in purchase intention (R Square=0.749) showing that absent brand recall a consumer is unlikely to purchase a product or service. This relationship was verified by ANOVA with its prepositions (F= 553,262, p=0.001). Also beta of the standard coefficient shows the importance of the traits of brand recall positively effects intention to purchase hotel services having a value of 0.866.

Hypothesis Summary

Sr. No.	Hypothesis	Test	F	Beta Coefficient	p-value	R ²	Result
1	H₀₁	Structural Equation Model and Regression Analysis	519.030	0.727	< 0.001	0.529	Reject H ₀
2	H₀₂	Structural Equation Model and Regression Analysis	657.231	0.766	< 0.001	0.616	Reject H ₀
3	H₀₃	Structural Equation Model and Regression Analysis	180.062	0.530	< 0.001	0.280	Reject H ₀
4	H₀₄	Structural Equation Model and Regression Analysis	437.274	0.697	< 0.001	0.486	Reject H ₀
5	H₀₅	Structural Equation Model and Regression Analysis	328.873	0.854	< 0.001	0.730	Reject H ₀
6	H₀₆	Structural Equation Model and Regression Analysis	553.262	0.866	< 0.001	0.749	Reject H ₀

10. Findings

The demographic information of the sample provides an insight into the characteristics of the participants. There is an almost equal representation of both genders in the study as 48.9% of respondents were males while 51.1% were females. Considering age, most of the participants fall in the range of 29-38years (30.2%) and the second most are aged 39-48years (27.6%). The following categories include a relatively smaller proportion of participants: 18.2% of participants are in 18-28 age range, while the proportions for the oldest age categories, 49-58 and above 58 years old, were 12.7% and 6.3% accordingly. As for education level, the majority of respondents, 24.4%, hold a diploma, followed by post graduates who make up 22.0% and high school leavers 17.9%. A graduate degree has been possessed by a significant portion, that is 19.2% and a Doctorate degree has been possessed by 16.6 percent, indicating relatively educated sample.

Demographic Details (N=464)				
Sr No.	Variables	Category	Frequency	Percentage (%)
1	Gender	Male	227	48.9
		Female	237	51.1
		Total	464	100.0
2	Age	18-28	108	23.3
		29-38	140	30.2
		39-48	128	27.6
		49-58	59	12.7
		Above 58	29	6.3
		Total	464	100.0
3	Educational Qualification	High School	83	17.9
		Diploma	113	24.4
		Graduate	89	19.2
		Post Graduate	102	22.0
		Doctorate	77	16.6
		Total	464	100.0
4	Occupation	Student	82	17.7
		Home maker	31	6.7
		Self-Employed	137	29.5
		Salaried	198	42.7
		Retired	16	3.4
		Total	464	100.0
5	Annual Family Income	Below 200000	54	11.6
		200001-400000	51	11.0
		400001-600000	105	22.6
		600001-800000	193	41.6
		800001 and above	61	13.1
		Total	464	100.0
6	Members in household	1-2	10	2.2
		3-4	206	44.4
		5-6	213	45.9
		More than 6	35	7.5
		Total	464	100.0
7	Marital Status	Married	268	57.8
		Unmarried	196	42.2
		Total	464	100.0

The data on occupation distribution reveals the fact that the majority of respondents work for a salary consisting of 42.7%, while a portion of 29.5% works for themselves suggesting a heterogeneous blend of occupations. While students constitute 17.7% of the sample, the percentage of homemakers and housewife (6.7%) and retired people (3.4%) is relatively small. The annual family income for participants is much concentrated in the upper-class ranges with, the largest segment 41.6 percent in the range of 600,001 to 800,000 followed by 22.6 in the range of 400,001 and 600,000. The rest of the respondents are spread evenly across the lower for categories of income with, 11.6% of individuals with earnings of less than 200,000 while 13.1% had over 800,000 as their earnings. Regarding the household composition, the majority of respondents, which is 45.9% are those that reside in households of between five and six people, while those with three or four members make up 44.4% indicating the support for increased family sizes. Only 2.2% of the population is represented by smaller households of ones and twos, whereas 7.5% of the respondents indicated households consisting of more than six persons. In the last place, conjugal status seems to be such as most of the respondents are already married (57.8%) and the rest 42.2% have never married. Such detailed demographic analysis creates opportunities for understanding the socio-economic status, education, and housing situation of the participants of the study.

Suggestions

- **Encouraging Brand Recall:** Sensory elements should be incorporated piece by piece to evaluate the reactions of guests and make changes where necessary for a more effective brand recall technique.
- **Sizzling Lobby Scents:** Scented signatures in the lobby should be used to integrate with lobby areas so that guests can have an olfactory anchor to remember the brand and its offerings when they return.
- **Acoustic Elements for Atmosphere:** Sound elements that can be soothing or cut out totally in tune should be added to common areas such as the lounges and dining spaces to increase ambience which can influence the mood of the guests.
- **Distinct Culinary Delights:** Signature dishes or drinks with distinct tastes should be promoted as these will help create a unique taste association encouraging guests to return and also share good reviews.
- **High Organizational Textures:** Tactile interactions with guests are made central to the branding activities in this case by selecting fabrics, materials, and textures of pillows, chairs, bedding that convey the feeling of luxury.

- **Collaborations with Experts:** Work with experts in sensory branding strategies or consultants to avoid embarrassing old trends and implement modern ones.
- **Multi-Channel Sensory Marketing:** Push the boundaries of sensory branding on the web: use social networks and virtual tours to make online experiences that complement the real environment.

Managerial Implications

- **Encouraging Brand Loyalty:** In a competitive environment, sensory phenomena may bring the hotel into a specific perspective and, hence, guarantee return customers.
- **Delighting and Engaging the Customer:** Multi-sensory approaches contribute to customer satisfaction and extend their period of stay, thereby enhancing the experience of the customer.
- **Encouraging Spending:** Provided properly, developed sensory elements can encourage clients to spend more and areas where sensory experience is essential.
- **Enhancing the Persistency of the Client:** Sensory elements in the image of the hotel help customers to remember it and are significant for client retention and referrals.
- **Segmenting Customers:** Learning how various demographics interact with sensory elements can help enhance the overall experience for different customer groups.
- **Fostering Emotional Connection:** Guests' emotional engagement can be promoted in hotels with guests' are likely to return, if a specific atmosphere is created.
- **Optimizing Space with Sensory Design:** The functionality of the design based on the senses can enhance the traffic of guests, their congestion and utilize the resources available within the hotel.
- **Staff Training for Consistency:** Sensory marketing is not a one off process and there is need to train staff in order to be able to implement the sensory elements.
- **Leveraging Data for Improvement:** Evaluation and measuring of the effectiveness of the sensory brands can enhance the use of evidence-based practice.
- **Sustainability in Sensory Practices:** Use of eco-friendly materials in addressing sensory elements is a responsible way in which they can also improve market trends.

11. Conclusions

The study showcases the role of sensory branding in improving brand recall and purchase intention in the context of hotels. Hotels should integrate additional sensory components such as sight, sound, feel, taste, and odor in order to further instill emotions into the minds of the guests creating brand loyalty and positive experience. Sensory strategies appear to supplement brand recall with the intention to repurchase and recommend the brands in the first place. Such multi-sensory approaches prove beneficial for the hospitality brands who on a regular basis wish to have brand interaction and increased revenue as seen in recent literature which stated that branding through experience is able to drive consumers' loyalty to service-oriented industries. (Chung, T., et al., 2013)

Sr. No.	Research Objective	Conclusion
1	To evaluate the impact of individual sensory elements on consumer attitudes in the hotel industry.	At the hotels, satisfaction is improved since the consumers' views towards the brand is enhanced with the use of sensory elements within the services offered.
2	To investigate the influence of sensory branding on consumer purchase intentions in hotels.	Through emotional involvement and the capability to offer memorable experiences, the brand can increase the likelihood of consumers making a purchase.
3	To analyze the demographic variables affecting consumer perceptions of sensory branding.	The age, education and level of income are among the demographic factors that determine the individual consumers' perception concerning the sensory branding elements.

12. Limitations and Future Scope of the Study

In this study, the limits are imposed only to the hotels in Gujarat, India and more to the local responses. Different geographical distribution and cultural areas of studies in future may offer better opportunities to evaluate how sensory branding can be more effective in the global dynamics. In addition, this research specifically examines the short-term consumer behavior towards the sensory stimuli – investigating the long-term implications of the same on brand loyalty and lifetime value of customers may help in appreciating the enduring value of sensory branding for the businesses. Also, while it is the aim of this study to measure the separate influences of each sensory input, subsequent studies may be designed to test multiple sensory inputs together in order to unlock the full benefits of a multi-sensory branding strategy. (Hajratwala, N., 2016)

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