

## Research Article

# Effect of Sensory Branding on Purchase Intention of Consumers

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## I N F O

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## A B S T R A C T

The concept of sensory branding is getting more attention over classical marketing from marketing practitioners and researchers. This research studied the concept of sensory branding to identify its effect on purchase intention of consumers. A total of 180 management students equally divided into six groups among which five groups were treated with visual, auditory, olfactory, gustative and tactile sensation of noodle in such a way that one group of students exposed to only one type of sensation. A group without treatment was used as a control group to compare the effect of each sensation against control group. Results showed smell and taste as the highly significant factor; sound and visual as moderately significant factor and touch as insignificant factor to effect purchase intention of noodles.

**Keywords:** Sensory Branding, Experimental Research, Purchase Intention, Noodles

## Introduction

Among the five sensory organs eyes, ears, nose, tongue, and skin; sight is considered to have the most seductive sense as it overrules the other senses. Marketers found emphasized on the visual part like shape, size, and color combination of the product and its packaging. Sound is basically considered to be connected to the mood of the individual, smell influences taste, and skin is used to experience the texture of products.

Several research studies have been conducted to find-out the effect of senses in the consumer choice of restaurant, food, retail outlet, purchase quantity etc. Studies revealed that there are positive effects of background music on shopping behavior in a supermarket (Duncan, 1996). Different types of music have different effects on perceived atmosphere, buying mood, and choice of food (Wilson, 2003). Ambient environment found to influence on employee's productivity of banks, hospitals and hotels (Bitner, 1992). Bone and Ellen (1999) found strong effect of smell on consumer responses in

retail business settings. The stimuli received by the sensory organs are enhanced and used by the marketer with a term 'sensory branding'.

American Marketing Association (AMA) outlines Sensory Branding as a technique to seduce consumers by using sensory organs to stimulate his/her feelings and behavior. According to Hultén (2011), Sensory Branding is a purposeful design and deployment of the interactive activities between the sensory organs and their responses with respect to a brand for his/her lasting emotional attachment.

Sensory Marketing and branding have received phenomenal attractions among practitioners and academicians (Achrol, R. S. and Kotler, P. (2012); Hultén, B. (2015); Krishna, A. (2011)). More of its studies explored branding of services rather than products. Few researches found conducted in products of durable categories like computers, mobile phones, and few were on food products like Coca-Cola, and other Fast-Moving Consumer Goods (FMCGs). Researchers found emphasized on future study on the effects of sensory

branding and consumer engagement on the consumers' purchase intention. So, the enriched understanding of various sensory variables can benefit academicians in their knowledge base and practitioners in their branding sense. This research used noodles (a FMCG product) which bear the things like crunch (sound while eating), taste, and shape of the cake for exploration of various stimuli. The purpose of this research is to explore and compare the effectiveness of sensory stimuli like visual, auditory, olfactory, gustative, tactile factors (sensory branding) on purchase intention of instant noodles among consumers.

### Market Scenario of Noodles Industry in Nepal

Noodles, once taken as a luxury food and exposed to only well-off families, have now evolved to become a part of normal food habits of ordinary people. The key driving factors for sales are effective promotion and quality product as seen from earlier consumer survey research made by companies. Most of the companies found to be price driven except few practicing marketing strategies.

The main three big players Chaudhary Group (CG), Himalayan Snax& Noodles (HSN), Asian Thai Foods (ATF) found already established in the market with strong brand pull, effective marketing strategy and well set-up distribution network. While CG, HSN and ATF are with general brown noodles like Wai Wai, Mayos, Rum Pum etc., Himshree Foods (HS) found leading in white noodles with its brand called RaRa. These companies hold about 80% in the total noodles market, which has created virtually no opportunity for new entrants (company sources).

Noodles are one of very few items which are exported as brand from Nepal. Nepali noodles are liked by many foreign and neighboring countries. Nepali noodles have become an iconic product to the world. Nepali noodles have lots of challenges to compete with foreign brands and the export figure is almost same in last decade. According to Economic Survey report 2018/19 published by Ministry of Finance, Government of Nepal; Nepal's noodles export to India in fiscal year 2007/08 was of 533 million Nepali Rupees and

in fiscal year 2017/18 it was 537 million Nepali Rupees. Whilst the noodles export to China in 2007 was of 55.4 million Nepali Rupees and in 2017/18 was of 87.8 million Nepali Rupees. These two countries are the top two noodles importing countries from Nepal. Noodles are in top ten exportable items from Nepal. Nepal possesses 15<sup>th</sup> position (WNA 20012) in the world in terms of noodles production and consumption.

Limited research studies were found to be conducted in Nepal in relation to marketing. Karki and Regmi (2016) studied consumer response towards Nepali coffee, Gnawali (2019) studied perceived risk factors of second hand motorbikes in Nepal, Husen (2019) studied on fish marketing system in Nepal, Mishra and Shrestha (2019) studied on influencing factors to select cement brands by consumers in Nepal.

### Conceptual Framework of the Study

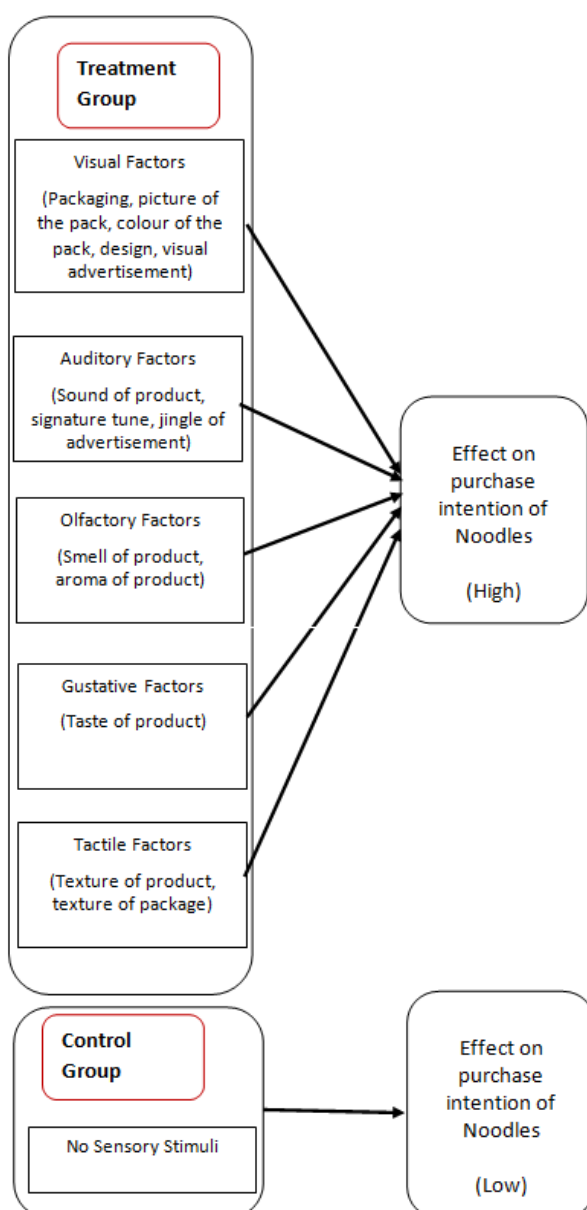
Hirschman and Holbrook (1982) criticized the use of traditional information-processing theory and suggested the experiential model in consumers' behavior. Experimental model views the consumer purchase decision as a logical thinking process that focuses on the multisensory, fantasy, and emotive sides of consumer's experiences with a product.

Use of multisensory experiences in marketing denotes the activities directed towards five sensations namely visual, auditory, tactile, gustative and olfactory sensations received by a customer through his/her sensory organs (Zarantonello and Schmitt, 2010). Example of the use of these phenomena in marketing comprise: communications, product presence, visual and verbal identity, signage, co-branding, spatial environments, electronic media, and people (Schmitt, 1999). The importance of these type of experiences stands tall from the fact that its encounter attracts potential customers and their judgments to follow the sensory experience (Bloch, Brunel and Arnold, 2003). In result, in most of the cases, customers make their purchase decisions on these sensory experiences (Simonson and Schmitt, 1997).

**Table 1. Sensors, Sensations and Sensory Expressions**

Sensors	Sensations	Sensory expressions
Sight sensors	Visual	Design, Packaging and Style, Color, Light and Theme Graphic, Exterior and Interior.
Sound sensors	Auditory	Jingle, Voice and Music Atmosphere, Attentiveness and theme, Signature sound and Sound brand
Smell sensors	Olfactory	Product congruence, intensity and sex, aroma, Atmosphere, advertency and theme, Scent brand and signature scent
Taste sensors	Gustative	Taste, Interplay, Symbiosis and Synergies Name, Presentation and Environment Knowledge, Lifestyle and Delight
Touch sensors	Tactile	Material and Surface Temperature and weight, Form and steadiness

Sensory branding appeals to the use all/ some of the sensory experiences of customers in relation to a particular brand. The sensor parts of the human body provide sensation to the consumer and they are stimulated to get into the brand experience and are likely to have increased purchase intention for that particular brand. The concept of involvement of consumers and their division as such is used by the phenomenon of Sensory Branding where the involvement and its level represent the degree of interest of a consumer towards an offering. The experiential involvement is the one that is closest sensory branding (Kumar, 2010). Sensors, sensations and sensory expressions used in relation to marketing and branding Hulten (2011) are in Table 1.



**Table 1. Conceptual Framework of the Study**

This research aims to find the effect of sensory factors on the purchase intention of noodles by the customers. This study compared the effect of various sensory variables with two sets of respondents set as treatment group and control group as shown in the conceptual framework in Figure 1. This research study hypothesized that there is a positive effect of stimuli on purchase intention of customers.

Based on the conceptual framework of the study, number of hypothesis was set for testing. Set hypotheses were:

**H<sub>1</sub>:** Visual factor has significant positive effect on purchase intention of noodles.

**H<sub>2</sub>:** Auditory factor has significant positive effect on purchase intention of noodles.

**H<sub>3</sub>:** Olfactory factor has significant positive effect on purchase intention of noodles.

**H<sub>4</sub>:** Gustative factor has significant positive effect on purchase intention of noodles.

**H<sub>5</sub>:** Tactile factor has significant positive effect on purchase intention of noodles.

### Research Methodology

Yin (2009) emphasized on five different types of quantitative research strategies as: lab treatment, survey, archival analysis, history and case study. This research used lab treatment (experimental) research method with control and treatment group. Student participants pursuing undergraduate and graduate courses in a management school in Kathmandu were selected for the experiment. The logic behind the selection was to get youth population who are most likely to be the active group of noodles consumers. Lab was setup in a classroom where participants were allowed to feel the sensory stimuli and provide unbiased response. Self-administered survey questionnaires having reliability and validity were used to collect the response from the respondents in the lab immediately after they sense the product. Participants went through the various rounds of experimentation as suggested in the experimental research design.

There were 30 participants in the control group. No sensory stimulation was provided to the control group. Treatment group consisted of 150 participants divided equally into 5 different groups consisting 30 participants in each group. Treatment groups received sensory treatments in different rounds. All these groups were briefed about the research and research procedure. Participation was on voluntary basis and their selection was on convenience. Selection of 30 students in each group was to get statistically significant data for analysis.

Each sensory variable was operationalized into various statements. Reliability test was conducted to check the internal validity of data through Cronbach alpha coefficient.

The relationships between hypotheses were tested through chi-square test and analysis of variance (ANOVA). Chi-square test was used to compare observed data with the expected data. Similarly, pair-test analysis was conducted to analyze various sensory variables under the various sensory stimuli.

### Experimental Procedure

At first, all the participants were briefed about the research process. Their consent was taken to undergo the experimentation process. Focal brand (WaiWaiAlu Tama) was made available to the lab along with the regular brand WaiWai(normal) of noodle. For the treatment, lab was setup in such a way that intended sensory stimuli could be provided to the group with convenience.

The control group did not receive any manipulation. This group was not exposed to any sensory cues. They were asked to choose one product among the available two products which was WaiWai normal and WaiWaiAalu Tama (new product). Set up area was changed in different rounds as per the sensory stimuli to be provided to the treatment groups. One treatment group of 30 participants was exposed to only one type of stimuli cue. For the first treatment group visual stimuli was provided, for the second group auditory, third group tactile, fourth group olfactory and fifth group gustative stimuli were provided.

In the first-round product package was made available in the lab, TVC was played through laptop and projector, and designs of hoarding, posters and danglers were placed around the setup area. Participants of this first treatment group were allowed to see all the visual stimuli while they were in the lab. For the second treatment group, only a jingle was played where sound of product, signature tune was made audible. Participants of this treatment group were able to hear only the sound (no visual) in the lab. In third round/ group participants were allowed to touch

the packets and check the noodles inside in the setting. Noodles were cooked in the fourth and fifth round of the treatment and firstly only aroma of noodles was made available in the lab. Then, participants were provided a small cup of noodles to taste.

During the treatment process participant's behavior was watched, noted and recorded through manipulation check self-administered questionnaire including the purchase intention question after giving sensory stimuli of WaiWaiAalu Tama and normal WaiWai. For control group also, same process was conducted without giving any stimuli.

### Findings

Out of 180 participants 137 (76%) were males and 43 (24%) were females. Regarding the age group 6 (3%) participants were under 18 years, 122 (68%) were between 18-23 years, 47 (26%) were between 24-29 years and 5 (6%) were more than 29 years of age.

### Result of Analysis of Chi-square ( $\chi^2$ ) Test for Sensory Factors and Purchase Intention (PI)

Chi-square test was conducted to check the effect of sensory factors on the purchase intention of customers. The test result is in Table 2.

The analysis of results in Table 5 shows that there is a significant effect (p-value less than 0.05) of sensory variables 'Sight', 'Sound', 'Smell', and 'Taste' in purchase intention (PI) of WaiWaiAalu Tama while the sensory variable 'Touch' had no effect on its purchase intention. Furthermore, the phi- & Cramer's V-coefficient of 0.471 shows the level of effect of 'Sight' and 'Sound' with purchase intention as moderate. While the value of phi- & Cramer's V-coefficient of 0.623 show the high level of effect of 'Smell' and 'Taste' on consumer's purchase intention. Also, the phi- & Cramer's V-coefficient of 0.136 show very weak effect between the sensory stimuli 'Touch' and purchase intention.

**Table 2. Results of Chi-square test for sensory factors (sight) and Purchase Intention (PI)**

Sample size (n)=30

Sensory Factor	PI	Control Group	Treatment Group	Pearson- $\chi^2$	p - value	Phi-coefficient	Cramer's V Coefficient
Sight	Yes	10	24	13.30	.000	0.471	0.471
	No	20	6				
Sound	Yes	10	24	13.30	.000	0.471	0.471
	No	20	6				
Smell	Yes	10	28	23.25	.000	0.623	0.623
	No	20	2				
Taste	Yes	10	28	23.25	.000	0.623	0.623
	No	20	2				
Touch	Yes	10	14	1.11	.430	0.136	0.136
	No	20	16				

**Results of Pair-test Analysis of Sensory Variables**

Pair-test analysis was conducted to analyze various sensory variables. This analysis revealed the result of comparisons conducted between different sensory stimuli.

The result of pair-test analysis of the variables of visual factors is presented in Table 3.

Similarly, the result of pair-test analysis of the variables of auditory factors is in Table 4.

**Table 3. Pair-test analysis for variables in Visual Factor**

Pairs	Variables	Mean	Std. Deviation	t	p - value (2-tailed)
Pair 1	Packaging	4.03	.76	2.81	.009
	Picture of the pack	3.53	.77		
Pair 2	Packaging	4.03	.76	.90	.375
	Color of the pack	3.83	.79		
Pair 3	Packaging	4.03	.76	-.40	.690
	Design	4.10	.71		
Pair 4	Packaging	4.03	.76	1.51	.142
	Visual of the ad	3.73	.64		
Pair 5	Picture of the pack	3.53	.77	-1.51	.142
	Color of the pack	3.83	.79		
Pair 6	Picture of the pack	3.53	.77	-3.08	.004
	Design	4.10	.71		
Pair 7	Picture of the pack	3.53	.77	-1.14	.264
	Visual of ad	3.73	.64		
Pair 8	Color of the pack	3.83	.79	-1.39	.174
	Design	4.10	.71		
Pair 9	Color of the pack	3.83	.79	.51	.610
	Visual of ad	3.73	.64		
Pair 10	Design	4.10	.71	2.48	.019
	Visual of ad	3.73	.64		

**Table 4. Pair-test analysis for variables of Auditory Factor**

Pairs	Variables	Mean	Std. Deviation	t	p - value (2-tailed)
Pair 1	Sound crunching	4.27	.57	-1.36	.18
	Special sound taking soup	4.47	-1.36		
Pair 2	Sound crunching	4.27	-1.36	-1.42	.16
	Jingle	4.50	-1.42		
Pair 3	Sound crunching	4.27	25.87	25.87	.00
	Signature tune	1.00	-.27		
Pair 4	Special sound taking soup	4.47	33.23	-.27	.78
	Jingle	4.50	37.69		
Pair 5	Special sound taking soup	4.47	.57	33.23	.00
	Signature tune	1.00	.00		
Pair 6	Jingle	4.50	.50	37.69	.00
	Signature tune	1.00	.00		



The pairs 3, 5 and 6 were found to have significant difference between each other. In the pair number 3 crunching sound was found different than signature tune. Similarly, in pair number 5, special sound taking soup was found to have significantly different sense than signature tune. And Jingle was also found to have significantly different sensory effect than the signature tune. Thus, the sound of crunching noodles, special sound of taking soup, and jingle created different sensory effect than signature tune compared to other auditory variables as sensory stimuli.

Also, the paired t-test between the variables of Olfactory, Gustative and Tactile Factors was conducted and the result is in Table 5.

Touch is undeniably a powerful motivator in the marketplace. The findings of Hulten (2011) stated 'the opportunity to touch the product resulted in soaring sales'. But in this study, touch came out to be insignificant to positively effect on creation of purchase intention of noodles. This experimental research study also support the findings of previous studies of Khanna & Mishra (2013), Lin (2004), Bitner (1992), Duncan (1996), Alpert, Alpert, & Maltz, (2005) who have emphasized the role of sensory variables in regards to the creation of consumer's reactions in terms of emotions, and quality perception.

This research study can help practitioners working in noodles marketing to use sensory branding as a means to

**Table 4. Pair-test analysis for variables of Auditory Factor**

Pairs	Variables	Mean	Std. Deviation	t	p - value (2-tailed)
Pair 1 (Olfactory)	Smell of uncooked noodles	4.70	.46	.32	.74
	Aroma of cooked noodles	4.67	.47		
Pair 2 (Gustative)	Taste of uncooked noodles	4.47	.50	.23	.81
	Taste of the cooked noodles	4.43	.50		
Pair 3 (Tactile)	Texture of noodles	2.83	1.28	.11	.91
	Texture of noodles package	2.80	.99		

The analysis found no difference between the sensory stimulus of olfactory, gustative, and tactile factors.

## Discussion

Sight is the most used sense factor in marketing in terms of colors and forms in product concept. The layout of a point of sale is also key factor of success (or failure) which is well understood by marketers. Colors and shapes are used for identification and differentiation of products (Khanna & Mishra, 2013). Several brands are associated to a specific color like Coca-Cola is red, Kodak is yellow. This aligns to the conclusion obtained from the result of this study as visual is moderately significant. This study found packaging and design to be more effective than color to influence purchase intention.

Sound is an important parameter in elevating appeal as sensory branding and it is significant in noodles consumption as well. Study of Duncan (1996) found positive effects of background music on shopping behavior in a supermarket where musical preference influenced amount of time and money spent by shoppers in the store. Sound of crunching, special sound while taking soup and jingle were found as important variables in sensory branding in this study too. Taste and smell are closely allied factors and both are important factors to create sensory appeal in choice and consumption of products (Kumar, 2010). The findings of this study on noodles also corroborate with the findings of Kumar (2010).

enhance consumers' emotional response and behavior. Practitioners can use the sensory stimuli of taste with a stall or an experience zone where consumer can taste the product which can lead into better positioning of the product in competitive market.

## Conclusion

The results obtained from the Table 2 concluded that the Hypotheses H1 through H4 are accepted while H5 is rejected. Hence, Visual, Auditory, Olfactory, and Gustative factor has significant positive effect on purchase intention of noodles while tactile factor does not have significant effect on purchase intention of noodles.

The results obtained from the paired t-test analysis enabled the study to conclude that overall packaging matters more than picture on the pack. Similarly, overall design is more effective than picture and visual depicted on the pack. Thus, design was found as the most effective factor followed by packaging to influence consumer's purchase intention of noodles. Sound of crunching noodles, special sound of taking soup and jingle were also found as the effective variables than signature tune among various variables in sound as sensory stimuli. The study found no significant difference between internal variables of gustative, olfactory and tactile factors.

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