Applying Kansei Words to Japanese Bread Store

Indri Hapsari, Linda H. Gunawan, Rendy Handoko

Industrial Engineering - Universitas Surabaya, Jl. Raya Kalirungkut, Surabaya, Indonesia
indri@ubaya.ac.id

ABSTRACT

Indonesia's consumers choose to eat bread rather than rice is because of lifestyle, instead of substituting rice. In Surabaya, there are some stores selling Japanese bread, however their stores' design is not been influenced by Japanese authentic style. The purpose of this paper is to discover the importance of Japanese bread store. A structured questionnaire has been developed to collect the data. Kansei words were used to identify what conditions the consumers need. Result of the study shows that consumers demand 'interesting store', 'suitable' and 'cleanliness' as the important factors. As a result, these Kansei Words will be converted into the store's physical design.

Keywords: *Kansei Words, Store Design, Japanese*

1. Introduction

The activity of shopping for this kind of public has moved on, for example, from 1945 when it was mainly buying a product or a commodity, to the 1960s and 1970s when the focus was on services, to the latter part of the 1990s when shopping was about going out and obtaining an experience (Coleman, 2006). Now, shopping is about transformation, or collecting a thought – about collecting aspects of a lifestyle or things that contribute to a person's mental well-being. Shopping expeditions are continuing to progress from providing experiences to transformations, for instance, by incorporating opportunities for the visitor to participate in a civic or cultural activity. Some of these activities would traditionally be found in historic town or city centers, which favorably suit the trend towards new integrated urban shopping environments in town center locations.

The activity of shopping now contains aspects of knowledge-giving, teaching and mind-changing that were previously remote or unconnected to it. The challenge for designers is how to make a shopping environment a memorable experience. This applies both to the shopping environment and to the individual units. Examples of shops providing knowledge have already been developed in New York and Tokyo, where goods are displayed as artifacts in contemporary environments, and where there is plenty of space for shoppers to walk around and look at the goods from different angles. There might also be informative explanations of the manufacturing process or the technologies involved, as in Nike Town and Sony stores. In these sorts of shops the purchasing is carried out in a separate dedicated area.

The challenge is how to bring this knowledge-making experience to a shopping environment. Shopping places will need to exploit this and make the visit memorable, even to the extent that the shopping trip becomes more important than the purchase. It will need to be a fulfilling experience and it should provide something that is unique and different to visiting another place. It should have a sense of place and this will require the architecture to be of sufficiently high standard to be memorable and fulfilling.

The quality of the environment of shopping amenities from arrival to departure has been improved, and will continue to be so, because people will vote with their feet and shop elsewhere if it is not right. As part of a shopping trip, attractive shopping places can double up to provide a civic destination space, which forms the hub to a center or town. The opportunity for creating a civic destination can be one of the most rewarding aspects of being involved in the design of retail environments.

The store's design can be assume same with product design. There are two different streams in product development, which are called product out and market in (Nagamachi, 2011). The former implies a philosophy of product development based on technology developed in a company or based on the company strategy, without attention to customers' wants and needs. Many inventions have merged from this approach. Another approach to product development is to focus on customer wants and needs. Nowadays people have many goods at home, and it is not easy to stimulate their purchasing behavior. But customer – oriented product development will be successful in selling a new product because the market-in philosophy leads to the development of a product that fits customers' feelings and emotions.

Surabaya as one of the big cities in Indonesia, offers many interesting stores to explore. Nowadays there are some modern bread stores in Surabaya, which the store chains from Jakarta either original from Surabaya. Japanese

bread store is one of the examples, since Surabaya's people are open-minded, they can easily adapt to the culinaries from countries, such as bread.

The weakness of existing bread store is about the taste. It is difficult to differentiate amongst all bread stores. To attract customers, the store must be attractive and convenience for the customers, so they will buy more and often. Of course, the taste must improve too. Various tasty bread, with a unique shape and warm fresh baked become the standard of every Japanese bread store. For the store design, it needs Kansei to interpret the psychological feeling of Surabaya's people about Japan. This is why Kansei-oriented development is needed in R&D activities because its orientation to human minds. This is why it is called human-oriented product development. Considering Kansei as a tool to understand customer's needs, will result in a good store design. (Nagamachi, 2011). This goal of this study is to answer the following questions: how is the design of Japanese bread's store that is transformed from Kansei Words of the customers?

2. Background

A good store design should be like a good story (Weitz and Levy, 2007). Every story has a beginning, middle, and end, ussualy in that order. The entrance sets up the story. It creates expectations and contains promises. A good entrance should entice, hint and tease. There should be mystery, inside the store comes the middle of the story. It should start slow. Customers need a few seconds to orient themselves after the entrance. A single message has a far greater chance of sticking than do a dozen products cluttering the way. Customers need to be led on a journey throughout the store. Using light, motion, and visuals, takes customers down a path of discovery. There should, for instance, be visual destinations at end of a long aisle. Finally, the cash wrap or checkout counter is the story's climatic finale. It is where retailers can convey subtle messaging without hard selling.

The present study dealt with the effects store atmosphere has on customers' satisfaction and purchasing behavior talking mood state as an intervening variable (Spies et al. 1997). As predicted, it could be shown that customers' mood improved with pleasant but deteriorated with less pleasant store to visit the café/restaurant. Atmospherics is the area that has received the most attention and can be described as relating to factors in the store environment that can be designed or manipulated in order to create certain emotional and behavioral responses in the consumer. Definitions of store atmosphere varies form exclusively including subtle aspects such as music, scents, and colors to also including aspects of the physical environment that constitutes the store, such as for example store decorations (Hoffman and Turley , 2002 in Bäckström and Johansson,2006). Hoffman and Turley give a holistic view of the concept. Atmospheric are composed of both tangible elements (the building, carpeting, fixtures, point-of purchase decorations) and intangible elements (colors, music, temperature, scents) that comprise service experiences. The authors argue that positive store atmosphere is crucial in order to offer experiences rather than just products and services. They suggest that atmosphere is of great importance specifically in a service context due to its abstract nature. By consistently seeking to control and add substance to the atmosphere of retail stores, retailers may influence consumers when they are evaluating what type of service and what type of products are on offer. Research on atmospherics has been conclude to influence a wide variety of consumer behaviors (Turley and Milliman, 2000 in Bäckström and Johansson**,** 2006). It has been shown that a positive atmosphere can lead to approach behaviors, which implies that consumers stay longer in the store, spends more money or that the propensity for impulse buying increases. While atmospherics is commonly used to describe the rather intangible aspects of the store environment, store design is normally applied to signify the more tangible elements present in the interior store environment. Design has example to do with the overall style that is expressed through the store's interior decoration and architecture and may be used to reinforce the values associated with a specific brand name. Discussions on store design typically relate to store layout and display. Display is often described as the design of he way in which articles are presented in the store to facilitate and stimulate consumer purchasing behavior. When store layout is concern, many argue that positive experiences may arise if the store makes it easy for the consumers to find the product vary are looking for, when the layout of the store seems logical, when there are sufficient signs, etc.

Designing affective meaning into commercial products is not a new idea. In fact, many industrial companies have done this for a long time. Methods have been developed and applied in product development such as quality function deployment (QFD), brainstorming techniques, etc., aiming to integrate affective meaning into new products (Schifferstein and Hekkert, 2008). Other methods gather, rate, and assemble the emotions the users have of certain products (e.g. focus groups, interview techniques, survey techniques, etc).

The role product designers play in using those techniques is to merge together the customers' and other stakeholders' demands, (new) technical solutions, and their own ideas into new innovative products. In most companies this is done based on the experience and preferences of the product development staff and their interpretations of the customers' desires. Often this process is considered more of an art than engineering or science. This is because no rules of 'how to do it' are documented and the result is not falsifiable. Worse, the product might be and economical failure if

this linkage is done based in wrong assumptions of the customers' desires. On the other hand, a number of products not selling well were later considered way before their time. This shows that the product developers failed to properly interpret the voice of the customers, rather than that technical specifications were incorrect.

In order to avoid such failures, many companies seek for more reliable methods to grasp and translate the customers' affective understanding into concrete product solutions. Kansei engineering is a kind of technology that translates the customer's feeling into design specifications. The R&D team grasps the customer's feeling, namely the Kansei; analyzes the Kansei data using psychological, ergonomic, medical, or engineering methods; and designs the new product based on the analyzed information. Kansei/affective engineering is a technological and engineering process from Kansei data to design specifications (Nagamachi,2011). Measuring the Kansei is not easy and will always build on a subjective basis, since the measurement methods are dependant on the reactions of the humans. However, Japanese researchers, with Mitsuo Nagamachi as a forerunner, invented a method in the 1970s which was able to grasp the Kansei and translate it into concrete product design solutions (Nagamachi, 1997 in Schifferstein and Hekkert, 2008). In the beginning it was called Emotional Engineering, as one of the first companies, Mazda Motor Corporation, applied the new methodology in their product development in the early 1980s. In a speech delivered in 1986 by Mazda's Chairman in Detroit, he referred to the methodology as ' Kansei Engineering' (Nagasawa, 2002) and coined the new methodology.

Kansei Engineering started with humble steps, but today at least six different types exist. Nagamachi (1997) collected all these applications on Kansei Engineering, grouped them according to the tools included, and task areas. From these groups he identified so-called types of Kansei Engineering:

1. Type I: Category Classification. A product strategy and a market segment is identified and developed into a tree structure identifying the customer's affective needs. These affective needs or Kansei are then connected manually to product properties.
2. Type II: Kansei Engineering System. Type II is often a computer-aided system using interference engines and Kansei databases. The connections between Kansei and product properties are made using mathematical statically tools.
3. Type III: Hybrid Kansei Engineering System. Type III is also a computer database system similar to the second type. However, it can not only suggest suitable product properties from an intended Kansei, but also predict the Kansei that product properties elicit, e.g. by using a prototype or mock up.
4. Type IV: Kansei Engineering Modeling. The fourth type of Kansei Engineering focuses on building mathematical prediction models. These models are more strongly validated than the ones in the Types II and III.
5. Type V: Virtual Kansei Engineering. Kansei Engineering type V integrates Virtual Reality (VR) techniques with standard data collection systems. This type replaces the presentation of real products with VR representations.
6. Type VI: Collaborative Kansei Engineering Designing. In Type VI, the Kansei database is accessible via Internet. Such design supports group work and concurrent engineering.

The process of Kansei should include the following scheme: First, a Kansei engineer should think, who are the customers? Second, what do they want and need; that is, what is their Kansei? Third, the Kansei engineer should consider how to evaluate the customers' Kansei. After the Kansei evaluation, the engineer should analyze the Kansei data using statistical analysis or psychophysiological measurement, and then transfer the analyzed data to the design domain. The Kansei Words are adjectives, nouns, or verbs, and sometimes sentences. Open, cold, enjoyable, warm, simple, relaxing, clean, rude, easy, complicated, interesting, complex and so forth are all Kansei Words (www.kansei.ac.id). A Kansei Word is a word describing the product domain. Often these words are adjectives, but other grammatical forms are possible. In order to get a complete selection of words all available sources have to be used, even if the words emerging seem to be similar or the same. Suitable sources can be magazines, pertinent literature, manuals, experts, experienced users, related Kansei studies, etc.It is recommended that we first collect many Kansei words and then reduce these to a small number of very important and relevant words. To develop the product, it is needed to explain interpretation of the data to a designer. The Kansei/affective engineer should explain the anayzed data and the interpretation to the designer. Sometimes several suggestions are derived form data analysis. The engineer has to motivate and stimulate the designer to understand the final data interpretation and to draw out the designer's new design idea of emotional design beyond the data. Finally, the Kansei engineer should evaluate whether the newly designed product will fit the customer's emotion and whether it reveals the emotional design. If not, she motivates the designer to a better design idea.

3. Methods

Based on the preliminary survey, it can be concluded that Surabaya's people have chosen bread for food, besides rice. Currently there are some modern bread stores with the same concept. Therefore, it is necessary to develop a unique bread store design to compete with existing stores. We choose to develop Japanese Bread Store, because Japanese bread

is famous of its uniqueness taste and health. The store design must have Japanese accent and style in order to attract the consumers and get a positive experience.

Two questionnaires were distributed to the respondents. The first questionnaire is an open questionnaire; it was distributed to 50 respondents who are interested in Japanese bread. The result can be seen in Table 1.

Table 1. Questionnaire Results

1.	**Age**	
	< 20 year	38%
	20 year	18%
	> 20 year	44%
2.	**Gender**	
	Male	28%
	Female	72%
3.	**Occupation**	
	Student	2%
	Univ. Student	78%
	Unemployed	4%
	Employee	16%
4.	**Other Bread Store**	
	Bread Talk	57,3%
	Igor's Pastry	19,5%
	Komugi	6,1%
	Bread Life	1,22%
	Bread Story	2,44%
	Holland Bakery	3,66%
	Frollino	2,44%
	Savory	1,22%
	Eaton	1,22%
	J-co	3,66%
	Suzana Bakery	1,22%
5.	**Japanese Taste**	
	Wasabi	35%
	Sashimi	28%
	Red Bean	13%
	Yakishoba Noodle	17%
	Dorayaki	1,7%
	Melon	1,7%
	Chiken yakiniku	1,7%
	Seaweed (nori)	1,7%
6.	**Store Design Expectation** (some respondents)	
	Sakura Park	8
	Japan Culture Festival	8
	Japan Anime	1
	Living room	1
	Mountain	1
	Japan accessories like kimono, doll and greet in Japanese	6
	Drinking tea ceremony	1
	Clean, convenience with music	1
7.	**Important Factors**	
	Convenience	21%
	Clean	23%
	Cold	17%
	Music	13%
	Television	4,3%
	Service	17%
	Decoration	0,6%
	Taste	1,8%
	Design	1,2%
8.	**Kansei Words** (2nd questionnaire)	
	Suitable	25%
	Clean	21%
	Cold	9,9%
	Enjoyable	9,3%
	Interesting	27%
	Warm	1%
	Elegant	6,4%

After the observations against the competitors, we found out that there are 2-3 employees who work at cashier and clean the store, 3-6 chefs in the kitchen and one security guard in the store's yard to manage the parking. Therefore, the store must be at least 40-m2 space. From the first questionnaire, we converted the important factor to the Kansei Words, then we distributed 50 questionnaires to understand which Kansei Words can be the indication of consumers' perception about Japanese store design. The result can be seen in Table 1 number 8.

4. Model

Kansei domain is the separation of Kansei words into some levels and ended with the senses.

- Level 0, words in this level can represent all the Kansei Words.
- Level 1, we decided to use the five biggest options such as *interesting, suitable*, *clean*, *cold* and *enjoyable*.
- Level 2, transformation from Kansei Words to the physical store design. For example is temperature.
- The physical feature from the previous level will affect senses. For example, the amount of Air Conditioning will affect our sense to feel the desired temperature.
- *Physical domain* is a conversion from Kansei words to the physical store design, for example, temperature must be keep between 16-19^{o} C.

For more information about Kansei mapping, we can see in Figure 1.

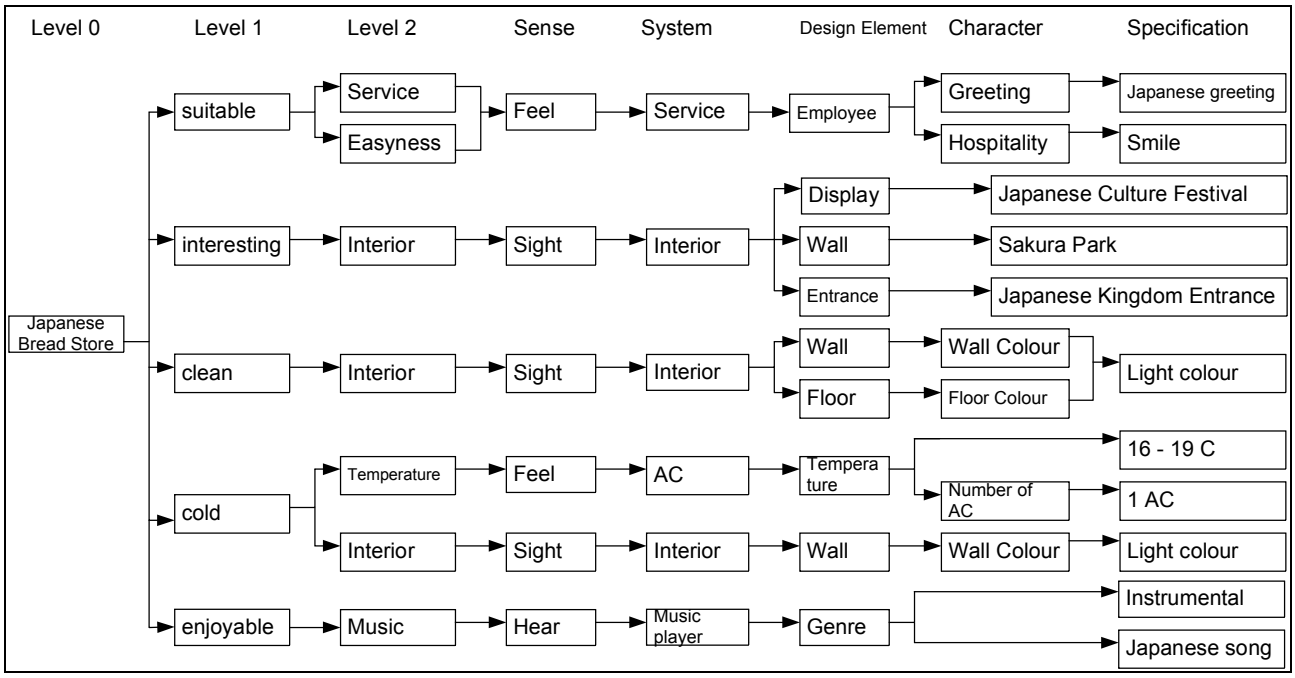
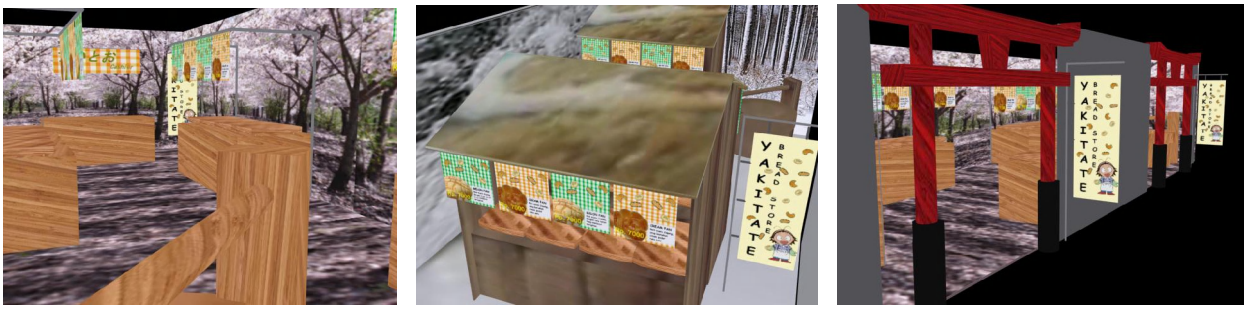


Figure 1. *Kansei Domain* & *Physical Domain*

5. Store Design

The store's design is based on customers' needs, such as Sakura Park, Japanese Culture Festival and Japanese kingdom. Sakura Park become the store's background in figure 2.a, Japanese culture festival can be adapted by using the small stands, which are always there when the festival is held in Figure 2.b. While store entrance is like a kingdom entrance in figure 2.c. There is Japanese kingdom well inside the store, which is a common in Japanese temples.



(a) (b) (c)

Figure 2. Store design from any angle

The Sakura Park is more sophisticated than the others to give a sense of the Sakura Park. Besides designing the store, we also designed a 54cm x 134 cm banner. Banner will be put on inside and outside the store. The installation will use the Japanese style. Display and cashier table will follow the stand's concept. For the complimentary design, it is needed to design the display with the pictures, ingredients, besides the existing ones like price and bread's name. The bread tray need to be a specialized design too in order to attract customers. After payment, to pack the bread we need an unique wrap. And the last is the kimono, must be adopted from Japanese style without disturbing the flexible movement of the waitress. The bread taste is very unique to follow respondents' needs, such as Melon-pan, Cream-pan, An-pan, Taiyaki, *Turtle* Japan, Nori-pan, Sui-han Japan, Wasabi *dinner bread,* Castella Japan, and *Microwave* Japan.

After the three dimensional store's design has done, we interviewed some people to know how they feel about this new design. They are student, employee and university student. These were their comments:

- Hengli: Design is very interesting; I wish this design will be implemented.
- Yenny : This is a cute design, I want to get into this store.
- Catherine : I feel like in the middle of Sakura Park, I want to that store

6. Conclusion

7. Reference

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