CROSS-CULTURAL CONSUMERS' KANSEI RESEARCH: THE STUDY OF PRODUCT NEEDS ON MALE AND FEMALE

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ABSTRACT

This paper studies the differentiation in needs and preference between males and females in perceiving product design. Hofstede (1980) argues there are five cultural independent dimensions due to national culture. One of them is masculinity vs. femininity which distinguishes masculine and feminine society in country level. As consumer's kansei relevant to affection, therefore, there is the difference in customer needs in product design. This article will describe the fundamental differentiation about product form perception between male and female particularly in product preference. The survey is using questionnaire with Semantic Differential rating scale to obtain subjective preferences of cellular phone on product attributes.

Keywords: Consumers' kansei, cultural dimension, masculinity vs. femininity, male and female, consumer needs, semantic differential rating scale.

Introduction

Two important questions are constantly thought by product designers, 'Will this design be appealing and attractive to the potential buyers or users?' and 'Is the new product good for the users and acceptable to other people and society?'. The aesthetic appearance of a product has large bearing on its potential market, and the ethic implications or consequences of a product can have significant societal implications and make or break the moral reputation of the designer and manufacturer (LI 03). However, users from different culture have different perception in perceiving the aesthetic appearance. Subsequently they are also put different implications due to ethic consequences of a product design. Most of cross-cultural studies refer to Hofstede's Culture Dimensions which differentiate the country culture in five dimensions. Masculinity and femininity is one of the dimensions he found based on his study on values. This study will explore the consumer needs characteristic in masculine culture country by surveying their subjective preference of cellular phone attributes.

Development of Kansei and Culture

The term Kansei proposed to design community by works of Mitsuo Nagamachi on Emotional Engineering, and Kenichi Yamamoto (President of Mazda Automotive Corporation), who sets the term "Kansei Engineering for the first time in 1986 during a presentation made at Michigan University (LE 07). Kansei is a Japanese word which means a consumer's psychological feeling and image regarding a new product. The product is not just tangible but also intangible product. The product's form represents a number of elements chosen and blended into a whole by the design team to achieve a particular sensory effect (HOL 90). When the customer wants to buy a product, he or she has an image toward the product, such as "luxurious, gorgeous and strong". Then, it will extracts individual tastes and preferences that moderating and influences psychological responses to product form. In term of

Kansei and Value Creation Initiative launched by Ministry of Economy, Trade, and Industry (METI) of Japan in May 2007 to propose essential issues that should be addressed in promoting manufacturing and service activities capitalizing on Japanese people's emotional and cultural sensitivities. The purpose of the Initiatives is to enhance Japanese people's lifestyles and invigorate the Japanese economy. Therefore, emotional as refer to "kansei" have close relationship toward culture.

Furthermore, as mention in the METI websites (www.meti.go.jp), kansei can create economy value by fully understand the nation culture and improve the sense cultivated by nation's culture or traditions. When people feel the craftsperson's kansei from a product and become impressed and excited, it creates a new economic value.

Culture Dimensions

Preferences for product form are shaped by cultural and social forces (MC 86). The acceptance of a particular style by a culture or subculture may have much to do with that culture's values or preferences (KR 83). Alexander (1979) argues that cultural norms regarding design are particularly important because they tend to overwhelm inner feelings and individual preferences. Cross-cultural differences in design tastes are also common. Colors, materials, and shapes desirable in one culture may be unattractive to consumers in another culture. Therefore, different cultures have different perception and preferences toward the product design elements.

Culture is the collective programming of the mind which distinguishes the members of one group or category of people from another (HOF 80). Hofstede was focus on culture definition as the anthropological sense of broad patterns of thinking, feeling, and acting, which includes much more than civilization alone (HOF 98). Then according to empirical evidence of differences in culture

among 40 nations in the modern world he proposed Culture's Consequences (HOF 80). He concluded that the differences found do not imply that everyone in these nations shares the same mental programming. He considered that "national cultures" were dominant mental programs. Mental programs can include a lot of things, from religious beliefs, food preferences, and aesthetic choices to attitudes toward authority. Hofstede have distinguished them into symbols, heroes, rituals, and values, in which symbols are the most specific and values the most general (HOF 91). Thus, the message of Culture's Consequences is that the cultures of the 40 countries could be positioned on four, largerly independent dimensions. One of them is Masculinity/Femininity (tough versus tender).

The anthropologist has always been interested in how people who have different ways of life interpret the world around them. They have noticed that there are cultural differences in (2) people's skill at recognizing objects form pictures, and (b) the illusions to which they are susceptible.

Culture influences the perception of human as fundamental movement in affection. Human nature has strong relationship within culture. Most researchers agree that culture influences many aspect which relevant to human, such as psychology. Perception as part of human psychology, is influenced by culture.

The customers can be distinguished according to masculinity versus femininity in term of the role of gender in the society in country level (HOF 80). Hofstede defined masculinity as a society in which men are supposed to be assertive, tough, and focused on material success while women are supposed to be more modest, tender and concerned with quality of life. On the other hand, femininity stand for a society in which both men and women are supposed to be modest, tender, and concerned with the quality of life (HOF 91). In the masculinity culture the traditional distinction are strongly maintained, while feminine cultures tend to collapse the distinctions and overlap the gender roles.

Concept of customer needs

Conceptualization of customer needs can be divided into three levels Holistic Impression, Functionality and Design Details (Styling). However, the importance of the three levels will vary depending on the customer's experience of the product and the task environment in which it is used (Khalid et al. 2004). Framework can be seen on figure 1.

The Survey

Cell phone is gadget that everyone use in daily activity. Many features available and various design offered. Nowadays, cellular phone is not just tools; they become part of the fashion for some people. This device can express their personality and social status (SH 2000)

The purpose of this study is to explore the the Kansei needs of male and female and the male's preferences and female's preferences toward formal features of mobile phone.

Semantic differential rating scale was used in the survey instead of Likert scale. The semantic Differential (SD) method applied in the questionnaire to obtain subjective preferences of cellular phone on product attributes, relating to holistic design, functional design, and prodeuct styling. Different from traditional bipolar scale which focuses on direct opposites, the scales used in this tudy are contrasted in terms of relevant attributes that define design, for example: common-unique, traditional-fashionable, conventional-innovative. Score of 1 desicribes the preferences for the attribute on the extreme left hand side of the scale, while score 10 indicates preference for attribute on the highest scale on the right-hand side of the scale.

Fifty two respondents become subject for survey. They are college student from Indonesia which is masculine culture country (masculine/feminine index = 46, rank: 30/31 (Hofstede, 1998)). The subjects' age ranged between 20 – 30 years ol. There were equal numbers of male and female, 26 each of them.

Each subject completed the questionnaire. Then, factor analysis with varimax rotation was used to

evaluate the subjective ratings of the devices.

The Result

Table 1 presents the factor analysis result of all respondents. Four factors were extracted after varimax rotation: Factor 1 represents the first cluster of attributes for "Holistic design" which include attributes as follows: 'overall shape', 'overall design','overall appearance', and 'functions". Factor 2 contains: 'character on buttons', 'information on display', 'shape of button', and 'size of displays'. Those attribute more representing "Function design". Then, the third factor contains: 'color' and 'button arrangement' that represents "Styling". And the fourth factor contains 'variety of button' that represents "Button". Overall, the respondents put "Holistic design" factor for a cellular phone. Then followed by 'Function", "Styling" and "Button"

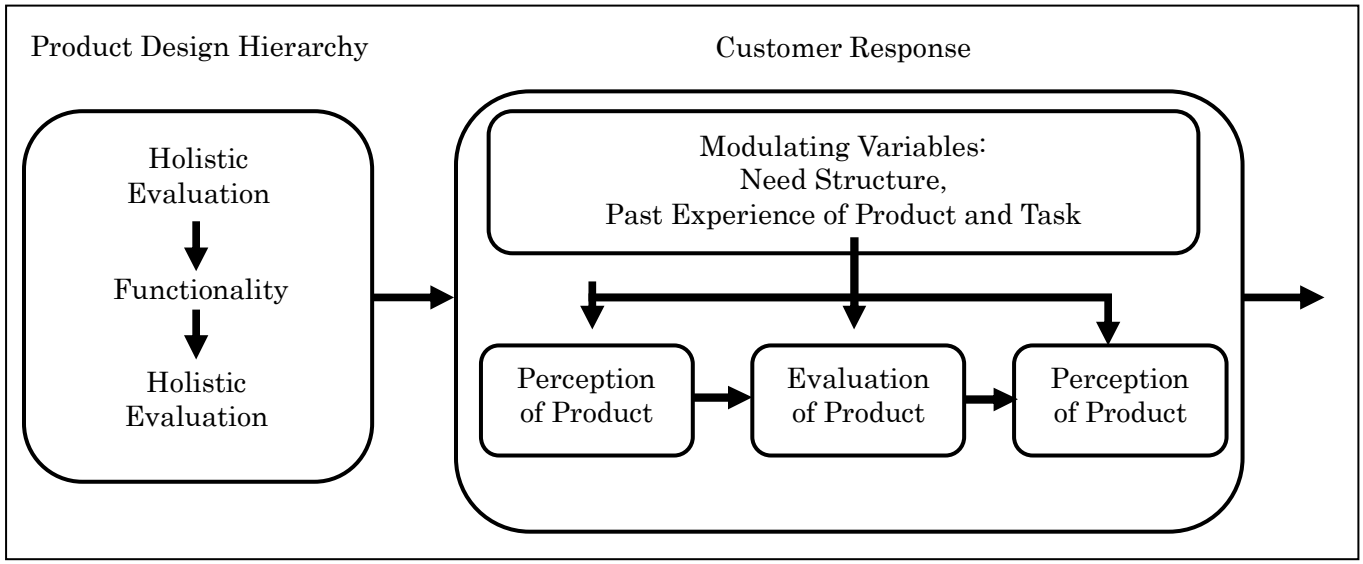

Figure 1: A Framework for conceptualization of customer needs (Khalid et al. 2004)

Table 1: Factor analysis of cellular phone using varimax rotation for male and female

Variables	Factors			
	(1) Holistic	(2) Function	(3) Styling	(4) Button
Overall shape	**0.867**	-0.081	0.200	0.241
Overall design	**0.849**	-0.055	0.206	0.167
Overall appearance	**0.805**	0.160	-0.017	-0.104
Functions	**0.659**	0.177	-0.104	-0.304
Character on buttons	0.009	**0.744**	0.011	0.220
Information on displays	0.182	**0.693**	0.288	0.073
Shape of button	-0.209	**0.670**	-0.081	-0.011
Size of display	0.276	**0.614**	0.110	-0.069
Color	0.073	-0.131	**0.778**	0.335
Button arrangement	0.224	0.232	**0.601**	-0.010
Overall size	0.364	-0.247	-0.577	0.442
Variety of buttons	-0.036	0.280	0.152	**0.840**

Table 2 Factor analysis of cellular phone using varimax rotation for male

Variables	Factors				
	(1) Holistic	(2) Function	(3) Styling	(4) Function & Button	(5) Size
Overall design	**0.916**	-0.160	0.194	0.004	0.027
Overall shape	**0.899**	-0.112	0.217	-0.087	0.201
Overall appearance	**0.737**	0.143	-0.434	0.146	-0.017
Character on buttons	-0.102	**0.853**	-0.032	-0.090	0.026
Information on displays	-0.087	**0.615**	0.313	0.084	-0.286
Size of display	0.355	**0.532**	-0.121	0.284	-0.369
Color	0.101	-0.068	**0.840**	-0.055	-0.071
Variety of buttons	0.027	0.459	**0.711**	-0.357	0.240
Button	0.095	0.240	**0.539**	0.320	-0.473
Functions	0.104	-0.079	-0.137	**0.908**	0.121
Shape of button	-0.252	0.531	0.072	**0.597**	-0.130
Overall size	0.196	-0.099	-0.016	0.133	0.**891**

Table 3: Factor analysis of cellular phone using varimax rotation for male and female

Variables	Component			
	(1) Holistic	(2) Styling	(3) Function	(4) Color
Overall shape	**0.930**	0.080	0.060	0.042
Overall design	**0.846**	0.183	-0.026	-0.060
Function	**0.840**	-0.098	0.156	-0.062
Overall appearance	**0.819**	-0.049	0.342	0.136
Button arrangement	**0.555**	0.209	-0.417	0.151
Shape of button	-0.275	**0.802**	-0.015	-0.170
Character on button	0.245	**0.712**	0.336	0.077
Information on display	0.436	**0.599**	0.238	0.291
Variety of button	0.052	0.127	**0.819**	-0.055
Size of display	0.214	0.341	**0.578**	0.124
Overall size	0.310	-0.086	-0.072	-0.806
Color	0.297	-0.065	-0.070	**0.719**

Table 2 and 3 shows male and female perceive different preference on the cellular phone design attributes. As an example, male prefer holistic design attributes as: overall design, overall shape, and overall appearance, while female prefer overall shape, overall design, function, overall appearance, and button arrangement. This difference shows that male and female have different needs in product design elements.

Conclusion and Future Research:

According to survey above, male and female have different perception in needs and preference toward product design element. Both of them need different criteria on product design element. Unfortunately the data only gather from masculinity culture country, Indonesia. Therefore, further research on comparing the needs of male and female with the feminine culture country will provide rich exploration on consumers' kansei research.

Furthermore, micro aspect on consumers' kansei needs to study in exploring the cognition of the male and female in making the decision based on design elements. The result will provide designer and decision makers in determine accurate decision in product and service design.

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