IMPACT OF CULTURE ON CONSUMER INNOVATIVENESS: A COMPARATIVE STUDY OF CONSUMERS IN SINGAPORE AND AUSTRALIA

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Abstract- Consumer innovativeness refers to degree to which an individual or an entity such as a business firm is relatively earlier in adopting an innovation than other members of a social system. Though marketing literature posits culture as being an important factor influencing adoption of new products or services, very few studies have been undertaken in the past to validate the proposition across countries.The present paperis an attempt to study the impact of four cultural dimensions, viz., individualism vs. collectivism, power distance, uncertainty avoidance and masculinity vs. femininity, on consumer innovativeness across two countries, namely Australia and Singapore. The analysis of the data collected through consumer surveys in these two countries reveal culture to be differing in terms of number as well as specific dimensions in influencing consumer innovativeness. The paper ends with a discussion of managerial implications and directions for research.

Keywords- Culture, Comparative Study, Cultural Dimensions, Surveys, Implications

I. INTRODUCTION

Understanding and measuring consumer innovativeness across nations is of growing and vital importance today for several reasons. First, the domestic market has become saturated in most categories of products and services in almost all the industrialized countries, and hence firms have started venturing into other countries to increase their sales. In this context, firms need to understand consumer similarities and differences across markets. Second, in an economy of rapid change, firms are engaged in innovation efforts with increasing frequency throughout the world. As such, it is necessary that an international manager understand consumer innovativeness across nations. This is of significant importance as more and more companies are coming to rely on new product success for their own profitability and survival in a fiercely competitive environment. The increasing trend toward globalization of business activities provides a strong reason for understanding the cultural context of consumer behavior (Maheswaran and Shavitt, 2000). This trend has heightened the importance of understanding cultural influences on the consumer innovativeness.

Baring a few exceptions (e.g., Kumar, 1998; Helsen, Jedidi and DeSarbo, 1993), several past researches reveal culture to be having an influence on the diffusion of innovations (e.g. Takada and Jain, 1991; Detmar, 1994; Mesak and Maxwell, 2005). Researches in inter-cultural marketing, moreover, suggest cultural norms and values to be having varying influences on consumer innovativeness (Gatignon, Eliashberg, and Roberston,1989; Takada and Jain, 1991; Mahajan and Muller, 1994; Tellefsen and Takada, 1999;Kumar and Krishnan, 2002; Tellis, Stremersch, and Yin, 2003), resulting in different innovation acceptance levels across the countries. The study by Sanna, Lauri and Kaisu (2005), for instance, suggests that the country's wealth and cultural similarity tothe innovation center positively influence the country's early adoption. Enrico andRomain (2005) support the view thatenvironmental and cultural barriers play animportant role in the diffusion of innovations and development across countries.

In the sixties, Geert Hostede proposed a four dimensional cultural framework to examine influence of cultural values on various aspects of human behavior. The dimensions proposed by him include: individualism vs. collectivism, power distance, uncertainty avoidance and masculinity vs. femininity.This framework has started gaining acceptance among the marketing researchers too. Employing this framework, a few studies have been undertaken even in the area of consumer innovativeness and findcultural values to be affecting consumer innovativeness, albeit somewhat differently in different countries (Ganesh, Kumar and Subramaniam, 1997; Tellis, Stremersch and Yin, 2003, Dwyer, Mesak and Hsu, 2005; Singh, 2006). Employing this framework in the context of consumers in France and Germany, Singh (2006) for instance found only certain dimensions of culture to be acting as key factors in determining whether or notconsumers will display a propensity to innovate. More specifically speaking, the study reported consumers from cultures with lower powerdistance, weak uncertainty avoidance and masculinity are relatively more innovative.

However, a major problem with such studies is these researches have been confined to examination of cultural influences on innovativeness or the diffusion of innovations in the context of Western

cultures(Kumar, Ganesh, and Echambadi, 1998; Hani and Maxwell, 2005; Singh, 2006). Hence, it is not clear whether such findings are generalizable to the consumers in other cultures too. The present study is an attempt to fill this void in literature. Adopting the Hofstede's framework, it seeks to examineimpact of cultural dimensions on consumer innovativeness on a comparative basis from two different cultures, viz., Australia and Singapore.

II. LITERATURE REVIEW AND HYPOTHESES FORMULATION

This study incorporates Hofstede's (2001) four cultural dimensions: individualism vs.collectivism, power distance, uncertainty avoidance and masculinity vs. femininity.

Individualism vs. collectivism: It is different for one culture from one country to another in terms of the perceived role ofthe individual versus the role of the group. Individualism on the one side versus collectivism on the other endof the spectrum is the degree to which individuals tend to be concerned with themselves or remain integrated into groups, usually around the family (Hofstede, 2001). In the individualistic societies, ties of social fabric and group norms are much looser, and hence people depict a reduced tendency to form cooperative ventures within the society. People prefer to make decisions and initiate behaviors independently of others than tofollow social norms (Roth, 1995). Several authors (e.g., Midgley and Dowling, 1978) have emphasized that consumerinnovativeness involves a tendency to initiate new behavior independently ofothers. In other words, innovativeconsumers tend to possess a natural predisposition to engage in new behaviours that might be different from the norm. Since such predispositions tend to be prevalent more in the individualistic rather than collectivist societies, it can therefore be hypothesized that:

H_1: Consumers in more individualistic cultures have a relatively higherpropensity to adopt innovation than those from less individualistic cultures.

Power distance: Hofstede (2001) defines power distance as "the extent to which the less powerfulmembers of organizations and institutions accept and expect that power is distributedunequally". This is an important dimension of Hofstede' culture paradigm that measures the extent to which people from different cultures accept inequalities. Research undertaken by Hofstede(2001) shows that while Latin European countries (e.g., France, Italy, Moldova,Portugal, and Romania), Asia and Africa have higher levels of power distance, the remaining parts of Europe and America usually display lower levels power distance.Cultures with large power distance tend to be hierarchical while those with small powerdistance tend to value equality where knowledge and respect are perceived as sources ofpower (Singh, 2006).

Empirical studies suggest that consumers from lower power distance cultures are morelikely to initiate new behaviors while consumers from higher power distance culture areprone to be conforming to the existing norms and imitate behavior of others (Singh, 2006;Liu and Wu, 2007). It, therefore, can be proposed that:

H_2: Consumers in lower power distance cultures have a relatively higherpropensity to adopt innovation than those in larger power distance culture.

Uncertainty avoidance: Uncertainty avoidance is the degree to which an individual is willing to accept risk. Weak uncertainty avoidance cultures perceive uncertainty normally like what happenseveryday and are more tolerant to new ideas or behaviors. People in such cultures, therefore,are more amenable to acceptance of new products or services. In contrast, the feeling of insecurityin strong uncertainty avoidance cultures makes people perceive new things as threats which are neededto be avoided.They tend to have a high level of anxiety and resist new products and services.Compared with existing products or brands, new products or brands are perceived to be risker because their functions andperformance are not yet adequately tested and established. Since consumer innovativeness involves a certain degree of risk taking, people from countries characterized bystrong uncertainty avoidance are less likely to be innovative than those from countries with weaker uncertainty avoidance cultures. Keeping in view these arguments, the study sets up the following hypothesis:

H3: Consumers in weak uncertainty avoidance cultures tend to have a relatively higherpropensity to adopt innovation than those in strong uncertainty avoidance cultures.

Masculinity vs. femininity: Masculinity versus femininity aspect of the culture refers to the extent to which a society maintains a distinction between the roles men and women play emotionally in respect of their decision making and behavioural patterns. This is a fundamental issue with which each society is grappled and to which a range ofpatterns and solutions exist among societies. And based on the nature of emotional roles that males and females play, societies are characterized as being either 'tough' masculine societies or'tenderfeminine societies (Hofstede, 2001). Hofstede (2001) arguesthat masculinity characterizes societies "…in which social gender roles are clearlydistinct, men are supposed to be assertive, tough, and focused on material success;women are supposed to be more modest,

tender, and concerned with the quality of life".Femininity, on the other hand, characterizes "a society in which social gender rolesoverlap: both men and women are supposed to be modest, tender, and concerned with thequality of life" (Hofstede, 2001).
The degree to which a society is prone to femininity or masculinityvaries from country to country. Societies with more masculinity in general tend to be more engaged in pursuits aiming at greater wealth, achievement, success. The people in the masculinity culture thus can be expected tomore curious about new things and inclined to experiment new products and services. The present study, therefore, hypothesizes that:

H_4: Consumers in more masculine cultures have a relatively higher propensity toadopt innovation than that those in less masculine cultures.

III. THE STUDY AND FINDINGS

The data for analysis in the present study came from a survey of 382 consumers located in Australia and Singapore. Based on a review of past researches in the field, a structured questionnaire was prepared and administered on the respondents selected on the basis of quota sampling. While innovativeness was measured through adaption of 8-item global consumer innovativeness scale used in the study by Tellis, Yin and Bell (2005);a 16-item Hofstede and Woods's (1984) scale was employed to measure four cultural dimensions, with four items each measuring an individual dimension. A global measure of innovativeness was used as it is a general measure of consumer inclination to adopt new products and does not require consumers to report their adoption behavior in respect of some specific product or service. The past studies have, moreover, found this measure to be positively associated with domain-specific, i.e., product specific, innovativeness e.g., Goldsmith, Freiden, and Eastman 1995).

Responses to all the scale items were obtained on a five point Likert scale, ranging from 1(Strongly disagree) to 5 (Strongly agree). Reliability of various scales was assessed through Cronbach alpha coefficient. One item relating to consumer innovativeness scale was dropped due to poor item-to-total correlation. The reliability for each of the scale after purification is reported in Table 1. It can be observed that all the scales have reliability coefficient greater than the threshold level of 0.70 as recommended by Nunnally (1978).

Table 1: Measurement Instrument: Reliability Analysis

Scale	Number of items	Cronbach α
- Consumer innovativeness	7	0.72
- Individualism	4	0.93
- Power distance	4	0.93
- Uncertainty avoidance	4	0.92
- Masculinity	4	0.90

ANOVA analysis was performed to ascertain whether consumers differ in their innovativeness across two nations. Mean innovativeness scores are reported in Table 2. Though mean scores are statistically speaking significantly different ($p<0.01$), not much differences in absolute terms arediscernible between the consumers of two countries in respect of their proneness to adoption of new products.

Table 2: Consumer Innovativeness: Mean scores

Nationality		N	Mean	Std. deviation	F-value	p-value[1]
-	Australia	200	3.01	0.48		
-	Singapore	182	3.13	0.51		
Total sample		382	3.11	0.49	2.00	0.00*

Note:1.*p <0.01

In order to assess the influence of cultural dimensions on consumer innovativeness, the latter was regressed on the four dimensions of culture. Two rounds of multiple regression analysis were performed: one for the total sample, and the other one for the individual country samples. Before performing the regression analyses, the independent variables were screened for the presence of multicollinearity among them. The VIF values for the independent variables in the range of 1.07 to 1.28 suggest the data used in the present study are free from the multicollinearity problem(see Table 3).

Regressions coefficients as well as adjusted $R^2$are presented in Table 3. In the case of total sample, only two cultural dimensions, namely powerdistance and uncertainty avoidance, are found significantly and inversely related to consumer innovativeness. Individualism and masculinity dimensions have not emerged as significant explanatory variables. Consumer innovativeness is best explained by power distance (β=-0.16; p=0.01),closely followed by uncertainty avoidance (β=-0.12; p=-0.01). These results lendsupport to the hypotheses $H_2$and H_3. The results in respect of these two hypotheses are consistent with those of previous findings (e.g., Singh, 2006). But the study findings in respect of remaining two dimensions are quite contrary to the findings of past studies (e.g., Steenkamp, Hofstede and Wedel, 1999; Singh, 2005) which have reportedindividualism and masculinity dimensions too being significant antecedents of consumer innovativeness.

An across the country analysis, on the other hand, presentssomewhat different results. In the case of Australian sub-sample, consumer innovativeness is best explained by individualism (β=-0.21; p=0.01) and masculinity (β=-0.16; p=0.02), closely followed

by uncertainty avoidance (β=-0.14; p=0.05). Power distance (β=-0.03; p=0.10) bears no significant relationship with innovativeness. Therefore, Australian survey supports H_1, H_3 and H_4. Quite in contrast, the results relating to Singapore sample show power distance (β=-0.34; p=0.00) as the only significant determinant of consumer innovativeness. In the case of Singaporean customers, thus only $H_2$is found supported. In terms of total explanatory power, the results are not much impressive. Similar to the results pertaining to the total sample, the adjusted R^2values for the two sub-samples are abysmally low, i.e., 0.07 and o.05 respectively, implying thereby that the four dimensions are able to explain only 5 to 7 percent of the variations present in the consumer innovativeness construct in the two countries.

Table 3: Consumer Innovativeness and Cultural Dimensions: Multiple Regression Results

	Australia			Singapore			Total sample		
	β	p-value	VIF	β	p-value	VIF	β	p-value	VIF
Dependent variable:									
- Consumer innovativeness									
Independent variable:									
- Individualism	-0.21	0.00*	1.10	-0.10	0.19	1.24	-0.03	0.35	1.23
- Power distance	-0.03	0.67	1.18	-0.34	0.00*	1.28	-0.16	0.00*	1.28
- Uncertainty avoidance	-0.14	0.05**	1.16	0.05	0.46	1.23	-0.12	0.00*	1.07
- Masculinity	-0.16	0.02**	1.17	0.01	0.92	1.21	-0.01	0.88	1.11
Adjusted R^2	0.07			0.05			0.05		

Note: * p≤ 0.01, ** p≤0.05

CONCLUSIONS AND IMPLICATIONS

The present study was undertaken to examine influence of Hofstede's four cultural dimensions on consumer innovativeness. Survey results reveal not all the dimensions to be significantly influencing consumer innovativeness. For the total sample, only two dimensions, viz., power distance anduncertainty avoidance,turn out to be important determinants of consumer innovativeness. The results are consistent with the previous findings (e.g., Singh, 2006) that lower power distance and weak uncertainty avoidance result in higher level of innovativeness. Across the country analyses, however, present somewhat different results.

While in the case of Australia,as many as three cultural dimensions, namely individualism, masculinity and uncertaintyavoidance,are found significantly related to consumer innovativeness; it is only one dimension, i.e., power distance, which has emerged as a significant determinant of consumer innovativeness. The findings of the present study thus lend credence to the proposition that influence of culture on consumer innovativeness varies across countries.

The study findings entail two important implications for the marketers, especially those operating across the globe.

Since the study reveals cultural dimensions to be differing in terms of their influence across countries, it appears a worthwhile investment of time and money in undertaking studies to identify specific cultural facets that have a bearing upon consumer innovativeness in individual countries. Such information can be of immense help to the marketers in evolving communication strategies as capable of taking care of cultural nuances of individual countries at the time of introduction of new products or services in a given market. New products introduced in cultures characterized by presence of small power distances, weaker uncertainty avoidance and lower levels of individualism and masculinity would face little trouble in being accepted by the consumers in such cultures. This is so becausethese characteristic features of culture in these countries, as the present study reveals, tend to be conducive to adoption of innovations. However, the very fact as discernible form the findings of the present study that the influence of cultural characteristicscan vary from country to country, marketers are advised to emphasize varying aspects and features of their products to catch the attention of the consumers and to appeal to their aspirations for new things. Moreover, rational as opposed to emotionalarguments that stress product features and benefits would be recommended in such markets. In addition, comparative adverting, where permitted, should be used to highlight the superiority of the new products. Lower power distance cultures respect knowledge. Therefore, the use of experts endorsing new productsis recommended to reach the consumers in these markets. But in the case ofcultures where greater power distances exist, stronger uncertainty avoidance attitudes prevail and/orfeministic instincts and behavioral pattern dominate, marketers are advised to employ normative influences to coax consumers into accepting the new products and ideas. Interpersonal communication is suggested as a tactic for ready acceptance of innovative products in markets that tend to be more collectivistic. Cultures

dominated by high power distance cultures are accustomed to a hierarchical form of communication where they readily accept what they are told by others. It is, therefore, recommended that more of role models or authority figures be used in communicating ideas to consumers in such cultures.

Before coming to the end, it will not be out of place to mention some of the limitations of the study that can serve as directions for future studies. First, the present study is based on data collected from consumers in two countries, namely Australia and Singapore. In order to arrive at more generalizable results, it will be in the fitness of things in future to do survey of consumers from a larger number of countries. Secondly, the consumer innovativeness construct in the present study has been assessed through use of a global innovativeness scale. It will be worthwhile attempt on the part of the researchers to select some specific products and gauze consumer innovativeness using domain specific innovativeness measures.

Investigation of only direct influence of four cultural dimensions on innovativeness is another major limitation of the present study. It will be of equal importance in future to examine influence of other variables such as personality, life style and consumption values too in juxtaposition with four cultural dimensions. Since it is possible for the four cultural dimensions to be related among themselves and exerting influence on consumer innovativeness both directly and indirectly through mediation of other variables, it is recommended that structural equation modeling approach be employed to examine both the direct and indirect influences of cultural dimensions on consumer innovativeness so as to be able to capture more exhaustively variations present in consumer innovativeness.

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