ORIGINAL RESEARCH PAPER

Management

KEY WORDS: Consumer Innovativeness; Time Orientation; Cultural Values; Innovation Adoption Behaviour; Innovation Characteristics

"THE IMPACT OF TIME ORIENTATION AND CULTURAL VALUES ON CONSUMER INNOVATIVENESS AND INNOVATION ADOPTION BEHAVIOUR: THE MODERATING ROLE OF INNOVATION CHARACTERISTICS"

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ABSTRACT

Innovative consumers play a key role in the diffusion of innovations by trying, purchasing and recommending new products and services. Therefore, researchers are interested in knowing what impacts consumer innovativeness. This research proposes a model suggesting that an individual's time orientation and his cultural values impact his/her consumer innovativeness trait and further his/her innovation adoption behaviour. Further, this relationship is likely to be moderated by two significant characteristics of innovations – whether they are radical innovations or incremental innovations and hedonic innovations or utilitarian innovations. In this context, given research discusses literature review, research propositions, survey instrument, proposed analysis of data, theoretical and managerial implications of the study and the scope for future study.

INTRODUCTION

New products can provide sustainability, prestige and prosperity to businesses provided they are successful. It is for this reason that researchers and practitioners in marketing are interested in understanding the factors that affect new product adoption. Gatignon and Robertson (1985) explain that both consumer characteristics such as innovativeness and innovation features play a crucial role in new product adoption.

Research on consumer innovativeness has explained it along a continuum (Oorschot, Hofman & Halman, 2018; Hirunyawipada & Paswan, 2006) ranging from a global trait; to an inclination to be innovative in a specific domain or product category; to innovative consumption behavior making the customer an early adopter of the innovation. These traits of innovativeness could be built on consumer's time orientations (Karande, Merchant & Sivakumar, 2012) or his cultural orientations (Steenkamp, Hofstede & Wedel, 1999).

Consumers' time orientations classified into past (comfort in old ways of working), present (focus on living and enjoying in the moment) and future (letting go of the present pleasures for future) define their personality and thereby their attitudes and behaviors (Zimbardo & Boyd, 1999). Studies of relationship between time orientation of a consumer and his innovativeness trait have been conducted across several nations (Merchant, Rose & Rose, 2014; Tevfik, Ali & Musa, 2017). Therefore, the first objective of this research is to propose a study of effect of past, present and future orientations on consumer innovativeness.

Five dimensions of national culture have been identified by Hofstede (1983a, 1991, 2001). These values include individualism versus collectivism (relationships between individuals in each culture), small versus weak uncertainty avoidance (extent to which people feel threatened by uncertainty and ambiguity and try to avoid these situations), large versus small power distance (the consequences of power inequality in society), masculinity versus femininity (whether dominant values in a society are achievement and success or caring for others and quality of life) and long-term versus short-term orientation (stands for fostering of virtues oriented towards future rewards). Yoo, Donthu and Lenartowicz (2011) developed measures for these national culture dimensions at the individual level. National cultures impact innovations (Tian, Deng, Zhang & Salmador, 2018; Ozliben, 2017) and this in turn can impact consumer innovativeness and innovation adoption. Previous studies (Steenkamp et al., 1999; Singh, 2006; Lim & Park, 2013) posed that the world of everyday experiences that include behavioral patterns such as consumer innovativeness and innovation adoption was shaped and formed by the beliefs and assumptions of an individual's culture. Hence, the second objective of this research is to propose a study of effect of five cultural dimensions on consumer innovativeness.

Several consumer behavior studies in marketing have tried to explain the relationship between consumer innovativeness and innovation adoption behavior (Goldsmith, Frieden & Eastman, 1995; Hirunyawipada & Paswan, 2006; Im, Bayus & Mason, 2003; Park, Yu, Zhou, 2010; Stock, Hippel & Gillert, 2016). However, the Theory of Planned Behavior (Ajzen, 1991) mentions that attitudes do not necessarily lead to behavior. Roehrich (2004) mentions that innovativeness research should focus on innovation characteristics to study innovative behavior. Therefore, the relationship between consumer innovativeness attitude and innovation adoption behavior is likely to be moderated by characteristics of innovations (Karande et al., 2012; Li, Zhang & Wang, 2014; Zhang, Sun, Liu & Chang, 2020). These characteristics include newness of the product i.e. radical versus incremental innovation (Alpert, 1994; Blake Valdiserri, Neuendorf, & Valdiserri, 2007) and utilitarian versus hedonic nature of innovations. Therefore, the third objective of this research is to propose a study of moderating effects of new product characteristics between consumer innovativeness attitude and new product or innovation adoption behavior.

The rest of this paper is developed as follows. The second section discusses existing literature on this topic and model development for this research. The third section entails a discussion on research propositions and the fourth one analyses how empirical testing of these research propositions can be conducted. This is followed by theoretical and managerial implications of the current study, scope for future research and conclusion.

Literature Review And Model Development

The constructs in this research include three time orientations, five cultural values, two innovation characteristics, consumer innovativeness and innovation adoption behavior. These constructs provide an understanding about the antecedents to consumer decision

process for innovations. Figure 1 provides a better understanding of proposed relationships between these constructs; to build the conceptual model. In this section, definition and conceptual background of each construct is provided.

Table 1 provides details of the research constructs, their conceptual explanations and sources of reference for a snapshot view. Research propositions based on this background are provided in the next section.

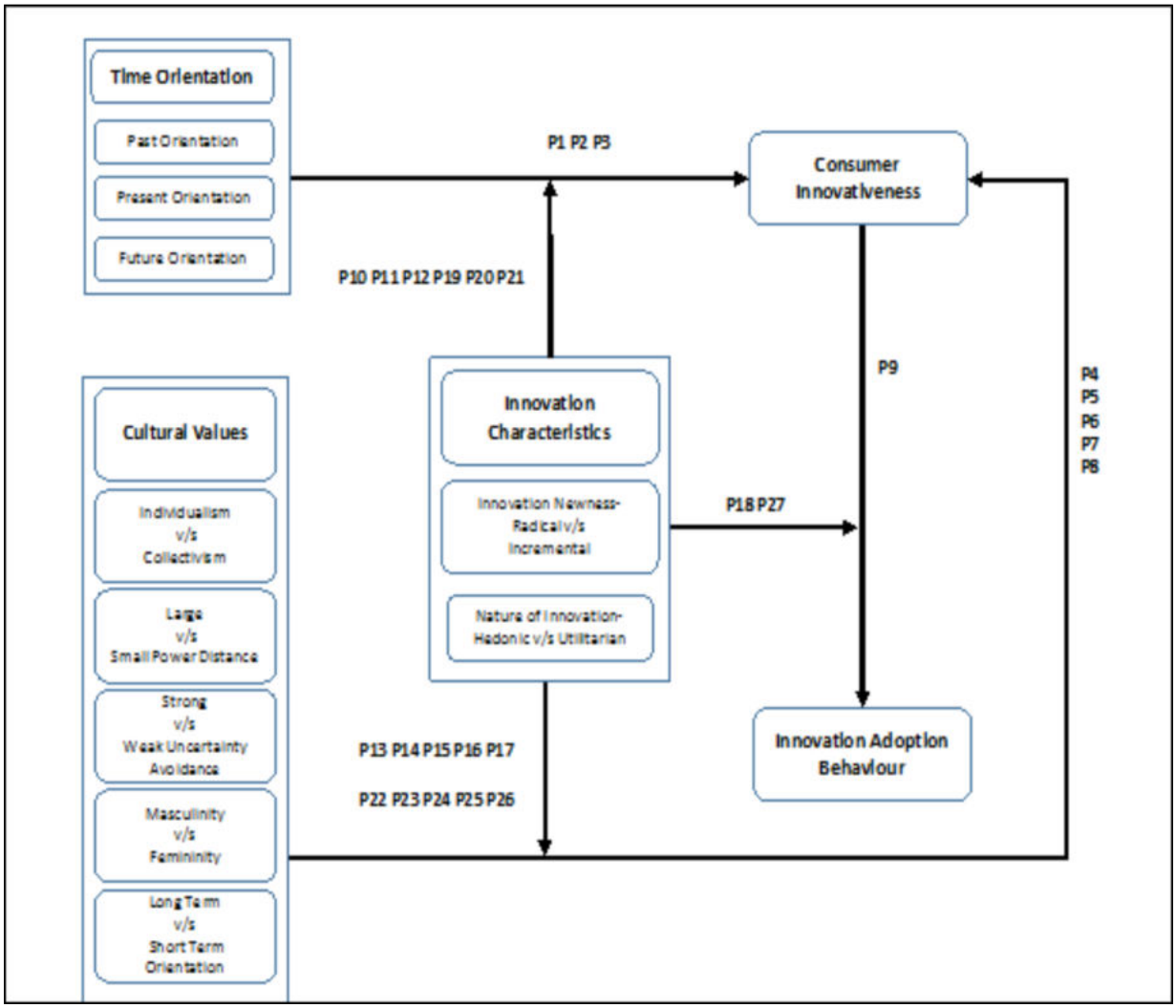

Figure 1 Conceptual Framework Of Time Orientation, Cultural Values, Consumer Innovativeness, Innovation Adoption Behaviour And Innovation Characteristics

Table 1 Conceptual Definition and Source of Research Constructs

Construct	Conceptual Definition	Source
Past Orientation	People with a dominant past orientation are emotional and nostalgic about their past, and have a specific way of doing things and taking decisions that is learnt from their past experiences.	Zimbardo and Boyd, 1999
Present Orientation	A present orientation is focused on immediate events and a reduced concern for or interest in the past and future. People with a dominant present orientation live in the present moment.	Harber et al., 2003; Zimbardo and Boyd, 1999
Future Orientation	A future orientation is one wherein decisions are influenced by ideas of future consequences and issues related to responsibilities, liabilities, gains and losses. Temptations of the present are resisted in a bid to achieve long term goals.	Harber et al., 2003; Zimbardo and Boyd, 1999
Collectivism versus Individualism	It depicts the relationship between an individual and his society. In individualistic societies, individuals look after themselves and their immediate family whereas in collectivistic cultures, individuals belong to groups that look after its members.	Hofstede, 1983a
Large versus Small Power Distance	Power Distance is the extent to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally. It ranges from societies where inequalities are less (small power distance) to societies where inequalities are more (large power distance).	Hofstede, 1983a
Strong versus Weak Uncertainty Avoidance	It deals with how individuals and society deal with uncertainty and the risks associated with it. At one end are societies whose members accept uncertainties without getting upset about them and take risks (weak avoidance)) and at the other end are societies that face anxiety and aggression in a bid to beat future uncertainties (strong avoidance).	Hofstede, 1983a

Masculinity versus Femininity	Societies that make water-tight compartments of gender based roles and men take up significant and assertive roles whereas women take up secondary and caring roles are known as masculine societies. Societies that allow both the genders to take up a variety of roles, without being gender specific, are known as feminine societies.	Hofstede, 1983a
Long-term versus Short-term Orientation	Individuals, and thus societies, that are focussed on future and willing to forgo short-term material, success or gratification for the sake of the future is "Long-term Orientation". On the other end are individuals and societies that are focussed on past or present more than the future and value tradition, fulfilment of social obligations and immediate gratification; this is "Short-term Orientation"	Hofstede, 1991; Hofstede, 2001
Consumer Innovativeness	Consumer Innovativeness is "the tendency to learn about and adopt product innovations (new products) within a specific domain of interest" (Goldsmith & Hofacker, 1991, p.210)	Goldsmith and Hofacker, 1991
Innovative Behaviour (Adoption of Innovation)	Innovative behaviour is largely measured in two ways: level of ownership of innovations and the relative time of adoption of innovations.	Goldsmith et al., 1995; Im et al., 2003
Innovation Newness (Radical versus Incremental)	Radical innovations are the innovations that use a new technology that results in a new market infrastructure. On the other hand, incremental innovations can be defined as products that provide new characteristics, or improvements to existing technology in existing market.	Garcia and Calantone, 2002
Hedonic versus Utilitarian Innovation	The hedonic dimension is the result of sensations from the experience of using a product, whereas the utilitarian dimension is derived from functions carried out by products. Hedonic innovations are bought for their expressive value, whereas utilitarian innovations are bought for their logical and functional value.	Voss et al., 2003

Research Propositions

Main Effects

Past Orientation And Consumer Innovativeness

People with a dominant past orientation are characterized by self-control, tendency to be risk averse and show preference for known products. Baumeister (2002) states that these people follow the same routines merely out of their habit of doing so. They are not impulsive buyers and take less risks. They do not want to move out of their comfort zones and therefore do not try new things (Holbrook, 1993). Consumer innovativeness involves new purchase and consumption patterns which may be risky. Therefore, past-oriented consumers, who are risk-averse, are likely to show lower levels of innovativeness (Karande, et al, 2012).

P1: Consumers with a dominant past orientation are likely to display lower levels of innovativeness.

Present Orientation And Consumer Innovativeness

Present oriented consumers seek information, products and experiences that satisfy their need for stimulation (Raju, 1980). They have less self-control, do not think of future repercussions of their current actions (Zimbardo & Boyd, 1999) and would not want to postpone their indulgences to a future period (Kivetz & Simonson, 2002). For these present oriented consumers, the anticipated regrets of forgoing the instant gratification from a new purchase would outweigh the anticipated benefits that could come from not giving into the immediate temptations to act impulsively. Such consumers can take risks to fulfil their stimulation and gratification motives. Present oriented consumers prefer novelty and variety in buying products and services (Cotte, Ratneshwar & Mick, 2004). Therefore, present-oriented consumers are likely to exhibit higher levels of innovativeness.

P2: Consumers with a dominant present orientation are likely to display higher levels of innovativeness.

Future Orientation And Consumer Innovativeness

Future oriented people are motivated by their goals and they are ready to make sacrifices in the present for goals of the future. Actions of these people are driven by the gains and losses relating to their future goals (Strathman, Gleicher, Boninger, & Edwards, 1994). Such people are well-organized, exhibit self-restraint (Nenkov, Jeffrey, Inman, & Hulland, 2008) on any actions that may impede with their future plans and therefore have a lower instant gratification and stimulation need. Cotte et al. (2004) state that future oriented consumers are cautious buyers who collect and analyse information before making a purchase decision. They would not take any risks and therefore are likely to be less innovative; except when the innovation is likely to boost the achievement of their goals.

P3: Consumers with a dominant future orientation are likely to display lower levels of innovativeness.

Individualism-Collectivism and Consumer Innovativeness

Individualistic societies have much looser group norms and social fabric, because of which decisions are taken and behaviours are initiated independently; whereas the reverse is true for collectivistic societies (Roth, 1995). Midgley and Dowling (1978) mentioned that consumer innovativeness is a tendency to initiate new behaviour independent of others. Such tendencies should be viewed positively in individualistic societies but negatively in collectivistic societies. Therefore, members of an individualistic society are more likely to display innovative behaviour as compared to the members of a collectivistic society which breeds conformity to existing norms and imitation of behaviour (Singh, 2006; Steenkamp et al., 1999; Yeniyurt & Townsend, 2003). Yoo et al., (2011) established that Hofstede's five dimensions related to national culture can be applied at the individual level to directly measure cultural values for individual consumers.

P4: Individualism trait of a consumer is likely to have a positive impact on consumer innovativeness.

Large versus Small Power Distance and Consumer Innovativeness

The dimension of power distance is negatively correlated to the dimension of individualism meaning that large power distance cultures are collectivistic and small power distance cultures are individualistic. Societies with large power distance consider status and age to be very significant and therefore people are likely to be less innovative (Singh, 2006).

In a study about effect of culture on diffusion of innovations, Yaveroglu and Donthu (2002) report that the coefficient of innovation was significantly lower in countries with large power distance. Yoo et al., (2011) mention that the national culture variable of power distance can be applied to individual consumer studies.

P5: Large power distance trait of a consumer is likely to have a negative impact on consumer innovativeness.

Strong versus Weak Uncertainty Avoidance and Consumer Innovativeness

In cultures that display strong uncertainty avoidance, "what is different is dangerous" (Hofstede, 1991, p.119) is the feeling. Therefore, consumers resist change from established patterns and tend to be risk averse. On the other hand, cultures which display weak uncertainty avoidance feel "what is different is curious" and should be explored (Hofstede, 1991, p.119). Innovations are considered to be risky as compared to established products. This means that countries with strong uncertainty avoidance characteristic are less likely to show innovative behaviour and adopt new products as compared to those with weak uncertainty avoidance. Exploring novel ideas, situations and products is imbibed in citizens residing in weak uncertainty avoidance cultures (Steenkamp et al., 1999). Citizens in strong uncertainty avoidance cultures do not trust new ideas and wait for others to try a new idea, situation or product and shape their behaviour based on experiences and outcomes of others (Singh, 2006; Yeniyurt & Townsend, 2003). Yoo et al., (2011) mention that the national culture variable of uncertainty avoidance can be applied to individual consumer studies.

P6: Strong uncertainty avoidance trait of a consumer is likely to have a negative impact on consumer innovativeness.

Masculinity versus Femininity and Consumer Innovativeness

Masculine cultures emphasise on wealth and success; and one way to display these is adopting innovations or buying new products (Rogers, 1983). Masculine societies also emphasise the 'need for achievement' and "achievement motivation is related positively to innovativeness" (Rogers, 1983; as mentioned in Steenkamp et al., 1999, p. 60) meaning that possession of latest and novelest products is a means to demonstrate 'achievement' (Yeniyurt & Townsend, 2003). Feminine cultures emphasise on people, helping people, equality and saving the environment. There is no specific evidence in literature depicting relationship between these characteristics and adoption of innovations. Yoo et al., (2011) mention that the national culture variable of masculinity can be applied to individual consumer studies.

P7: Masculinity trait of a consumer is likely to have a positive impact on consumer innovativeness.

Long-term versus Short-term Orientation and Consumer Innovativeness

Long term orientation relates to showing patience and thrifty behaviour in the present to build a future which is rewarding. Cultures which display a long term orientation are likely to resist innovative behaviour of adopting new ideas, situations and products. They would avoid this risk in the present to earn rewards for the future. This behaviour would be similar to individuals with a dominant future orientation. On the other hand, individuals in cultures that display short term orientation may give into the hedonic pleasure of adopting innovations to make themselves happy, without thinking about long-term future. Therefore, long-term orientation influences consumer innovativeness (van Everdingen & Waarts, 2003). Yoo et al., (2011) mention that the national culture variable of long term orientation can be applied to individual consumer studies.

P8: Long term orientation trait of a consumer is likely to have a negative impact on consumer innovativeness.

Consumer Innovativeness and Innovation Adoption Behaviour

The relationship between attitude and behaviour was most commonly explained by Ajzen (1991) as the Theory of Planned Behaviour. Behaviour is influenced by attitude, among others (Ajzen, 1991). In the context of this study, previous literature suggests significant relationship between consumer innovativeness and innovative behaviour. Goldsmith et al. (1995) mention a significant relationship between domain-specific innovativeness and purchase of new products. In a later study, Goldsmith (2001) concludes that domain-specific innovativeness positively impacts usage of websites, downloading of music and internet purchases. Several previous studies (Vandecasteele & Geuens, 2010; Li et al., 2014; Zhang et al., 2020) mention that motivational consumer innovativeness positively impacts consumer intentions of buying new products. Therefore, based on the Theory of Planned Behaviour and the previous literature findings in the context of consumer innovativeness, the following hypothesis is proposed.

P9: A higher level of consumer innovativeness will positively impact innovation adoption behaviour in a consumer.

Moderating Effects

As mentioned earlier, the proposed relationships discussed as the main effects are likely to be moderated by the innovation characteristics. The next set of research propositions consider the moderating effects of characteristics of innovations on the main effect propositions already discussed. For clarity, the innovation characteristics are discussed as categorical and dichotomous variables i.e. an innovation is either radical or incremental; either utilitarian or hedonic. However, when the propositions are empirically tested, the variables can be conceptualized as continuous too i.e. innovations could occupy 'specific locations on a radicalism continuum' (Karande et al., 2012) meaning an innovation could be highly radical or less radical rather than just being radical. Similar explanations can be provided for hedonic versus utilitarian nature of innovation. Karande et al. (2012) have used a similar argument in a conceptual paper proposing relationships between time orientation and consumer innovativeness with innovation characteristics playing a moderating role.

Newness of the Innovation (Radical versus Incremental)

Consumers need to be educated about a new technology before they may adopt a radically new innovation. Since these products are perceived as extremely "new", risk involved is higher for the consumers (Heiskanen, Hyvonen, Niva, Pantzar, Timonen, & Varjonen, 2007, Souto, 2015). In contrast, incrementally new innovations need lesser consumer education because consumers are somewhat comfortable and familiar with the technology (Hippel, 1986) and perceive incremental innovations to be safer alternatives. There is a relationship between consumer's time orientation and the newness of innovation in terms of perceived risk. As innovations have a risk pattern in terms of being radical or incremental, consumers with a dominant past, present or future orientation differ in terms of risk taking. As a result of this overlap, newness of the innovation moderates the effect of past, present and future orientations on consumer innovativeness. For example, for consumers with a dominant present orientation, "the positive effect of present orientation on consumer innovativeness should be greater for radically new innovations than for incrementally new innovations" (Karande et al., 2012, p. 116). Similar moderating effects can be possible for past and future orientations.

P10: The negative relationship between dominant past orientation and innovativeness of a consumer is stronger for radically new innovations than for incrementally new innovations.

P11: The positive relationship between dominant present orientation and innovativeness of a consumer is stronger for radically new innovations than for incrementally new innovations.

P12: The negative relationship between dominant future orientation and innovativeness of a consumer is stronger for radically new innovations than for incrementally new innovations.

Similarly, a relationship can be explained between consumer's cultural orientation and the newness of innovation in terms of perceived risk. Consumers with different cultural orientations on Hofstede's five national culture variables will display consumer innovativeness as moderated by the newness of the innovation. For example, consumers in individualistic cultures are more likely to take risks, be independent and decide for themselves. Therefore, they may exhibit innovativeness in terms of adopting radically new innovations as compared to incrementally new innovations. Similar moderating effects can be proposed for other four cultural dimensions.

P13: The positive relationship between individualistic trait and innovativeness of a consumer is stronger for radically new innovations than for incrementally new innovations.

P14: The negative relationship between large power distance trait and innovativeness of a consumer is stronger for radically new innovations than for incrementally new innovations.

P15: The negative relationship between strong uncertainty avoidance trait and innovativeness of a consumer is stronger for radically new innovations than for incrementally new innovations.

P16: The positive relationship between masculinity trait and innovativeness of a consumer is stronger for radically new innovations than for incrementally new innovations.

P17: The negative relationship between long-term orientation trait and innovativeness of a consumer is stronger for radically new innovations than for incrementally new innovations.

The Theory of Planned Behaviour suggests that attitudes build behaviours by influencing intentions. Kokkinaki and Lunt (1997) mention that consumer involvement increases the effect of attitudes on behaviour in terms of product choices. The degree of consumer involvement would be different in case of radical and incremental innovations and so would be the strength of relationship between attitude and behaviour. Consumers would get thorough knowledge and learn more details about a radically new innovation and the way in which it functions (Garcia & Calantone, 2002), meaning that consumer involvement is higher for such products. However, for incrementally new innovations, consumers already have a fair idea about the innovation and its related technology, leading to lesser consumer involvement. This discussion leads to the following proposition.

P18: The positive relationship between consumers' innovativeness and innovation adoption behaviour is stronger for radically new innovations than for incrementally new innovations.

Nature of Innovation (Hedonic versus Utilitarian)

As mentioned earlier, utilitarian innovations are purchased based on logic, whereas hedonic innovations are purchased based on the expressive nature of the innovations.

People with a dominant past orientation seek pleasure from memories and choose products that make them feel nostalgic (Braun-Latour, Latour & Zinkhan, 2007). So their decisions are more likely to be determined by hedonic reasons rather than the utilitarian ones. Therefore, people with a dominant past orientation may feel a stronger effect of innovativeness for hedonic innovations than for utilitarian innovations. On the contrary, people with a dominant present orientation are the ones 'living in the moment' without thinking about the future implications of their present actions (Zimbardo, Keough & Boyd, 1997). Decisions of present oriented people tend to be focused on hedonism rather than utilitarianism. Therefore, the positive relationship between present orientation and consumer innovativeness would be stronger for hedonic innovations rather than for utilitarian innovations. People with a dominant future orientation focus on their objectives and forgo present gains for future gains. Decisions of future oriented people would be focused on utilitarian innovations rather than the hedonic ones.

P19: The negative relationship between dominant past orientation and innovativeness of a consumer is stronger for hedonic innovations than for utilitarian innovations.

P20: The positive relationship between dominant present orientation and innovativeness of a consumer is stronger for hedonic innovations than for utilitarian innovations.

P21: The negative relationship between dominant future orientation and innovativeness of a consumer is stronger for hedonic innovations than for utilitarian innovations.

Similarly, a relationship can be explained between consumer's cultural orientation and the hedonic versus utilitarian nature of innovation in terms of perceived risk. Consumers with different cultural orientations on Hofstede's five national culture variables will display consumer innovativeness as moderated by the nature of the innovation. For example, consumers in individualistic cultures are more likely to take risks, be independent and decide for themselves. Therefore, they may be exhibit innovativeness in terms of adopting hedonic innovations as compared to utilitarian innovations. Similar moderating effects can be proposed for other four cultural dimensions.

P22: The positive relationship between individualistic trait and innovativeness of a consumer is stronger for hedonic innovations than for utilitarian innovations.

P23: The negative relationship between large power distance trait and innovativeness of a consumer is stronger for hedonic innovations than for utilitarian innovations.

P24: The negative relationship between strong uncertainty avoidance trait and innovativeness of a consumer is stronger for hedonic innovations than for utilitarian innovations.

P25: The positive relationship between masculinity trait and innovativeness of a consumer is stronger for hedonic innovations than for utilitarian innovations.

P26: The negative relationship between long-term orientation trait and innovativeness of a consumer is stronger for hedonic innovations than for utilitarian innovations.

Ajzen (1991) argues that attitudes build intentions which in turn build behaviours. While purchasing hedonic (or expressive) innovations,consumers engage more in emotional activity than cognitive activity. On the contrary, while purchasing utilitarian innovations, consumers engage more in cognitive activity as compared to the emotional one (Mittal, 1988; Karande et al., 2012; Stock, Oliveira & Hippel, 2014). Consumers decisions for hedonic innovations are not driven by cognitive evaluations such as comparing brands and features. Therefore, the effect of consumer innovativeness attitude on innovativeness behaviour is likely to be stronger for hedonic innovations than for the utilitarian ones.

P27: The positive relationship between consumer innovativeness and innovation adoption behaviour is stronger for hedonic innovations than for utilitarian innovations.

Discussion on Empirical Testing of Research Propositions

Empirical testing is one of the most widely used methodology to examine the propositions with suitable methods. The propositions will be accepted or rejected based upon the results derived using those methods. The empirical method allows a scientific researcher to verify the results of research with the help of statistical tools. Common statistical tools include: regression, risk coefficient, t-test, chi square, and different forms of ANOVA (Analysis of Variance). The following discussion is about how empirical testing can be conducted on the research propositions discussed in the previous section.

Past, present and future i.e. the three dimensions of time orientation, consumer innovativeness and innovative behaviour are traits that are individual-specific and should be measured through self-report system using multi-point scales. The five cultural value variables as defined by Hofstede were meant to measure national culture. However, Yoo et al. (2011) have developed and validated a scale for measuring Hofstede's five dimensions of national cultural values at the individual level. Therefore, CVSCALE, a 26-item five-dimensional scale of individual cultural values, developed by Yoo et al. (2011) is apt to be used for this study.

The innovation characteristics (e.g. whether the innovation is a radical or incremental, whether the innovation is hedonic or utilitarian in nature) can be determined externally. Traits of each of the innovative product categories can be seen either as a categorical scale (e.g. the innovation is either hedonic or utilitarian) or as a continuous scale (e.g. innovation characteristics ranging from extremely radical innovations to completely incremental innovations). Table 2 provides details of measurement items for each research construct used in the propositions and specific item sources. The hypothesis can be tested by collecting primary data using survey method. Three types of data analysis can be done using the collected data.

First, trying to gauge the relationship between any one of the time orientations (or any one of the cultural values), one (or both) innovation characteristic and consumer innovativeness, regression equation can be used estimating the variables as continuous. However, when any one of the time orientations (or any one of the cultural values) and one (or both) innovation characteristics are treated as categorical variables, hypothesis can be evaluated using t-tests after Analysis of Variance (ANOVA). The same method can be generalized to other research propositions. The above discussion deals with any one of the time orientations (or any one of the cultural values) at a time. An all-inclusive comprehensive model which incorporates the effects of all three time orientations and all five cultural values on consumer innovativeness can be tested using structural equation modelling. The significance of individual paths can gauge the effect of three time orientations and five cultural values on consumer innovativeness. Multi-group analysis, forming groups based on degrees of each innovation characteristic can be used for testing propositions related to the moderating effects of innovation characteristics. Karande et al. (2012) proposed a similar framework for a study relating to time orientations, product characteristics and consumer innovativeness.

Table 2 Proposed Measurement Items for each Construct and Item Source

Construct	Proposed Measurement Items	Item Source
Past Orientation	Response on a five point Likert scale: 1. Familiar childhood sights, sounds, smells often bring back a flood of wonderful memories. 2. It gives me pleasure to think about my past. 3. On the whole, there is much more good to recall than bad in my past. 4. I enjoy stories about how things used to be in the "good old times." 5. Happy memories of good times spring readily to mind. 6. I get nostalgic about my childhood. 7. I like family rituals and traditions that are regularly repeated.	Zimbardo and Boyd, 1999
Present Orientation	Response on a five point Likert scale: 1. I do things impulsively. 2. I make decisions on the spur of the moment. 3. It is important to put excitement in my life. 4. Taking risks keeps my life from becoming boring. 5. I take risks to put excitement in my life. 6. I find myself getting swept up in the excitement of the moment. 7. I prefer friends who are spontaneous rather than predictable.	Harber et al., 2003; Zimbardo and Boyd, 1999
Future Orientation	Response on a five point Likert scale: 1. I believe that a person's day should be planned ahead each morning. 2. When I want to achieve something, I set goals and consider specific means for reaching those goals. 3. Meeting tomorrow's deadlines and doing other necessary work comes before tonight's play. 4. I meet my obligations to friends and authorities on time. 5. Before making a decision, I weigh the costs against the benefits. 6. I complete projects on time by making steady progress. 7. I am able to resist temptations when I know that there is work to be done.	Harber et al., 2003; Zimbardo and Boyd, 1999
Collectivism versus Individualism	Response on a five point Likert scale: 1. Individuals should sacrifice self-interest for the group. 2. Individuals should stick with the group even through difficulties. 3. Group welfare is more important than individual rewards. 4. Group success is more important than individual success. 5. Individuals should only pursue their goals after considering the welfare of the group. 6. Group loyalty should be encouraged even if individual goals suffer.	Yoo et al., 2011; based on Hofstede, 2001
Large versus Small Power Distance	Response on a five point Likert scale: 1. People in higher positions should make most decisions without consulting people in lower positions. 2. People in higher positions should not ask the opinions of people in	Yoo et al., 2011; based on Hofstede, 2001

	lower positions too frequently. 3. People in higher positions should avoid social interaction with people in lower positions. 4. People in lower positions should not disagree with decisions by people in higher positions. 5. People in higher positions should not delegate important tasks to people in lower positions.	
Strong versus Weak Uncertainty Avoidance	Response on a five point Likert scale: 1. It is important to have instructions spelled out in detail so that I always know what I'm expected to do. 2. It is important to closely follow instructions and procedures. 3. Rules and regulations are important because they inform me of what is excepted of me. 4. Standardized work procedures are helpful. 5. Instructions for operations are important.	Yoo et al., 2011; based on Hofstede, 2001
Masculinity versus Femininity	Response on a five point Likert scale: 1. It is more important for men to have a professional career than it is for women. 2. Men usually solve problems with logical analysis; women usually solve problems with intuition. 3. Solving difficult problems usually requires an active, forcible approach, which is typical of men. 4. There are some jobs that a man can always do better than a woman.	Yoo et al., 2011; based on Hofstede, 2001
Long-term versus Short-term Orientation	Response on a five point Likert scale: 1. Careful management of money (thrift) 2. Going on resolutely in spite of opposition (persistence) 3. Personal steadiness and stability 4. Long-term planning 5. Giving up today's fun for success in the future 6. Working hard for success in future	Yoo et al., 2011; based on Hofstede, 2001
Consumer Innovativeness	Response on a five point Likert scale: 1. If I heard that a new (product) was available in the store, I would be interested enough to buy it. 2. In general, I am the last in my circle of friends to know about new (product). 3. I usually prefer new (products) over classics. 4. I know about new (product) before other people do.	Goldsmith and Hofacker, 1991
Innovation Adoption Behaviour	1. Adoption of specific new products (innovations). 2. Adoption of a range of new products (innovations).	Goldsmith et al., 1995; Im et al., 2003
Newness of Innovation (Radical versus Incremental)	Response on a five point Likert scale: 1. The innovation uses a different core technology (scale ranging from not at all different to substantially different). 2. The innovation provides better benefits to customers in comparison of the previous products in the same category (not at all better to substantially better)	Garcia and Calantone, 2002
Hedonic versus Utilitarian Innovations	1. For hedonic innovations: Rate the innovation as: fun/not fun, exciting/dull, delightful/not delightful, thrilling/not thrilling, and enjoyable/not enjoyable. 2. For utilitarian innovations: Rate the innovation as: effective/ineffective, helpful/unhelpful, functional/not functional, necessary/unnecessary, and practical/impractical.	Voss et al., 2003

Implications of the Study

Theory Implications

Objectives of this research were: (a)To study the relationship between three time orientations and consumer innovativeness; (b) To study the relationship between five cultural values and consumer innovativeness; (c) To study the relationship between consumer innovativeness and innovation adoption behavior and (d) To study the moderating effects of innovation characteristics on (a), (b) & (c).

There exist select previous researches that have tried to probe some of these relations such as time orientations and consumer innovativeness (Karande et al., 2012; Merchant et al., 2014; Tevfik et al., 2017), national culture values and consumer innovativeness (Steenkamp et al., 1999; van Everdingen & Waarts, 2003; Singh, 2006; Lim & Park, 2013), consumer innovativeness and innovation adoption behaviour (Rogers 2003; Im et al., 2003, 2007; Li et al., 2014; Zhang et al., 2020), moderating role of innovation characteristics between consumer innovativeness and innovation adoption (Karande et al., 2012;). However, to the best of our knowledge, this is the first study to conceptualise all three time orientations, five cultural variables and innovation characteristics in the consumer innovativeness and innovation adoption research. This will result in a more reliable and realistic model of consumer innovativeness and innovation adoption behaviour. Therefore, this research contributes to the existing literature in multiple ways. First, it proposes a comprehensive model of antecedents of consumer innovativeness by including time orientations and cultural variables.

It focuses on the psychological and behavioural aspects of how consumer innovativeness is built. Second, it proposes that the relationship between consumer innovativeness and innovation adoption is likely to be moderated by innovation characteristics namely the radical or incremental nature of innovation and the hedonic or utilitarian nature of innovation. Third, this work adds to the vast literature of consumer innovativeness by proposing a unique model with new boundaries.

Managerial Implications

Increased competition, reduced regulations, reduced consumer loyalty and increased price competition have compelled business to act on the front of break-through innovations. A consumer who is interested in, seeks information about, adopts and gives a positive word-of-mouth about an innovation, plays a prominent role in sustainability and advancement of businesses. Therefore, businesses would be perennially interested in what builds consumer innovativeness. First, this knowledge would help them in segmentation, targeting and positioning the innovations. It would also guide the marketers in designing advertising and mass communication messages that could appeal to the buyers with innovativeness trait (Lee, Shim, Kim & Nam, 2021). Second, the two antecedents of consumer innovativeness – time orientation and cultural values, tend to evolve over a period of time. Therefore, businesses that develop innovations should identify segments of consumers who are likely to be profitable in the short run and in the long run. For example, consumers with present orientation may splurge into buying innovations right now (short run) but the ones with future orientation may take a wise decision of buying them later (long run). Strategies for these different market segments need to be crafted unique from each other.

Third, proposing that innovation characteristics play a crucial role in the adoption of innovations, businesses would need to focus on synergizing the innovation characteristics. Can a radical innovation be hedonic? Can an incremental innovation be utilitarian? Can combining these two characteristics lead to symbiosis or will they cannibalize the innovation? Innovators would find it imperative to answer these questions when designing and marketing innovations.

Scope For Future Research

Scope for further research from this work can be discussed from several aspects. First, this study proposes several hypotheses that need empirical testing. Besides the survey method, experimental research and longitudinal studies could be undertaken to track changes in time orientation, cultural orientation and consumer innovativeness traits of the same individual. Second, this study includes the effect of Hofstede's five dimensions of national culture (as applied to individual studies) on consumer innovativeness. However, Hofstede added a sixth dimension to national culture, labelled as 'indulgence'. In an indulgent culture, it is good to be free. Doing what your impulses want you to do, is good. Friends are important and life makes sense. In a restrained culture, the feeling is that life is hard, and duty, not freedom, is the normal state of being. Further studies could include the impact of 'indulgence' on consumer innovativeness; along with the previous dimensions.

Third, when studying the moderating role of innovation characteristics, this study has used two characteristics namely radical versus incremental innovation and hedonic versus utilitarian innovation. However, moderating effect of other innovation characteristics could be included in future studies. For example, Karande et al. (2012) used other two product characteristics namely network externalities (are externalities present or absent) and the complex versus simple nature of innovation.

Market price at which the innovation is available to the consumers and the brand value attached to the innovation could be significant characteristics moderating the attitude towards innovations and their adoption. Fourth, the two antecedents used to build consumer innovativeness trait were time orientation and cultural orientation of an individual. However, there could be an interplay between time orientation and cultural orientation also. Future studies could focus on this relationship too. For example, does long-term orientation from Hofstede's cultural variables impact time-orientation, especially future orientation?

Fifth, all three time orientations and five cultural variables may not exert the same degree of influence on consumer innovativeness. It may be significant to study the relative influence of three time orientations and/or five cultural variables on consumer innovativeness. This relative influence can be linked to innovation characteristics also. For example, does the effect of future orientation on consumer innovativeness get stronger for radically new innovations? Sixth, demographic (e.g. age, gender, income) and psychographic (e.g. consumer expertise, need for cognition and uniqueness) variables can effect consumer innovativeness. Future research analyzing consumer innovativeness can incorporate these effects in the study.

Seventh, the study of adoption of innovations (innovation adoption behaviour) is linked not only to purchase of innovative products but the speed of adoption, extent of use of the innovation after purchase, purchase of follow-up products or services, the keenness to adopt subsequent versions of the same innovation in future, etc. (Karande et al., 2012). The current research can be expanded by including such innovation adoption variables in future studies.

CONCLUSION

As innovations become all the more important in the ever-increasing competitive environment, consumer innovativeness plays a crucial role in the introduction, adoption and sustenance of innovations. This study examines links between time orientation, cultural orientation, consumer innovativeness, innovation adoption behaviour and innovation characteristics. It provides insights into consumer behaviour and has implications for theory development as well as practicing managers. Future researchers can continue to take this work further from this point.

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