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A Conceptual Model of Peer Influences Towards the Adoption of Technological Innovations among Adult Consumers

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Abstract: The purpose of this study is to propose a conceptual model which would provide a better understanding on how social influences through the effect of peer communication could interplay with materialism to capture the effect of young adults adoption of technological innovation in their life. This study provides a brief review on the theories associated with the adoption of technological innovation, as well as some important empirical findings to support the model of this study. Based on a review of established studies this study re-examined the relationship between peer communication and the adoption of technological innovations and propose that young adults interaction with their peers have significant positive effect in their adoption of technological innovation.

Key words: Young adult consumers, peer communication, materialism, adoption of technological innovation, materialism

INTRODUCTION

Imagine living in a world without innovation. As human beings, researchers consider it normal that the world around us is changing and that something old is replaced by something new. Innovation is defined in different ways (Rogers, 2003a) emphasis the outcome, Schilling (2008) the creativity, Zaltman *et al.* (1984) and Trott (2008) see it as the process from idea towards new product or process.

Rogers (2003b) stated the characteristics of the innovation as important. Characteristics of innovations are the relative advantage the innovation, visibility of innovation and compatibility of the innovation. There are also individual factors involved in innovation. Rogers (2003a) found that individuals show a degree of innovativeness. The intention to adopt innovations is also of importance. If the intention is low, it is unlikely that the innovation is adopted. Kabbar and Crump (2006) found other individual factors, such as sex, age and education to have an impact on innovation. For instance, women, elderly and low-educated are less likely to adopt innovations.

Talukder *et al.* (2008) found that social factors like the influence of peers and social network were important in adoption of innovations. Specifically, peers influence the adoption by encouraging to use or not to use the innovation. Given that peer exert a certain degree of influence on the adoption of innovation, this study is an attempt to provide an insight into how peer influences, in particular peer communication, exert its influence on the adoption of technological innovations among young adult consumers. Behavioural sciences and individual psychology, suggest that social influences and personal traits, such as individual innovativeness are potentially important determinants of adoption and may be an important element in potential adopters decisions (Lu *et al*., 2005).

While there exist a large body of studies examining the effects of social influences on the adoption of innovation. To date however, models developed to study the adoption of technological innovation have not given due considerations to variables, such as materialism which could have an interplaying role in explaining consumers adoption of technological innovation. In this study, materialism is highlighted a possible mediator in explaining the effect of peer communication on young adults adoption of technological innovations.

As such, the main purpose of this study is to propose a conceptual model to establish the relationship

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between peer influences towards the adoption of technological innovations in general. Specifically, the objectives of this study are:

- To establish the association between the influence of peer communication on the adoption of technological innovations among young adult consumers
- To examine the influence of peer communication on materialism among young adult consumers
- To examine the influence of materialism on the adoption of technological innovations among young adult consumers
- To establish materialism as a mediator in the relationship between peer influence and on the adoption of technological innovations among young adult consumers

Past studies have empirically tested the relationship between peer influences, particularly peer interaction on the adoption of technological innovations among consumers. Studies have also established the link between peer communication and materialism. This study is anattempt to provide a conceptual model which incorporates materialism as a mediator in the relationship between peer communication and the adoption of technological innovations, thus fulfilling a research gap in the literature. By so doing, this study will hopefully provide some further insight into understanding on how consumers adopt technological innovations into their life.

MATERIALS AND METHODS

The following study lay down the theoretical background of the study, before proceeding to the development of the conceptual model to explain the influence of peer communication on young adults adoption of technological innovations. Based on both theoretical and empirical evidence, several propositions are made. Figure 1 presents the conceptual model of this study.

Consumer socialization: Consumer socialization is the process by which people acquire, values, skills, knowledge and attitudes relevant to their functioning as consumers in the marketplace (Ward, 1974). It addresses how individuals become consumers (Moschis and Churchill, 1978). People often interact with socialization agents and then take in consciously and unconsciously social norms, values, beliefs, attitudes and behaviours endorse by these agents. (Peer is one of the socialization agents) (Moschis and Churchill, 1978). Socialization process incorporates both the socialization agent and the type of learning actually operating. Agent-learner interactions are usually examined without specific reference to the type of learning taking place (e.g., modeling and reinforcement). Cross sectional studies can be used to study the extent of agent-learner interactions (Moschis and Churchill, 1978).

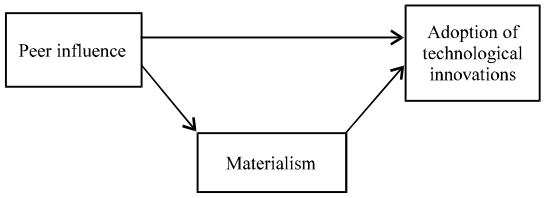

Fig. 1: Proposed conceptual model

Bandura (2001), social cognitive theory can be employed to explain the underlying processes of consumer socialization. Social cognitive theory is based on the agentic perspective in which people are considered self-organizing, proactive, self-reflecting and self-regulating. According to Bandura (2001), to be an agent is to intentionally make things happen by ones actions. Human agency is characterized by a number of core features including the temporal extension of agency through intentionality and forethought, self-regulation by self-reactive influence and self-reflectiveness about ones capabilities, quality of functioning and the meaning and purpose of ones life pursuits. Personal agency operates within a broad network of socio-structural influences. In these agentic transactions, people are producers, as well as products of social systems (Bandura, 2001).

Family influences may also operate indirectly by affecting the childs social relations with peer groups. Social comparison theory (Festinger, 1954) suggests that individuals need to evaluate some of their perceived knowledge about consumption acquired from their parents by comparing it with the knowledge of other persons who are likely to have similar value perspectives about consumption. Such persons are likely to be peers (Sebald, 1968) and empirical findings are in line with this type of reasoning.

According to Richins and Dawson (1992), materialism reflects the importance a person places on possession and their acquisition as a necessary or desirable form of conduct to reach desired end states including happiness. In consumer socialization research, consumers learn how to acquire values. Among various values studied materialism is a subject of interest for researchers. Because, it is regarded as a form of undersirable socialization (Moschis and Chirchill, 1978). Furthermore, materialism leads to excessive consumption. Religious and social critics have condemned materialism as inherently bad and become dangerous when consumption goal goes further beyond possession itself (Kasser *et al*., 2002).

Adult socialization: According to Goodwin and Sewall (1992), socialization can be studied from several perspectives. Psychologists tend to focus on individual learning processes. Anthropologists focus on becoming part of a culture. Sociologists, on the other hand often view socialization in terms of role acquisition. When compared to research on childhood and adolescent, adult socialization has been relatively neglected. Brim (1966, 1968) identifies a number of differences between childhood adult socialization. First, Brim suggested that socialization consists of learning the role demands of society. For children, the reference group which prescribes role demands is composed of parents and peers; in contrast, adults refer to earlier friends, great figures in history, spirits.

Second, adult socialization necessarily builds on the foundations of childhood socialization. Berger and Luckmann (1966) suggest that this secondary socialization occurs on a shallower level. People may experience an inability to take on values and behaviour which contradict earlier learning (Brim, 1966), also described as resocialization (Campbell, 1975).

Finally, as peopl e move through the life cycle, the emphasis in socialization moves from motivation to ability and knowledge and from a concern with values to a concern with behaviour (Brim 1966). Childhood socialization develops primary motives while adult socialization focuses on secondary motivations. The motivation adults bring to a new environment will influence their socialization because unlike children, adults select their socialization experiences (Brim, 1968).

Adoption of technological innovations: This study is interested in the adoption of new technologies in general and does not focus on a particular category of adopters as proposed by Rogers (1983). Adoption refers only to the initial acceptance of an object. Rogers (1983) classified adopters of innovations into 5 categories: Innovators, early adopters, early majority, late majority and laggards. For initial and early adoption, decision-making is exposed to variables other than those incurred by the technology itself and is more possibly influenced by those variables (Ajzen and Fishbein, 1980; Karahanna *et al*., 1999; Rogers, 1983).

When examining the history of technology adoption research, many scholars in the social sciences have concentrated on the relationship between personal attitudes towards a new technology and the actual behaviour that derives from these attitudes. They often employ the Technology Acceptance Model or TAM which builds uponthe theories of reasoned action and planned behaviour, both of which argue that an individuals attitude towards a certain behaviour and perceptions about the individuals own performance will determine the actual execution of this behaviour (Fishbein and Ajzen, 1975; Ajzen, 1985).

TAM posits that the intention to use a new technology and its actual acceptance depend upon the manner in which people perceive a technology to be useful and easy to adopt. The model suggests that intention to use a technology is equivalent to actual usageacceptance.

The influence of peers on the adoption of technological innovations: Another important insight is that although impersonal marketing methods like advertising and media stories may spread information about new innovations but its conversations that spread adoption (Robinson, 2009). According to Robinson (2009) because the adoption of new products or behaviours involves the management of risk and uncertainty. Its usually only people that an individual personally know and trust and who have successfully adopted the innovation themselves who can provide credible reassurances that change and adoption won not result in negative consequences such embarrassment, humiliation, financial loss or wasted time.

They are on the lookout for advantages and tend to see the risks as low because they are financially more secure, more personally confident and better informed about the particular product or behaviour. Often, they will grasp at innovations on the basis of no more than a well worded news study. The rest of the population, however see higher risks in change and therefore require assurance from trusted peers that an innovation is do-able and provides genuine benefits.

As an innovation spreads from early adopters to majority audiences, face-to-face communication becomes essential in the decision to adopt. As suggested by Rogers (2003), this principle is embodied in the bass forecasting model which illustrates how face-to-face communication becomes in influential over time. Many diffusion-style campaigns now consciously attempt to utilise opinion leader techniques or various viral marketing methods. These methods which are becoming increasingly popular aim to recruit well-connected individuals to spread new ideas through their own social networks.

Both Rogers (1995) and Valente (1995), noted the importance and influence of interpersonal networks on the adoption of innovations by individuals. Rogers has discussed the concepts of homophily and heterophily in communication networks. Homophily is the degree to which a pair of individuals who communicate are

similar (Rogers, 1995). The common beliefs and understandings between the individuals increase the likelihood that communication will be effective. It is noted that homophilous communication can limit the spread of an innovation to the individuals within the same network.

This finding is validated in a study by Durrington *et al.* (2000) where a group of university facultys adoption of technology use was hindered due to lack of communication between friendship networks. In contrast, heterophilous communication is not as easy as homophilous communication due to differing beliefs but is crucial in diffusion in connecting dissimilar individuals. Valente (1995a), approaches the studying of diffusion of innovations from the standpoint of examining the social network of individuals. He pos its diffusion is a communication process in which adopters persuade those who have not yet adopted to adopt.

According to Valente (1995b), contagion is a term referring to an interpersonal process of how individuals monitor others and imitate their behaviour to adopt or not adopt innovations. The processes of cohesion, popularity or system-wide occurrence define the individuals in the network who influence others. Valentes relational diffusion networks reflect the idea that direct contacts between individuals influence the spread of an innovation. Rogers suggests researchers must understand the nature of networks if researchers are to understand fully the diffusion of innovations.

Based on a review of the literature earlier, it is propose that peer communication will have an effect on young adult adoption of technological innovations:

Proposition 1: Young adult consumers who communicate more frequently with their peers tend to adopt technological innovation earlier as compared to those who communicate less frequently with their peers.

The influence of peer on materialism: Pioneering studies in the domain of consumer socialization suggested that as a socializing agent, peers are more important than family for adolescents while young teenagers are more sensitive to the social meaning of consumption because of their strong self-expressive orientation (Moschis and Churchill, 1978; Moschis and Moore, 1978; Moschis and Mitchell, 1986). Moschis *et al.* (2009) have developed the life course approach is a recent interdisciplinary movement in consumer behaviour research that operated as an important overarching framework to study the development of materialism in Malaysia. In their study, a survey of young Malaysian adults (18-22 years) was undertaken to test hypotheses derived from the life course literature. Consistent with previous research findings, television viewing and peer communication during adolescent years had a significant association with materialistic values held by young Malaysian adults.

Santos and Fernandes (2011) explained that experiences in adolescence are of major importance in building patterns of behaviour, including in the adult phase. Drawing from socialization theory and studies on materialism, their study aimed to investigate the formation of materialistic behaviour among adolescents, researching the antecedent variables of this behaviour. A theoretical framework, based on 2 important research streams-socialization theory and socio-familiar structure was developed and tested through 2 surveys, the first one with 460 adolescents and the second with 190 just-adults. Specifically, the result of the study indicated that adolescents level of contact with their peers indicated higher degree of materialism.

Another recent study by Bindah and Othman (2012a), among young adult consumers in Malaysia has found significant differences between peer communication and materialism. The more frequently young adults interacted with their peers, the more likely they tended to be more materialistic.

Based on the empirical evidence derived from a review of literature on the effect of peer communication and materialism, the following proposition is made:

Proposition 2: Young adults consumers who communicate more frequently with their peers tend to be more materialistic in comparison to those who communicate less frequently with their peers.

The relationship between materialism and adoption of technological innovations: In an enlightening study by Donthu and Cherian on ethnic population, materialism was used to explain the hypothesized differences in the coefficient of innovation and the coefficient of imitation in the sub-groups. In their study, materialism was operationalized as valuing of relationships with money and material over relationships with people (Belk, 1985). The basic proposition was that those with higher materialism scores would be more likely to adopt innovations, implying higher coefficients of innovation. Conversely, those who had lower materialism scores should have lower coefficients of innovation. In their study, materialism was measured by a 6-item 5-point Likert scale and had a Cronbach alpha of 0.88. Their findings confirmed that those with low materialism scores have lower coefficients of innovation.

Based on the empirical evidence derived from the review of literature on the effect of materialism on adoption of innovation, the following proposition is made:

Proposition 3: Young adults consumers who are more materialistic will tend to be early adopter of technological innovation, in comparison to those who are less materialistic.

Justification of materialism as a mediating variable: Past studies have examined materialism as a dependent variable. Factors which were found to be correlated with materialism can be categorized as personal, social and behavioural and demographics. Past studies have treated these factors as antecedents of materialism. For instance, social utility, vicarious consumption reasons for viewing commercials and amount of money available were predictive of materialism. Social utility reasons for watching TV shows, social utility reasons for watching TV ads, peer communication and gender were all predictive of materialism.

Other studies have examined materialism as an independent variable. Past studies have been conducted to identify factors which were correlated with materialism. These factors were treated as consequences and include happiness, life satisfaction, conformity behaviour, antisocial behaviour, conspicuous consumption, compulsive consumption and impulsive consumption (Dawson, 2011; Weaver *et al*., 2011; Podoshen *et al*., 2011; Chavosh *et al*., 2011).

Recently, Bindah and Othman (2012b) have examined the influence of socialization agents on the compulsive buying among young adult consumers and the study has proposed materialism as a mediating variable in the relationship between family communication, television viewing and peer communication on the development of compulsive buying behaviour of young adult consumers. Another study by Bindah and Othman (2012c) which examined the effect of family communication on life satisfaction among young adult consumers have proposed materialism as a mediating variable, in the relationship between family communication and life satisfaction.

RESULTS AND DISCUSSION

The purpose of this study was to propose a conceptual model to provide a better understanding on how peer communication could exert its influence on young adults adoption of technological innovations. Based on theoretical and empirical evidence, this study first illustrated the direct effect of peer communication on young adults adoption of technological innovation. Next, the indirect effect of peer communication on young adults adoption of technological innovation was established by taking into account the effect of materialism as a mediator in the process. It has been proposed that young adult consumers who communicate more frequently with their peers would tend to adopt technological innovation earlier as compared to those who communicate less frequently with their peers. Secondly, young adult consumers who communicate more frequently with their peers would tend to be more materialistic in comparison to those who communicate less frequently with their peers. As a result of their high materialistic inclination, it has been proposed that young adults who are more materialistic will tend to be early adopter of technological innovation, in comparison to those who are less materialistic.

However, although this study has attempted to provide insight on young adults adoption of technological innovation, it has its own limitations. Careful consideration must be made in empirical testing of this model. As a general rule, assumptions in any case must and should always be avoided. Assuming that peer communication will exert the same amount of influence in all the 5 different categories of adopters of innovation would prove wrong. It could be that peer communication exert more influence among early adopters but exert less influence among late majority of adopters of innovation, or vice-versa. For instance, it could be that early adopters are on the lookout for advantages and tend to see the risks as low because they are financially more secure, more personally confident and better informed about the particular product or behaviour. Thus, peer communication may not have much effect on early adopters of technological innovativeness but more into other categories of adopters.

Lastly, this study was an attempt to build a conceptual model with attention to a particular stage of life cycle, i.e., young adult consumers. Studies showed that those with lower materialism were significantly older. Being older, also leads to lower coefficients of innovation and higher coefficients of imitation for the following 2 reasons:

- Older people are more resistant to change
- Having larger families and lower income leads to less discretionary income which in turn leads to a lower likelihood of adopting innovations perceived as non-essentials

Future, research could explore how these differences in life cycle stage would affect the adoption of technological innovation.

CONCLUSION

However, this study argues that the effect is not direct. This study proposes that the relationship between peer communication and the adoption of technological innovation could be indirect, through the relative mediating effect of materialism. Next, the relationship between materialism and the adoption of technological innovation is examined as well as how the antecedents of materialism. Finally, the study concludes with a discussion on the limitations and the possible areas of research which researchers could explore in the future.

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