

WHO ARE THE INFLUENTIALS?
THE RELATIONSHIP BETWEEN OPINION LEADERSHIP AND NEW
PRODUCT ADOPTION

A Master's Thesis

by

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Ankara

January 2013

To my beloved mother Sitare Kalaycı

**WHO ARE THE INFLUENTIALS?
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Graduate School of Economics and Social Sciences

of

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ABSTRACT

WHO ARE THE INFLUENTIALS? - THE RELATIONSHIP BETWEEN OPINION LEADERSHIP AND NEW PRODUCT ADOPTION

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This study examines innovativeness and self-construal as antecedents to self-reported and sociometric opinion leadership, both of which may affect new product adoption. In addition, innovativeness is proposed to be associated with new product adoption. First, this thesis shows that self-reported and sociometric measures of opinion leadership tap into different constructs. This current thesis proposes that sociometric measures reflect opinion leadership better. In addition, sociometric opinion leaders are true experts (Iyengar et al. 2011). Second, this study examines the relationships among innovativeness, self-construal, opinion leadership and new product adoption in order to clarify the relationships among these concepts. Thus, this study provides a unique framework to explain how opinion leaders should be identified.

ÖZET

ETKİLİ İNSANLAR KİMLERDİR?

KANAAT ÖNDERLİĞİ VE YENİ ÜRÜN BENİMSENMESİ İLİŞKİSİ

Akdevelioğlu, Duygu

Yüksek Lisans, İşletme Bölümü

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Bu çalışma kanaat önderliğinin ve ağ kimliğinin yeni ürün benimsenmesi üzerindeki etkilerini araştırmaktadır. Buna ek olarak, yenilikçiliğin ve benlik kurgusunun, kanaat önderliği ve ağ kimliğini nasıl etkilediğini inceliyoruz. Öncelikle, bulguların da belirttiği gibi, özbildirime dayanan kanaat önderliği ve ağ kimliğine dayanan kanaat önderliğinin farklı kavramları yansıttıklarını söyleyebiliriz. Bu tez ağ kimliğinin kanaat önderliği kavramını daha iyi açıkladığını göstermektedir. Ayrıca, ağ kimliğine dayanan kanaat önderlerinin gerçek uzmanlar oldukları gözlenmiştir (Iyengar ve diğerleri, 2011); ek olarak bu kimseler yeniliklere diğerlerinden daha fazla maruz kaldıkları için yeni ürünleri daha erken benimsedikleri görülmüştür (Goldenberg ve diğerleri, 2009). İkinci olarak, bu tez yenilikçilik ve benlik kurgusunun, kanaat önderliği ve ağ kimliğini nasıl etkilediğini göstermektedir. Böylece bu tez kanaat önderliğini açıklama konusunda eşsiz bir çerçeve sunmaktadır.

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CHAPTER 1

INTRODUCTION

Identification of opinion leaders is a major concern for businesses because they have outstanding impacts on various stakeholders including the company, customers, and society in general. In order to speed up the adoption of new products, marketers search for ways to determine and target opinion leaders; they are highly connected to information sources, and they are constantly exposed to innovations (Goldenberg et al., 2009). Secondly, they rarely ignore the information that others have (Iyengar et al., 2011) which results in knowledgeability about a particular product (Grewal et al., 2000). Lastly, they are more involved in new products than others (Goldenberg et al., 2009). Due to these, opinion leaders are more likely to adopt early.

Revealing the mechanisms underlying the relationship between opinion leadership and new product adoption is an interesting venue for both marketers and academics. Companies attach great importance to maximizing the speed of new product adoption (Kotler and Zaltman, 1976). Some companies have very successful practices of identifying and benefiting from opinion leaders. For instance, the toymaker Hasbro

used the power of opinion leaders when launching its new videogame called Pox in 2001. Marketers found the “coolest” kids in Chicago to spread out the new game and within a few weeks Hasbro managed to sell one million units (Godes and Mayzlin, 2004). Another example is Vocalpoint a website initiated by P&G, which consists of a network of influential mothers who are targeted with having a central network position (Iyengar et al., 2011). Through sharing their experiences using P&G products, P&G gained twice the total revenue compared to those markets without Vocalpoint (Ang, 2011).

To maximize the profit that leverages their marketing spending, marketers must identify and target the opinion leaders. Opinion leaders play an important role in the diffusion of innovations. Diffusion is defined as “the process by which an innovation is communicated through certain channels over time among the members of a social system” (Rogers, 2003: 5). As Keller and Berry (2003) note, opinion leaders are the people whom you call when you are seeking to get up to speed on something. They keep up with things that are new and have wide social networks for learning about new things and talking to people about these new things. Accordingly, social networks provide an appropriate context in order to identify influential consumers. As a result, social networks among consumers receive much attention from managers and marketing academics nowadays (e.g., Goldenberg et al., 2009; Iyengar et al., 2011; Van den Bulte and Lillien, 2010).

Moreover, today’s marketers face an environment in which the rapid changes in communications technology create communities of consumers rather than a multitude of isolated consumers. This complex business environment has generated new opportunities and challenges for firms. For example, online technology has a game-changing impact on consumer behavior. The companies must be well aware that their

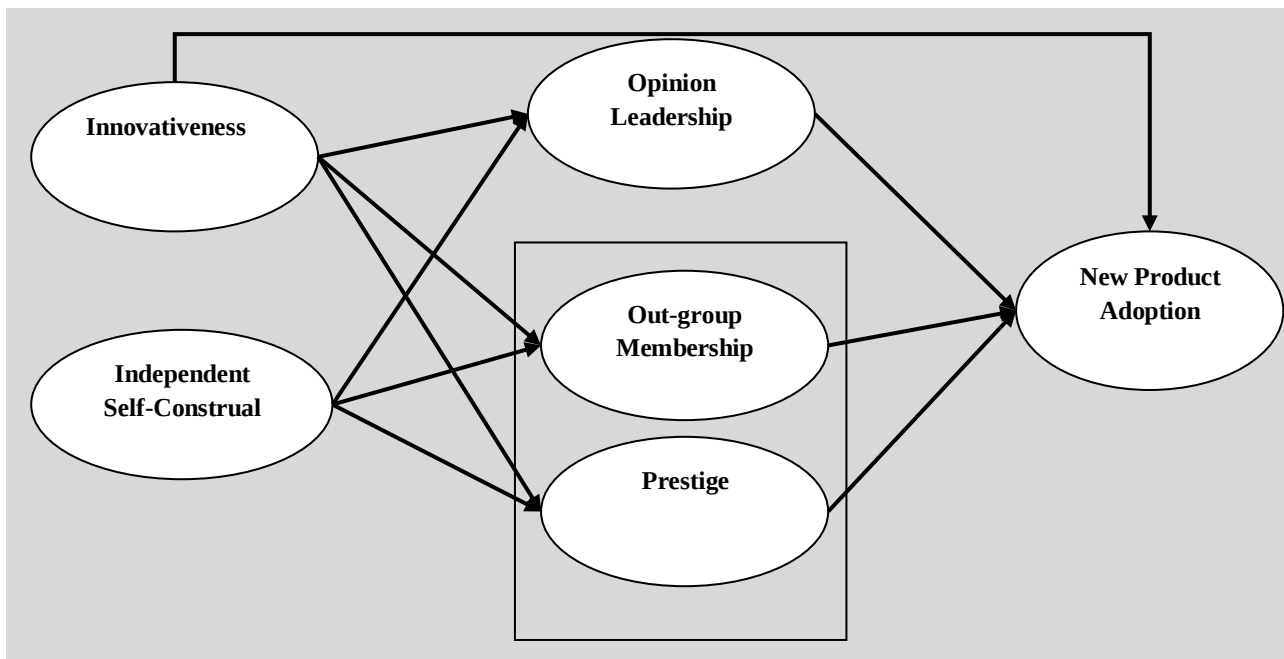
new prospective customers live on their smartphones and tablets, networking with friends; they support businesses in mobile and social networks. In other words, consumers are becoming interconnected through various sorts of social networks, a trend that is facilitated by recent advances in electronic media and telecommunication (i.e., Facebook and Twitter) (Wuyts et al., 2010). As more and more people explore social media, social networks have become one of the key elements for learning about products, organizations, and world events. Hence, it is very crucial to identify the opinion leaders that accelerate adoption of innovations.

Considering the significant impact of opinion leaders, a great deal of theoretical and empirical scholarly work has been devoted to advance the understanding of opinion leadership. More specifically, there exists extensive research on the relationship between opinion leadership and new product adoption that reflect the above-mentioned business practices. However, while some of these studies point out a positive relationship between opinion leadership and new product adoption (e.g., Hirschman and Adcock, 1978; Kotler and Zaltman, 1976), others express a negative relationship (e.g., Becker, 1970; Watts and Dodds, 2007). Iyengar et al. (2008, 2011) suggest that these contradictory results might be due to measurement or moderators or mediators between opinion leadership and new product adoption. For instance, most opinion leadership studies are based on self-reports (e.g., Grewal et al., 2000; Myers and Robertson, 1972; Midgley and Dowling, 1993; Summers, 1971); therefore, opinion leadership is identified by the extent to which individuals think of themselves as influential. In contrast, sociometric techniques identify influential consumers through their central position in networks. These opinion leaders are selected as being central in their social groups. This centrality is due to the large number of ties an individual has (Goldenberg et al., 2009). Using sociometric techniques to identify

opinion leaders has recently gained popularity (e.g., Goldenberg et al., 2009; Iyengar et al., 2011; Valente, 1996). Surprisingly, the studies that integrate self-reported opinion leadership and sociometric opinion leadership are limited (i.e., Iyengar et al., 2008, 2011; Molitor et al., 2011).

Since the findings of the studies examining the link from opinion leadership to new product adoption might be inconclusive due to measurement of opinion leadership, this study integrates self-reported and sociometric measures of opinion leadership and examines their relationship to new product adoption (Figure 1). The use of both self-reported and sociometric opinion leadership in a single study explores whether self-reported opinion leadership differs from sociometric opinion leadership in terms of predicting new product adoption.

FIGURE 1: Conceptual Model



In addition, this study aims to examine the theoretical linkage between opinion leadership and the two personality factors (i.e., innovativeness and self-construal). It is of importance since no earlier research has analyzed the impact of innovativeness and

self-construal together in a conceptual framework. Innovativeness and self-construal are identified as antecedents of opinion leadership. First, innovativeness appears to be an important driver of self-reported opinion leadership in the literature (Baumgarten, 1975; Darden and Reynolds, 1974; Grewal et al., 2000; Hirschman and Adcock, 1978; Katz, 1962; Midgley and Dowling, 1973; Myers and Robertson, 1972; Robertson and Myers, 1969; Summers, 1971; Valente, 1996). In addition, earlier studies highlight the overlap between innovativeness and self-reported opinion leadership. In these studies, some indicate strong or intermediate overlap (Darden and Reynolds, 1974; Gatignon and Robertson, 1985; Goldsmith et al., 2003; Grewal et al., 2001); whereas others note moderate or small overlap (Myers, 1969; Myers and Robertson, 1972; Robertson and Myers, 1969; Summers, 1971). However, the relationship between innovativeness and sociometric opinion leadership has not been extensively investigated. There are only a few studies on this relationship and they show a positive relationship between them (Becker, 1970; Valente, 1996). Thus, innovativeness and sociometric opinion leadership relationship needs further investigation. To better explain the relationship between innovativeness and opinion leadership, this thesis relates innovativeness to self-reported and sociometric opinion leadership.

Second, self-construal is defined as how individuals perceive themselves to be linked with other people (Markus and Kitayama, 1991). This is an uncovered personality dimension that is related to opinion leadership. Although, prior literature discusses social identity (Grewal et al., 2000) and social participation (Rogers and Cartano, 1962) as drivers of opinion leadership, this study is unique to explain opinion leadership through self-construal which represents definition of self.

A deeper understanding of opinion leadership has important implications for the marketing practice. The purpose of this thesis is rooted in the necessity of social

network methods of identifying opinion leaders so that researchers and practitioners can benefit from this methodological standpoint when designing an opinion leadership strategy and attempting to diffuse an innovation in a social system.

Overall, the proposed conceptual model links innovativeness and self-construal to self-reported and sociometric opinion leadership, both of which may influence new product adoption (Figure 1). Also, innovativeness is expected to be associated with new product adoption. Hence, the primary goal of this study is to show how self-reported and sociometric measures of opinion leadership may influence product adoption.. This study proposes that sociometric measures may reflect opinion leadership better because self-reports mainly capture self-confidence; therefore, they are upwardly biased (Iyengar et al., 2011). In addition, sociometric opinion leaders are true experts; therefore, they rarely ignore the information/user experiences that others have (Iyengar et al., 2011) and they adopt early because they are constantly exposed to innovations (Goldenberg et al., 2009). The second goal of this thesis is to study the relationships among innovativeness, self-construal, opinion leadership and new product adoption in order to clarify the confusions about the relationships between innovativeness and opinion leadership as well as to examine what other personality factors (i.e. self-construal) may influence opinion leadership. Hence, this study provides a unique perspective to explicate how opinion leaders should be identified.

The following chapters are structured as follows: firstly, a review of the literature on innovativeness, opinion leadership and new product adoption is provided. Secondly, the conceptual framework of the current study is presented. Next, methodological procedure, hypotheses, and findings are explained. The paper concludes by discussing its theoretical contributions, managerial and academic implications, as well as limitations of the study and future research directions.

CHAPTER 2

THEORY

2.1 Opinion Leadership

The process dynamics of acceptance of new ideas, products and tastes, in addition to their spread through a society, has been of concern to social scientists. In a social structure, there are individuals who contribute to the opinion formation of their peers on a particular subject. These influential people are the kind of people you turn to when you need help with what to buy, where to eat, and for whom to vote (Keller and Berry, 2003). In recent decades, the channel to person-to-person word of mouth among friends and family has gained importance. Individuals perceive their so-called peers (e.g., friends, relatives) as more credible and trustworthy than commercial information sources (Busch and Houston, 1985). Indeed, earlier marketing studies indicated that the more favorable information from peers, the more likely that an individual is to adopt (Arndt, 1967).

This personal influence is named as *opinion leadership* in the adoption and diffusion of innovations studies. Rogers and Cartano (1962: 435) explain the function of opinion leadership as follows:

“Before making decisions, individuals often seek to reinforce their opinions through “consensual validation” with certain others. Among these certain others are individuals who exert an unequal amount of influence on the decisions of others: they are called opinion leaders. Opinion leaders are defined as those individuals from whom others seek advice and information.”

There are two main criteria to derive opinion leadership: expertise / knowledgeability and connectivity / connectedness (Wuyts et al., 2010). First, opinion leaders are considered to be the source of information due to their expertise about a certain topic (Childers, 1986). For example, in the case of new products, consumers seek out information from people who have expert knowledge in the field. This information is not only technical understanding but also product conceptualizations, risk factors, compatibility and procedural knowledge related to that particular product; therefore opinion leaders convey very useful information to mainstream consumer (Wuyts et al., 2010).

Second, opinion leaders do not only have a great deal of knowledge but also they also transfer it to the others in their network (Wuyts et al., 2010). Connectivity indicates the degree to which an individual is in relationship to others. A study by Katz (1960) shows that opinion leaders play a fundamental role in connecting the members of a network by managing the information inflows and outflows among them. Indeed, the term *opinion leader* originated with a study of the 1940 American presidential election (Lazersfeld et al., 1944) and focused on the connectedness of individuals. Their main finding was that ideas flow from mass media to opinion leaders and from opinion

leaders to other less influential members of the society. This breakthrough finding convinced the diffusion of innovation researchers that social relations are fundamental in the spread of ideas. This is also consistent with Rogers and Cartano's (1962) argument that opinion leaders connect to others by their personal influence. For example, in a study of the diffusion of drugs among medical practitioners, Coleman, Katz and Menzel (1966) demonstrated that the diffusion of drugs spread through professional and friendship networks. Since then, opinion leadership has been utilized in a wide range of research areas such as marketing, public opinion, communications, health care, education, and agriculture. Among these disciplines, there is an agreement that opinion leaders have a tremendous impact on the opinion formation of other people.

Specifically, in marketing, many strategies are rooted in the assumption that companies need to and should be able to identify and target opinion leaders. Rogers and Cartano (1962) discuss three ways to identify these influentials. The first technique is self-reports which ask survey respondents the extent to which they perceive themselves to be opinion leaders. In this method, individuals are confronted by an opinion leadership scale to assess their self-reported opinion leadership. The level of opinion leadership is determined by the scores on the opinion leadership scale. Self-reports have been the most popular technique among marketing researchers. The second identification method is sociometric technique, which is usually attained through the centrality of an individual in a particular social system. For instance, sociometric opinion leaders can be identified as individuals in a social system whom others go to for advice on a certain topic (Rogers and Cartano, 1962). The individuals who receive the most nominations are considered to be opinion leaders (Valente and Pumpuang, 2007). The third method of identification is key informant technique in

which selected people are asked to report their opinion about who the opinion leaders are. Although the self-reports is the most frequently used technique among marketing scholars, the sociometric technique is becoming more popular among social network academics.

The link between opinion leadership (self-reported and sociometric) and new product adoption has been widely investigated in the literature. Findings of some earlier studies indicate that self-reported opinion leadership and new product adoption are positively related to each other (i.e., Baumgarten, 1975, Burt, 1987, Iyengar et al., 2008, 2011, Kotler and Zaltman, 1976, Rogers, 1983, Summers, 1971, Van den Bulte and Lillien, 2001). In addition, there are studies that show a positive relationship between sociometric opinion leadership and new product adoption (Burt, 1987, Coleman et al., 1966, Goldenberg et al., 2009, Granovetter, 1983, Iyengar et al., 2008, 2011, Valente, 1996). However, Becker (1970) shows a negative relationship between sociometric opinion leaders and new product adoption. In addition, Watts and Dodds (2007) indicate in their simulation study that opinion leaders are less important than it is generally supposed in the adoption of innovations process. A non-significant relationship between sociometric opinion leadership and new product adoption was demonstrated by Van den Bulte and Lillien (2001).

These conflicting results raise doubts about the value of self-reported and sociometric measures. It is debatable whether the results of these studies identify the opinion leaders that speed up innovation adoption process or not and whether both opinion leadership constructs have the same relationship with new product adoption (nomological validity).

Some research identifies potential reasons that opinion leaders adopt early. First, as Iyengar et al. (2008) suggest, sociometric opinion leaders are the true sources of

influence because they are people whom others turn to for their expertise. Furthermore, opinion leaders are greatly exposed to innovations due to their connectedness to others. These motivate opinion leaders to adopt early. Second, self-reported opinion leadership shows the extent to which one perceives her own opinion leadership status. This may be an important signal of opinion leadership, even more important than the true status. For example, if a person considers herself/ himself an opinion leader, she/he will consider adopting a new product a necessity in order to continue her perceived status. Finally, both self-reported and sociometric opinion leaders may adopt early because they do not want to be outpaced and fear status erosion (Iyengar et al., 2010). Considering these reasons, opinion leaders are supposed to adopt early. However, the contradictory results on the relationship between opinion leadership and adoption might stem from the use of self-reports because self-reported opinion leaders may have an exaggerated self-importance so that they may not care about adopting new products to remain in their status of opinion leadership (Berger and Heath, 2007; Van den Bulte and Joshi, 2007).

In addition, it is very surprising that there is only a limited number of studies that integrate self-reported and sociometric opinion leadership (i.e., Iyengar et al., 2008, 2011; and Molitor et al., 2011). Although these studies demonstrate a positive relationship between self-reported and sociometric opinion leaders and clarify the validity of these constructs, how they have not been investigated in a nomological network. Hence, this current thesis investigates the relationship between different measurements of opinion leadership and examines their role in new product adoption. Furthermore, this study aims to identify the personality factors that may be associated with opinion leadership.

2.1.1 Self-Reported Opinion Leadership and New Product Adoption

Many marketing researchers have attempted to assess the relationship between opinion leadership and adoption behavior (Gatignon and Robertson, 1985). The link between opinion leadership and new product adoption has been investigated in the literature; however there are contradictory results. Findings of earlier studies indicate that opinion leadership and adoption are positively related to each other (e.g., Baumgarten, 1975; Iyengar et al., 2008, 2011; Kotler and Zaltman, 1976; Rogers, 1983; Summers, 1971; Van den Bulte and Lillien, 2001). However, some studies debate about the influence of opinion leaders on new product adoption (Becker, 1970; Goldenberg et al., 2009; Leonard-Barton, 1985; Watts and Dodds, 2007; Van den Bulte and Lillien, 2001). Valente and Pumpuang (2007) even argue that opinion leaders are not necessarily the earliest adopters although they are the first ones that accept an innovation before the majority.

This study aims to provide fruitful insights into this debate by first examining self-reported opinion leadership and the link to new product adoption. The substantial similarity between the empirically specified characteristics of opinion leaders and early adopters raise the question of the extent to which opinion leaders are adopters.

Self-reported opinion leaders may be more or less sensitive to adoption than the others in their social groups. Many studies of social identity and status argue that individuals with a high sense of self-importance may not be concerned about whether the low-status individuals adopt or not (Berger and Heath, 2007; Van den Bulte and Joshi, 2007). Conversely, the status competition implies individuals may adopt early when they see the low status adopting and fear they are falling behind. According to Burt (1987), high status individuals adopt early in order not to preserve their status

advantage. Therefore, there is no conclusive answer to whether self-reported opinion leadership is positively related to new product adoption. Hence, this study intends to offer an adequate explication to this inconclusive question.

2.1.2 *Sociometric Opinion Leadership and New Product Adoption*

Until recently, sociologists and social network analysts mainly used the sociometric method to discover influential opinion leaders in social networks (e.g., Valente et al., 2003; Coleman et al., 1966). A social network, “the pattern of friendship, advice, communication or support which exists among the members of social system”, is needed to be identified for sociometric analysis (Valente, 1996: 70). Social network analysis provides a strong framework to understand social differentiation in a network that involves social relational patterns among actors (Burt, 1980). Actors in the network interact with each other and build a structure (Wasserman and Faust, 1994). Furthermore, they are tied to each other with social ties consisting of evaluation of one individual by another, transfer of material resources, affiliation such as belonging to the same club and behavioral interaction such as talking together and sending messages (Wasserman and Faust, 1994).

In this study, an *ego-centered* network approach is used. An ego-centered network can be defined as “the subset of overall network that exists among the partners in an individual’s network” (Monge and Contractor, 2003:39). Ego-centered networks record the relations among a focal individual named *ego* and its social circle (Wasserman and Galaskiewicz, 1994). Specific communication roles such as opinion leadership can be extrapolated through heterogeneity which is one of the individual determinants of ego-centered networks. Sociometric opinion leaders utilize a greater

number of outside sources to get information about new products than non-opinion leaders (e.g., Becker, 1970; Coleman et al., 1966; Rogers, 1962). In addition, heterogeneity is used to identify sociometric opinion leaders in the literature (Iyengar et al., 2011). Since this study utilizes ego-centered networks rather than complete networks, common heterogeneity measures that needs complete network data cannot be used. Therefore, a new construct called *out-group membership* is established for the purpose of identifying heterogeneity. In other words, to evaluate to what extent an individual has different information sources; *out-group membership* is used in this study.

Having access to different “out-groups” provides the individual better sources of information from people having different demographic attributes, intellectual backgrounds, occupational and international experiences. Greater heterogeneity allows for transfer of different knowledge through access to diverse groups of individuals. Out-group contacts are essential because individuals who have high out-group membership play a key role in the information flow. They have relationships that bridge the gap between groups that may otherwise have no contact.

An individual may be a sociometric opinion leader not only because people within his group seek for advice but also because of whom he/she knows outside the group. For example, Weimann (1982) proposes a model in which less-connected marginal provide information to sociometric opinion leaders and then opinion leaders influence others. These marginal individuals can be thought as “weak ties” because they are the people whom the opinion leader interacts less frequently compared to “strong ties” such as family and friends (Granovetter, 1973).

Identification of the “most important” actors in a network is one of the primary uses of social network theory. Such actors are called “central” or “prestigious”. *Central actors* in a network are extensively involved in relationships with other actors. The direction of the relation is not important in centrality, in other words, what matters is the involvement of the actor with others through many ties. Whereas prestige is a more refined concept than centrality in which the directionality is important. A prestigious actor is an individual who is the object of the relationship. Therefore, prestige increases as the ties directed to that individual increases. Centrality and prestige are used in the literature to identify sociometric opinion leaders (Becker, 1970; Valente, 1996; Goldenberg et al., 2009).

Social network analysis has gained popularity among marketing researchers due to new insights into social structures of potential consumers (e.g., Goldenberg et al., 2009; Kratzer and Lettl, 2009; Nair et al., 2008; Van den Bulte and Lilien, 2001). The role of sociometric opinion leadership in new product adoption has been examined in numerous studies (e.g., Burt, 1987; Coleman et al., 1966; Goldenberg et al., 2009; Granovetter, 1983; Iyengar et al., 2008; Leonard-Barton, 1985; Valente, 1996; Van den Bulte and Lillien, 2001).

Opinion leaders are exposed to specific media content and are informed of new things by outside sources and selectively pass the related information along to their peers (Katz, 1957). Sociometric method determines the opinion leaders from whom individuals get the information about the innovative product. Since they rarely ignore the information or user experience others have, they are said to be true experts. Furthermore, sociometric opinion leaders adopt early because they are constantly exposed to an innovation compared to non-central actors in the social network (Goldenberg et al., 2009).

On the other hand, opinion leaders do not need to be early adopters of relevant innovation because there are sources other than personal experiences of opinion leaders that motivate consumers to buy products (Leonard-Barton, 1985). In addition, it is not certain whether the information taken from opinion leaders leads to the adoption of an innovation. Besides, opinion leaders need not to be opinion leaders because factors such as the norms of the surroundings (Rogers and Svenning, 1969). Therefore, “not all opinion leaders need not be adopters and all adopters need to be opinion leaders” (Leonard- Barton, 1985: 915).

Thus, there is need to examine the relationship between sociometric opinion leadership and new product adoption in order to demonstrate whether self-reported and sociometric opinion leaders may differ in terms of their new product adoption behavior.

2.2 Antecedents to Opinion Leadership

Some research has been conducted to identify social characteristics of opinion leaders (e.g., Myers and Robertson, 1972; Summers, 1970). Earlier studies either identified the typology of individual predispositions or profiled individuals according to their characteristics in the adoption process (Baumgarten, 1975; Midgley and Dowling, 1993). A number of personal self-description factors (e.g., impulsiveness, intellectual interest) have been investigated in the literature (Baumgarten, 1975). In addition to these, individual predispositions (e.g., experimentation) and interpersonal communication characteristics (e.g., social participation, gregariousness) are

examined and found to be central to the diffusion process (Midgley and Dowling, 1993).

In spite of these efforts, the concept of opinion leadership has still been related to a lingering theoretical and methodological debate. Hence this study aims to analyze the theoretical linkage from innovativeness and self-construal to opinion leadership. Firstly, innovativeness that is defined as “the desire to seek out the new and different” does appear to be an important antecedent to opinion leadership (Hirschman, 1980: 285).

Various studies indicate a positive relationship between innovativeness and self-reported opinion leadership (e.g., Baumgarten, 1975; Becker, 1970; Darden and Reynolds, 1974; Gatignon and Robertson, 1985; Goldenberg et al., 2009; Grewal et al., 2000; Hirschman and Adcock, 1978; Midgley and Dowling, 1993; Myers and Robertson, 1972; Robertson and Myers, 1969; Summers, 1971; Valente, 1996). However, the extent to which opinion leadership relates to innovativeness is subject to some confusion (King, 1963; Robertson and Rossiter, 1968). Results generally support previous findings by showing a significant but rather moderate relationship between opinion leadership and innovative behavior; therefore, opinion leaders, while higher on innovativeness, may not be innovators (Myers and Robertson, 1972). Secondly, self-construal that refers to how individuals perceive themselves to be linked with other people (Markus and Kitayama, 1991) is an uncovered antecedent to opinion leadership. Although some studies investigated opinion leadership while profiling national-level cultural self-construals (i.e., individualism/collectivism) on opinion leadership (Dutta-Bergman and Wells, 2002; Wang, 2000), surprisingly, there are no studies on the relationship between self-construal (individual-level) and opinion leadership. Hence, the goal of this current thesis is to reveal the personal antecedents

to opinion leadership to better understand the opinion leadership and new product adoption phenomena in a comprehensive manner.

2.2.1 *Innovativeness and Opinion Leadership*

Innovativeness is the degree to which an individual is relatively earlier in adopting new ideas than the others in a system (Rogers, 2003). Adopter categories-innovators, early adopters, early majority, late majority and laggards- classify members of a social system based on their level of innovativeness (Rogers, 2003). In these categories, marketing studies have largely focused on developing a greater understanding of the characteristics of innovators, the first adopters of a product, and opinion leaders, who are characterized as early adopters, to clarify the process of how new ideas and products diffuse in a social system. In addition, innovativeness shows the degree of openness to experience which is one of the Five Factor Personality Traits. Openness to experience represents an individual's receptivity to new ideas and experiences (Korukonda, 2007).

Opinion leadership has been shown to be essential in identifying innovators (Chan et al., 1990). In addition, members of these two adopter categories have a great deal in common. For example, both groups are highly exposed to media and their social environment and both have expertise about their particular product/topic of interest (Rogers, 2003). A concept that combines these two constructs, *the innovative communicator*, coined by Baumgarten (1975), shows an above average score in both innovativeness and opinion leadership. In innovative communicator studies, the relationship between innovativeness and opinion leadership is analyzed and found to be positive (e.g., Baumgarten, 1975). In addition, Kotler and Zaltman (1976) argue

that innovative communicators play a more critical role in the diffusion of innovations, because focusing only on opinion leaders may not be enough to capture all of the adopter categories. They indicate that diffusion of innovations theory lacks the capability to identify the relationship between adopter categories.

Empirical evidence of overlap between innovators and self-reported opinion leaders has been demonstrated in the literature (Midgley and Dowling, 1993; Summers, 1970). Numerous studies point out a positive relationship between innovativeness and self-reported opinion leadership (i.e., Darden and Reynolds, 1974; Gatignon and Robertson, 1985; Grewal et al., 2000; Hirschman and Adcock, 1978; Midgley and Dowling, 1993; Myers and Robertson, 1972; Robertson and Myers, 1969; Summers, 1971). In addition, some studies indicate positive relationship between innovativeness and sociometric opinion leadership (e.g., Becker, 1970; Valente, 1996; Goldenberg et al., 2009). In some studies, innovativeness and opinion leadership terms are used interchangeably (e.g., Baumgarten, 1975). However, some studies find moderate effect between these constructs (King, 1963; Robertson and Rossiter, 1968).

There are disappointing results on the relationship between opinion leadership and innovativeness. King (1963) claimed that there is not a statistically significant difference between those who adopt early and late. Furthermore, Myers and Robertson (1972) and Robertson and Myers (1969) found moderate/small overlap between self-reported opinion leadership and innovativeness.

Researchers claim that opinion leaders may not always be innovators (Becker, 1970; King, 1963; Myers and Robertson, 1972; Valente, 1996). One reason is that opinion leaders are conservative and they need to adhere to group norms (Homans, 1950). Therefore, sociometric opinion leaders are more receptive to innovations and adopt early when group norms support that specific innovation (Becker, 1970; Valente,

1996). Another reason is that sociometric opinion leaders might have their status not because they are innovative but rather because they are exposed earlier to an innovation (i.e. due to high connectivity) (Goldenberg et al., 2009).

Earlier studies lack the ability to utilize sociometric opinion leadership (Hirschman and Adcock, 1978; Midgley and Dowling, 1993). The conflicting results between aforementioned constructs might be a result of this. This study presents and integrates both opinion leadership constructs and provides an extended framework to resolve the confusion about the relationship between innovativeness and opinion leadership.

2.2.2 *Innovativeness and New Product Adoption*

Earlier studies demonstrated innovativeness as a generalized trait with a high abstraction level. Innovativeness can be defined as the willingness to change or an inherent desire for novelty and creativity (Hirschman, 1980; Hurt et al., 1977; Manning et al., 1995; Im et al., 2003). In other words, innovativeness is the desire to try new ideas and experiences. In this regard, it highly corresponds to *openness to experience* which is one of the Five Factor Personality Traits (Shavina, 2003; Wells and Foxall, 2012). Innovativeness has received considerable attention from consumer researchers (e.g., Hirschman, 1980; Im et al., 2003; Midgley and Dowling, 1978; Rogers, 1983). It is demonstrated in different conceptualization levels of generality/specificity or abstract/breadth (e.g., innate innovativeness, domain specific innovativeness, actualized innovativeness, dispositional innovativeness) (Clark and Watson, 1995; Goldsmith et al., 2003).

Firstly, innate consumer innovativeness is defined as a “generalized unobservable predisposition toward innovations applicable across product classes” (Im et al., 2003:

62) Goldsmith and Hofacker (1991) and Goldsmith et al. (1995) named this *global innovativeness*. Marketing researchers focused on this generalized trait to segment individuals according to their personality and cognitive style, such as processing information or approach to problem solving (Foxall, 1988; Kirton, 1976; Midgley and Dowling, 1978).

Secondly, domain specific innovativeness tries to explain consumer behavior in one's specific interest domain (Midgley and Dowling, 1978). It aims to figure out the extent to which one has a tendency to purchase new products or related information about a specific category (Goldsmith and Hofacker, 1991).

Thirdly, another stream of research is actualized innovativeness which is the actual acquisition of new information, ideas, and products (Hirschman, 1980; Midgley and Dowling, 1978). In this stream, new product adoption is defined as the degree to which an individual adopts innovations earlier compared to other members in his or her social system (Rogers and Shoemaker, 1971). Here, there is a great overlap between new product adoption and actualized innovativeness. Numerous indirect measures are used to identify this behavior, including the number of products owned (e.g., Foxall, 1988; Rogers, 1955), ownership of a particular product (e.g., Dickerson and Gentry, 1983) and relative time of adoption for a particular product (e.g., Midgley and Dowling, 1993; Rogers and Shoemaker, 1971).

Lastly, Midgley and Dowling (1978) and Hirschman (1980) argue that the distinction between the underlying predisposition of consumer innovativeness and the time of adoption for an innovation must be made because time of adoption is not an individual characteristic and varies from innovation to innovation (Steenkamp et al., 1999). Therefore, differentiation between innovativeness and adoption behavior was widely accepted in marketing studies (e.g., Manning et al., 1995; Steenkamp et al., 1999;

Venkatraman and Price, 1990). The most recent approach which makes the distinction between adoption and innovativeness is dispositional innovativeness, which is defined as “the predisposition to buy new and different products and brands rather than remain with previous choices and consumption patterns” (Steenkamp et al., 1999: 56).

A good understanding of the process of adoption of innovations requires a detailed investigation of innovativeness because it is an essential trait in diffusion and adoption processes (Gatignon and Robertson, 1991). The success of new consumer products lies behind the construct of innovativeness, which introduces the product (innovation) to the social system (Rogers, 1995). Therefore, those early adopters are considered to be more innovative than those who adopted later (Leonard-Barton, 1985). Although consumer innovativeness has been argued to differentiate early adopters from general consumers (Manning et al., 1995; Steenkamp et al., 1999), many studies raised concerns that innovativeness may not discriminate early adopters from late adopters (e.g., Robertson et al., 1984; Steenkamp and Baumgartner, 1992). Some studies claim that individuals high in innovativeness may not adopt early (Foxall, 1988; Goldenberg et al., 2009; Steenkamp and Baumgartner, 1992; Steenkamp et al., 1999; Roehrich, 2004).

The goal of this study is to reexamine the basic concepts of adoption process to overcome confusing conceptualizations. This study provides an advanced framework of innovativeness, new product adoption and opinion leadership in order to reach a better understanding about the adoption of innovations. It aims to untangle confusion on the relationship among the aforementioned constructs.

2.2.3 *Self-construal and Opinion Leadership*

The crucial role of opinion leadership in the adoption of innovations process makes it obligatory to understand its antecedents. Opinion leaders' influence on others is direct and develops from their informal status such as being highly informed, respected, or simply connected (Watts and Dodds, 2007). Because opinion leadership is influenced by the connectedness among network members, self-construal is viewed as a relevant personality factor that may have an effect on opinion leadership. Self-construal is a constellation of thoughts, feelings, and actions concerning one's relationship to the self, such as being distinct from others or connected to others (Singelis, 1994). In other words, self-construal is about how individuals perceive themselves to be linked with others. Therefore, self-construal may affect opinion leadership through influencing to what extent opinion leaders are connected to others.

In the literature, certain personal antecedents of opinion leadership have been investigated. These previous research findings indicate that opinion leaders have been shown to be more gregarious, cosmopolite, socially active (Baumgarten, 1975); and well integrated into peer social groups (Baumgarten, 1971; Summers, 1970). Earlier studies demonstrated idiocentrism (person-level individualism) (Dutta-Bergman and Wells, 2002), cultural-level self-construal and connectedness (Wang, 2000) as drivers of opinion leadership. In addition, opinion leaders are different from others in terms of information sources, cosmopolitanism, social participation, and social status (Rogers and Cartano, 1962). Furthermore, opinion leaders tend to be more effective in their social relationships and their communications with others.

For Markus and Kitayama (1991), an individual with an independent self-construal acts according to their own thoughts rather than others' thoughts, feelings and actions.

In addition, self-achievement and being unique is important for them. Independent self-construals tend to behave independently from the group decisions. Markus and Kitayama (1991) argue that self-construal of an individual influences cognitions, emotions and motivations. Accordingly, independent self-construals are less sensitive to other group members' ideas and decisions compared to those who are interdependent. Moreover, independents are not interested in seeing themselves as a part of the group. For independents, self-actualization and their personal independence are very important. They are likely to emphasize their internal abilities, thoughts and feelings, uniqueness and self-expression. Furthermore, they pay importance to promoting their goals and they are direct in communication. They evaluate others and events through their individual achievements and properties. On the other hand, individuals with an interdependent sense of self are focused predominantly on their relationships with in-group members. An interdependent self-construal values external, public features such as statuses, roles, and relationships; belonging and fitting in; occupying one's proper place and engaging in appropriate action. These two concepts of the self are not mutually exclusive; any one person can have both independent and interdependent self-construals that are different in strength of emphasis.

This thesis aims to explicate how and why self-construal is related to opinion leadership. Individuals with independent self-construal have a strong emphasis on being *unique*. In addition, high levels of competition and achievement are highly valued by independent self-construals. More importantly, expression of self is essential for independents. Opinion leaders are likely to be independents since opinion leaders' degree of exposure and connectivity are affected by uniqueness, self-expression and competition because they provide higher *status*.

Consequently, although some studies examined opinion leadership while trying to find out lifestyle characteristics and values of cultural self-construals (i.e., individualism/collectivism), (Dutta-Bergman and Wells, 2002; Wang, 2000), there are no studies on the relationship between self-construal (individual-level) and opinion leadership. Therefore, the goal of this current thesis is to bridge this gap and identify the personal and sociological antecedents to opinion leadership to discover opinion leadership phenomena in a more complete frame.

CHAPTER 3

HYPOTHESES

3.1 Antecedents to Self-reported and Sociometric Opinion Leadership

A number of studies have investigated personality variables as antecedents of opinion leaders in the literature (e.g., Baumgarten, 1975; Midgley and Dowling, 1993; Myers and Robertson, 1972; Summers, 1970). Social characteristics (e.g., sociability, social participation, gregariousness, dating frequency) and psychological self-description factors (e.g., experimentation, impulsiveness, and intellectual interest) have been investigated in the literature (Baumgarten, 1975; Midgley and Dowling, 1993).

In order to identify the underlying motives of opinion leadership, this study proposes personal (i.e., innovativeness, self-construal) antecedents to opinion leadership. These constructs are chosen for the purpose of explicating the basic components of opinion leadership, expertise and connectivity. Innovativeness has been investigated to be an antecedent to opinion leadership (e.g., Gatignon and Robertson 1985; Midgley and Dowling 1993). Innovators' desire to seek out what is new leads to a considerable

accumulation of knowledge and expertise about a particular subject/product. Therefore, innovativeness is claimed to affect opinion leadership. Self-construal is about how people perceive themselves to be linked with others. This is proposed to explain the “connectedness” component of opinion leadership. The degree of connectedness is highly related to whether one is an independent self-construal or not. This is the first study to analyze these constructs in a conceptual framework, and therefore, it is essential for increasing the understanding of the opinion leadership phenomenon.

3.1.1 Innovativeness and Opinion Leadership

In adoption of innovations research, it is important to identify the relationship between innovativeness and opinion leadership. Some studies have used these terms interchangeably (e.g., Baumgarten 1975) because they are thought to be similar constructs.

Opinion leaders are among the early adopters of an innovation. They are said to be less dogmatic, more innovative and more venturesome (Weimann, 1994). Innovators continuously search new ideas and practices and through this search they have a great deal of knowledge and expertise about their product of interest. Both innovators and opinion leaders are knowledgeable, enthusiastic and influential (Goldsmith et al., 2003). This study makes an attempt to further explain the relationship between innovativeness and self-reported opinion leadership and offers a positive relationship between the two constructs.

A number of studies indicate a positive relationship between innovativeness and self-reported opinion leadership (e.g., Darden and Reynolds 1974; Gatignon and

Robertson 1985; Grewal et al. 2000; Hirschman and Adcock 1978; Midgley and Dowling 1993; Myers and Robertson 1972; Robertson and Myers 1969; Summers 1971). Some studies found moderate effect between these constructs (King 1963; Myers and Robertson 1972; Robertson and Myers 1969; Robertson and Rossiter 1968). For example, Robertson and Myers (1969) indicate that innovativeness and self-reported opinion leadership may overlap but the degree of overlap is small because correlation between these constructs are around .60. Although these constructs correlate each other in certain product categories (i.e., appliance and clothing), they do not correlate in other categories (i.e., food).

Consistent with the literature, innovativeness is expected to enhance opinion leadership because opinion leadership necessitates being open to new ideas and practices (Midgley and Dowling, 1978; Robertson et al., 1984; Rogers, 1983).

H₁: Innovativeness is positively related to self-reported opinion leadership.

Most of the earlier studies lack the capability to utilize sociometric opinion leadership. Hirschman and Adcock (1978) and Midgley and Dowling (1993) advocated the use of network analysis to demonstrate the relationship between innovativeness and opinion relationship more accurately.

There are a limited number of studies utilizing sociometric opinion leadership. Earlier studies claim that prestige may not be related to innovativeness because of the structure and norms of the network and nature of the opinion leadership (i.e., fashion, medical) (Valente, 1996). Moreover, Goldenberg et al. (2009) indicate that having many connections does not necessarily make an individual an innovator. They further argue that the prestige of opinion leaders does not stem from their innovativeness but

their connections. Even though they are not innovative, they are constantly exposed to an innovation; therefore, they have the necessary knowledge to be an opinion leader through innovative individuals they are connected to.

In Valente (1996) sociometric opinion leadership is measured by the number of network nominations received. This can be associated to *prestige* that the individual has in the network. For example, *prestige* in a medical community that has a highly hierarchical structure is less affected by innovativeness compared to rural women community because certain important standards such as excellence of the medical school attended are more important than being innovative. In rural women community, opinion leadership on modern family planning is associated with innovativeness because it depends on the degree of wealth and modernity. Thus, it is hypothesized that innovativeness affects prestige positively.

H_{2a}: Innovativeness is positively related to prestige.

Sociometric opinion leaders utilize a greater number of outside sources to get information about new products and ideas (e.g., Becker, 1970; Coleman et al., 1966; Rogers, 1962). This shows the level of *out-group membership* an individual has. To what extent an individual benefits heterogeneous information sources is associated with sociometric opinion leadership (Iyengar et al., 2011). Out-group membership refers to having access to multiple *out-group* sources of information through communicating with individuals with different backgrounds, occupations and demographic attributes. In addition, *out-group membership* is associated with the transfer of different knowledge through access to diverse groups of individuals. Innovative individuals are reactive to new and different. They are eager to get

different and new information from diverse sources of information. Hence it is hypothesized that innovativeness affects out-group membership positively.

H_{2b}: Innovativeness is positively related to out-group membership.

3.1.2 Self-construal and Opinion Leadership

Both self-reported and sociometric opinion leaders are known to be highly informed, respected, or simply connected (Watts and Dodds, 2007). This study untangles an underlying motive of opinion leadership by examining the concept of self-construal. Self-construal is a constellation of thoughts, feelings, and actions concerning one's relationship to the self, such as being distinct from others or connected to others (Singelis 1994).

Independent self-construals are identified to be unitary, unique, and steady selves that are distinguished from social aggregations. Individuals with stronger independent self-construals than interdependent self-construals are more concerned with the needs, goals and expression of themselves rather than those of others. They are especially aware of their self-images such as who they are and want to be, what they should do. Therefore, independents, with their strong emphasis on independence, achievement, high levels of competition, and uniqueness, are more likely to be self-reported opinion leaders (Sun et al., 2004). In the literature, there is no prior study on individual level self-construal and opinion leadership. In light of this, this study proposes that independent self-construal affects opinion leadership positively.

H₃: Independent self-construal is positively related to self-reported opinion leadership

As Sun et al. (2004) suggest, country level individualism is positively related to opinion leadership. There are no previous studies that directly measure the relationship between independent self-construal and prestige. Independent self-construals with a high degree of uniqueness and desire for achievement are more likely to be high in *prestige*. Individuals with an independent self-construal act according to their own beliefs and actions, and they are very focused on promoting their goals. Alternatively, those who are stronger interdependent self-construals than independent self-construals value being connected to others, while the individuals with an interdependent sense of self are focused predominantly on their relationships with in-group members. Interdependent self-construals value external, public features such as statuses, roles, and relationships; belonging and fitting in; occupying one's proper place and engaging in appropriate action. It is hypothesized that there is a positive relationship between independent self-construal and prestige.

H_{4a}: Independent self-construal is positively related to prestige.

In the literature, cultural-level independent self-construal is claimed to positively affect opinion leadership (Sun et al., 2004). Individuals who are independent are not predominantly focused on their relationships with in-group members because they like to make decisions independent of others' opinions. Independent individuals are unique and autonomous and they tend to improve their self-identities. They would like to be the object of the relationship and attract attention. In addition, previous research indicates that people in individualist societies tend to be involved in several out-groups (Tolba and Mourad, 2011). Therefore, it is hypothesized that individuals who are independent self-construals are likely to have a higher out-group membership.

H_{4b}: Independent self-construal is positively related to out-group membership.

3.2 Innovativeness and New Product Adoption

Innovativeness is the rule-breaker of consumer behavior theory. Hirschman (1980) notes that if there were no innovators, consumer behavior would have been a series of routinized buyers of a static set of products. Innovativeness was operationalized in many ways in the literature (e.g., time of adoption, purchase of a new product, number of products adopted). Regardless of the abstraction level of the conceptualization of innovativeness, innovators are highly interested in the new (products).

There is a great overlap between new product adoption and innovativeness, especially in actualized innovativeness, which is the actual acquisition of new information, ideas, and products (Hirschman, 1980; Midgley and Dowling, 1978). The measures used for innovativeness are very similar to adoption measures: the number of products owned (e.g., Foxall, 1988; Rogers, 1955), ownership of a particular product (e.g., Dickerson and Gentry) and relative time of adoption for a particular product (e.g., Midgley and Dowling, 1993; Rogers and Shoemaker, 1971).

As indicated in earlier literature, early adopters tend to be more innovative than late adopters (e.g., Leonard-Barton, 1985; Manning et al., 1995; Steenkamp et al., 1999). Conversely, there are studies that mentioned their views that innovativeness may not discriminate early adopters from late adopters (e.g., Robertson et al., 1984; Steenkamp and Baumgartner, 1992) or individuals high in innovativeness may not adopt early (Foxall, 1988; Goldenberg et al., 2009; Steenkamp and Baumgartner, 1992; Steenkamp et al., 1999; Roehrich, 2004).

In order to investigate adoption of innovations comprehensively, detailed examination of innovativeness is necessary (Gatignon and Robertson, 1991). The desire to seek out “the new” leads to actual purchase of the product; accordingly, innovativeness is an essential trait in the adoption processes. In light of this, it is proposed that innovativeness is positively related to new product adoption.

H₅: Innovativeness is positively related to new product adoption.

3.3 Opinion Leadership and New Product Adoption

Empirical support for the clear distinction between sociometric and self-reported leadership would be of theoretical importance, as it would imply that they are not different measures of the same construct, as advanced by Rogers and Cartano (1962) and Jacoby (1974), but distinct theoretical constructs.

There are contradictory results in the literature about the relationship between opinion leadership and new product adoption. Some studies claim that opinion leaders have significant influence on the rate of adoption (i.e., Valente, 1996). On the contrary, others studies indicate that all opinion leaders may not be early adopters (Leonard-Barton, 1985). To resolve this confusion, in this study both self-reported and sociometric measures are used and their effects on new product adoption are examined.

Some earlier research on opinion leadership indicate that individuals with a high sense of self-importance do not care about whether or not low status individuals adopt new products (Berger and Heath, 2007; Van den Bulte and Joshi, 2007). Therefore, they may not adopt new products.

However, due to status competition, individuals who perceive themselves as having above average status might adopt early in order not to be outpaced, which could lead their status advantage to decay (Burt, 1987). These individuals may be more sensitive to new product adoption. In this study, it is hypothesized that self-reported opinion leadership is related to new product adoption.

H₆: Self-reported opinion leadership is positively related to new product adoption.

Previous literature shows that opinion leadership and adoption are positively related to each other (e.g., Baumgarten, 1975; Iyengar et al., 2008, 2011; Kotler and Zaltman, 1976; Rogers, 1983; Summers, 1971; Van den Bulte and Lillien, 2001). However, some studies indicate that opinion leaders may not adopt new products (Becker, 1970; Goldenberg et al., 2009; Leonard-Barton, 1985; Watts and Dodds, 2007; Van den Bulte and Lillien, 2001).

Earlier literature suggests that individuals who are high in prestige may adopt early because of their great exposure to an innovation, not because they are innovative (Goldenberg et al., 2009). The prestigious individual has a number of connections that adopt the new product early. Due to this constant exposure, prestigious individuals may adopt new products.

Another reason is that prestigious individuals are said to be *true experts*. Therefore, they pay attention to others' user experiences or other information they have regarding the product (e.g., Strang and Tuma, 1993; Weimann, 1994). In order not to lose their status advantage, they adopt new products (Burt, 1987). Hence, this study proposes that the greater the prestige, the greater the new product adoption.

H_{7a}: Prestige is positively related to new product adoption.

Sociometric opinion leaders benefit a greater number of outside sources to get information about new products (e.g., Becker, 1970; Coleman et al., 1966; Rogers, 1962). This is associated with the *out-group membership* an individual has. In other words, the extent to which an individual has heterogeneous information sources is related to the level of sociometric opinion leadership (Iyengar et al., 2011). Since high out-group membership refers to having access to different *out-group* sources of information through communicating with individuals with different backgrounds, occupations and demographic attributes. Greater *out-group membership* allows for transfer of different knowledge through access to diverse groups of individuals.

Burt (1999) indicates the importance of out-group contacts. Individuals who have high out-group membership play a key role in the flow of information since they have relationships that allow them to form bridges between groups that would otherwise have no contact. Thus, it is hypothesized that individuals who are higher in out-group membership are higher in new product adoption.

H_{7b}: Out-group membership is positively related to new product adoption.

CHAPTER 4

METHOD

4.1 Data Collection

Data for this research is collected from Management undergraduate students at a large university in Ankara (i.e. Bilkent University). Subjects were granted a small amount of course credit for their participation. There were some questions related to respondents' Facebook usage. Therefore, they filled in the online survey while their Facebook accounts are open to get accurate answers for those questions.

Several studies in the field of marketing have used student samples for theory testing (Boulding et al, 1992, 1993). Undergraduate student samples provide valuable information in order to uncover the relationships between innovativeness, self-reported and sociometric opinion leadership and new product adoption since the college campus is considered to be a barometer of changing values in the society (Baumgarten, 1975).

After preliminary analysis, 88 participants were eliminated due to missing data. Thus, the total number of participants included in the final sample was 300. Gender, income, age and grade level were assessed because previous research has shown that these

variables are often related to opinion leadership and innovativeness (Baumgarten, 1975; Midgley and Dowling, 1979; Linda and Feick, 1987; Klein et al., 2004; Katona et al., 2011). Of these respondents, 49.5% of the respondents were female; 46.3 % had an income between 500-1000 TL; 1.3 % were freshmen, 45.1 % were sophomores, 31.3 % were juniors and 21.3 % were seniors; and their mean age was 21 (range: 19-25). Table 1 provides a detailed summary of demographic characteristics of the sample.

4.2 Measure Development

In order to find relevant measures for our key constructs, a careful review of the extant literature was completed. In most cases, established measures that are extensively validated in the literature were found and they were directly applied to the current study. In a few cases, there were no measures that are consistent with the goals of this research. Therefore, scales for the study consisted of newly generated scales (i.e. sociometric opinion leadership) and original items of established scales (i.e. self-reported opinion leadership, innovativeness, self-construal and new product adoption).

The final survey instrument had multiple-item measures of innovativeness, self-reported opinion leadership, sociometric opinion leadership and self-construal, as well as single-item measure of new product adoption and a set of control variables (i.e. gender and income). In the development of new scales, the scale development and testing procedures suggested by Churchill (1979) was followed and guidance was obtained from the literature and one-on-one field interviews.

After defining the constructs, item pools were generated and decisions on the format of measurement were made. For validity, expert opinion about the initial pool was attained to verify whether the items were appropriate in measuring the intended research questions and their understandability. Based on their reviews, some items were either removed or modified.

The original items in self-reported opinion leadership, innovativeness, self-construal and new product adoption scales were translated into Turkish and back-translated by a second person to ensure translation equivalence.

Before administering the questionnaire, the survey draft was pretested among 13 business students from three large universities in Ankara (i.e. Baskent, Ankara and Bilkent University). In addition, interviews were conducted with three professors and six masters/ PhD students in Marketing. Based on their comments, some items were either refined or dropped. Time intervals in sociometric opinion leadership questions were adjusted. For example, the question “How many times a day do your friends make posts on your wall?” was changed into “How many times a week do your friends make posts on your wall?”. In addition, wording of some statements were modified in order to reach an understandable format.

Furthermore, exploratory factor analysis using SPSS 17.0 was completed to refine scales. Items showing high factor loadings and those not loading on multiple factors were retained (Churchill, 1979). All items had a loading greater than .4 on the first factor with the theoretically correct sign. For reliability analysis, Cronbach’s alpha values were calculated for each of the scales and an alpha of .70 was taken to be the minimum standard for demonstrating internal consistency (Nunnally, 1978). Factor loadings and Cronbach’s alpha coefficients for the measures are reported in Table 2.

4.3 Measures

All the measures used in this study are provided in the Appendices.

4.3.1 *Self-Reported Opinion Leadership.*

Self-reported Opinion Leadership intends to measure the extent to which an individual is seen as a source of advice about a particular product category. In this study, the product category is technological products. In order to measure self-reported opinion leadership, items 2, 3, 4, 5, 6 and 7 were adopted from King and Summers' (1970) seven-item scale. In addition, item 1 and 8 were adopted from Childers' (1986) seven-item scale. All scale items are provided in Appendix A.

For self-reported opinion leadership, an alpha of .82 was attained for items 2, 3, 4, 6, and 7. Since the alpha is greater than .70, it is considered sufficient (Nunnally, 1978). Item 1 is eliminated due to its low factor loading. In addition, items 5 and 8 loaded on the second factor; however this factor was deleted due to its lower Cronbach's alpha of .06.

4.3.2 *Sociometric Opinion Leadership.*

After a thorough search of the network literature, no adequate measure of sociometric opinion leadership was found to be appropriate for this research's aims. Therefore, new items were developed based on network theory, in order to measure sociometric

opinion leadership (Valente, 1996; Mehra et al., 2001; Brass et al., 2004; Klein et al., 2004, and Goldenberg et al., 2009). In Appendix B, sociometric opinion leadership items are presented.

Facebook is used as a proxy to identify sociometric opinion leadership in this study. Launched in February 2004, the Facebook social networking site is a great success, with about 500 million active users around the world. People around the world spend 700 billion minutes on this networking platform per month (Facebook, 2011).

In Facebook, users create profiles, share information about their backgrounds, interests and demographics, add pictures, upload music, write messages and notes as well as consumes what others create by looking at pictures and reading messages. Since social networks (i.e. Facebook) are highly popular in the young college population, they are an appropriate context for this study (Trusov et al., 2010).

To identify sociometric opinion leaders by using social network analysis, the most essential and frequently used concept is network centrality (Borgatti, 2006). In this study, in-degree centrality (prestige) measures a node's number of direct connections (Krebs, 2001).

Prestigious actors in the network are the object of the relations rather than the source of relations; therefore, in-degree is a signal of social capital and popularity (Monge and Contractor, 2003). Prestige is operationalized as the sum of incoming messages. Incoming messages can be defined as the number of wall posts an individual's friends make on his/her Facebook wall, the number of photographs friends *tag* an individual in and the number of comments an individual gets for his/her photographs.

The second sociometric opinion leadership construct is out-group membership. An out-group is a social unit or group that an individual neither belongs to nor identifies with. The respondents are asked to indicate the percentage distribution of their

Facebook friends among the following categories: 1- School friends, 2- Relatives, 3- Out-school friends, 4- Other. Out-group membership is quantified by the proportion of *out-school friends* and *others* to total number of friends (Appendix B)

Therefore, a composite out-group membership construct is attained, which measures to what extent an individual has friends outside his/her own community.

4.3.3 *Innovativeness.*

Dispositional innovativeness assesses the degree of predisposition to purchase new products and brands rather than to remain with previous choices and consumption patterns (Steenkamp and Gielens, 2003). Innovativeness was assessed using Steenkamp and Gielens' (2003) 8-item dispositional innovativeness scale. This five point Likert instrument is anchored by "1 = strongly disagree" and "5 = strongly agree". Items 2, 5, and 8 on the first factor were retained and displayed a strong reliability ($\alpha=.75$). However, items 3, 4, and 6 that loaded on the second factor were eliminated due to a low Cronbach's alpha of .36. Innovativeness scales are provided in Appendix C.

4.3.4 *Self- construal.*

Independent self-construal refers to individuals who value their own thoughts rather than others'; interdependent self-construal refers to individuals who value other group members' decisions and group harmony (Markus and Kitayama, 1991). Both independent and interdependent self-construal subscales from Singelis (1994) were adopted. Each subscale consisted of 12 seven-point scale items (1 = "strongly disagree," and 7 = "strongly agree") (Appendix D).

Turkish translation of the scale items was adapted from Uskul et al. (2008) and Wasti et al. (2007). Items 3, 5, 11, 12, 15, 19, 20, and 21 were from Uskul et al. (2008) and

items 2, 9, 13, 18, 23, and 24 were from Wasti et al. (2007). The remaining items were translated into Turkish and back-translated by second person to provide translation equivalence.

Four factors emerged as a result of the factor analysis and the first two are retained; however, the other two are deleted due to their low Cronbach's alpha coefficients. Items 1, 8, 11, 14, 20 and 22 that loaded heavily on the first factor were retained and they displayed a high reliability ($\alpha=.72$). These items loading onto the first factor tap independent self-construal. In addition, items 4, 5, 21, and 23 loaded heavily on the second factor, addressing interdependent self-construal. The Cronbach's alpha associated with this factor was .76. Finally, items 16 and 24 loaded on the third factor and items 6, 13, and 19 on the fourth factor. These two factors were not retained because of their lower alpha coefficients.

In order to be able to compare predominantly independent and predominantly interdependent respondents, an index measure of self-construal was created by computing the difference between the independence subscale and interdependent subscale for every subject (Holland et al., 2004; Pohlman et al., 2007; Wu et al., 2011). The more accessible independent self-construal is relative to interdependent self-construal when the index score is positive and when the score of negative interdependent self-construal is relatively more dominant (Holland et al., 2004).

4.3.5 *New Product Adoption.*

New product adoption behavior can be defined as “the degree to which an individual adopts innovations relatively earlier than other members in his or her social system” (Im et al., 2003: 66). In order to test the hypothesized relationships with new product adoption, consumer electronics products which are perceived to be high technology and innovative were selected (Gatignon and Robertson, 1991; Rogers, 2003).

To determine the high technology consumer electronics products, 41 undergraduate students at a large scale university in Ankara (i.e. Bilkent University) were asked to list ten consumer electronics products that satisfy the following criteria (Hirunyawipada et al., 2006):

- 1) The products that are perceived as innovative (e.g. relative advantage, compatibility, complexity, trialability, and observability) and high technology (Rogers, 2003); and
- 2) The products for which the subjects have the purchasing ability to buy.

In the end, 8 technological products with the highest frequencies were attained; cell phone, smart phone, TV, notebook, game console, MP₃ player, netbook and tablet computer. New product adoption is quantified by asking the respondents the number of products they owned in the selected set of high-tech products. Details on new product adoption frequencies are shown in Table 3. As discussed in the literature, this method is highly reliable (Lastovicka and Joachimsthaler, 1988, Podsakoff et al., 2003). The new product adoption scale is provided in Appendix E.

Table 1: *Descriptive profiles of demographic characteristics*

<i>Variable</i>		<i>Frequency</i>	<i>Percentage (%)</i>
<u><i>Age</i></u>	19	12	4.2
	20	50	17.6
	21	97	34.2
	22	76	24.8
	23	35	12.3
	24	8	2.8
	25	6	2.1
<u><i>Gender</i></u>	Female	142	49.5
	Male	145	50.5
<u><i>Class</i></u>	Freshman	4	1.4
	Sophomore	130	45.1
	Junior	90	31.3
	Senior	64	22.2
<u><i>Income</i></u>	Less than 500 TL	24	8.3
	500 TL-1000 TL	139	48.3
	1000 TL-2000 TL	90	33.3
	More than 2000 TL	29	10.1

Table 2: Reliabilities

<i>Scales Used</i>	<i>Alpha</i>
Self-reported Opinion Leadership (items 2, 3, 4, 6, 7)	.82
Innovativeness (items 1, 2, 5, 8)	.74
Self-construal independent (items 1, 8, 11, 14, 20, 22)	.72
Self-construal interdependent (items 4, 5, 21, 23)	.75

Table 3: New Product Adoption Frequency

<i>Number of Technological Products Owned</i>	<i>Frequency</i>	<i>Percentage (%)</i>
1	2	0.7
2	13	4.3
3	52	17.3
4	91	30.3
5	67	22.3
6	52	17.3
7	19	6.3
8	3	1

4.4 Analysis and Results

The hypotheses were tested by using four different regression models in which effects were entered simultaneously as predictors of the dependent variables (self-reported opinion leadership, prestige, out-group membership and new product adoption). For all analysis, SPSS 17.0 is used. In order to assess the relationship between self-reported and sociometric opinion leadership, correlation analysis was conducted.

4.4.1 *Innovativeness, Self-construal and Opinion Leadership*

In order to test hypotheses H₁, H_{2a-b}, H₃, H_{4a} and H_{4b}, the effects of innovativeness and self-construal on self-reported opinion leadership, prestige and out-group membership were examined. Hierarchical regression analyses were conducted. In step 1, control variables (i.e., gender, income) were entered and then in step 2, independent variables (i.e., innovativeness, independent self-construal) were entered. Thus, three separate hierarchical regression analyses in which self-reported opinion leadership, prestige and out-group membership is modeled as a dependent variable were conducted while innovativeness and independent self-construal are the predictors.

Table 4 and 5 give the standardized regression coefficients for the four regression equations. In terms of control variable effects, only gender had a significant effect on self-reported opinion leadership ($\beta=.21$, $p<.001$). As shown in Table 4, innovativeness is positively related to self-reported opinion leadership ($\beta=.43$, $p<.001$). This finding supports H₁. However, there is no evidence to conclude that there is a significant relationship between self-construal and self-reported opinion leadership ($\beta=-.01$, $p>.10$); therefore, H₃ is not supported.

Gender had a significant effect on out-group membership ($\beta=.12, p<.08$). Self-construal is positively related to out-group membership ($\beta=.12, p<.07$). However, there is not a significant relationship between innovativeness and out-group membership ($\beta=.09, p>.10$). These results support H_{4b} ; however, do not support H_{2b} .

Neither gender nor income has a significant effect on prestige (both $p>.10$). Independent self-construal is positively related to prestige ($\beta=.12, p<.09$). However, there is not a significant relationship between innovativeness and prestige ($\beta=.39, p>.10$). These results confirm H_{4a} ; however, do not support H_{2a} .

4.4.2 Innovativeness, Opinion Leadership and New Product Adoption

To test the relationships among innovativeness, opinion leadership and new product adoption, a hierarchical regression analysis was conducted. In step 1, control variables (i.e., gender, income) were entered and in step 2, independent variables (i.e., innovativeness, self-reported opinion leadership, out-group membership and prestige) were entered. Thus, a hierarchical regression analysis in which new product adoption is modeled as a dependent variable was conducted while innovativeness, self-reported opinion leadership and sociometric opinion leadership are the predictors.

As it can be seen in Table 5, when control variables are examined, both gender ($\beta = -.14; p < .03$) and income ($\beta = .15; p < .03$) are found to have significant effects on new product adoption. The results of the model indicated that innovativeness ($\beta = .15; p < .04$), self-reported opinion leadership ($\beta = .15; p < .04$) and prestige ($\beta = .18; p < .01$) had significant associations with new product adoption. However, out-group membership ($\beta = .12; p > .10$) had no significant effects on new product adoption. This confirms H_5 , H_6 and H_{7a} and fails to support H_{7b} .

4.4.3 *Alternative Explanations*

There is a positive gender effect on self-reported opinion leadership ($\beta=.20$, $p<.001$), out-group membership ($\beta=.14$, $p<.10$). In addition, there is a negative gender effect on new product adoption ($\beta=-.12$, $p<.05$). In addition, income and new product adoption is found to be significantly related to each other ($\beta=.16$, $p<.05$). To eliminate alternative explanations, hierarchical regression was conducted controlling for gender and income (Table 4 and 5).

Table 4: The effects of self-construal and innovativeness on self-reported OL, prestige and out-group membership

	Self-reported OL		Prestige		Out-group	
	β	t	β	t	β	t
<u>Step 1: Control variables</u>						
Gender	0.17	2.88**	-0.063	-0.39 ^{n.s}	0.160	2.402
Income	0.12	1.99*	0.058	0.08 ^{n.s}	0.036	0.546 ^{n.s}
R ²	0.04		0.016	0.028		
Model fit	F = 7.19***		F = 0.728 ^{n.s}		F = 3.227*	
<u>Step 2: Main effects</u>						
Gender	0.208	3.833***	-0.077	-1.147 ^{n.s}	0.143	2.137*
Income	0.004	0.072 ^{n.s}	0.054	0.790 ^{n.s}	0.029	0.420 ^{n.s}
Innovativeness	0.427	7.791***	0.038	0.551 ^{n.s}	0.051	0.743 ^{n.s}
Self-construal	-0.007	-0.128 ^{n.s}	0.115	1.710*	0.135	2.023*
R ²	0.21		0.021		0.049	
Model fit	F = 19.527		F = 1.204 ^{n.s}		F = 2.836*	

Table 5: *The effects of self-reported OL, prestige and out-group membership on NPA*

	NPA	
	β	t
<u>Step 1: Control variables</u>		
Gender	0.108	-1.661*
Income	0.251	3.853***
R ²	0.0468	
Model fit	F = 8.186***	
<u>Step 2: Main effects</u>		
Gender	-0.127	-1.989**
Income	0.169	2.646***
Self-reported	0.142	2.039**
Prestige	0.161	2.598***
Outgroup	0.065	1.045 ^{n.s}
Innovativeness	0.190	2.715***
R ²	0.17	
Model fit	F = 7.952***	

CHAPTER 5

DISCUSSION

5.1 Discussion of Results

This thesis is a detailed study about the antecedents (i.e., innovativeness, independent self-construal) and consequences (i.e., new product adoption) of opinion leadership. As to opinion leadership, this study reveals that self-reported leadership and sociometric leadership are distinct characteristics because they act differently in their nomological networks. The tendency to adopt is more for sociometric than self-reported leaders. Both self-reported opinion leadership and prestige are indicators of new product adoption as it is widely stated in adoption of innovations literature; however, out-group membership does not significantly affect adoption. Individuals who are high in out-group membership have connections outside their own community. Yet, this may not be enough by itself to result in adoption of a new product.

Self-reported opinion leadership and new product adoption are positively related to each other. This result is consistent with the previous literature (i.e., Baumgarten, 1975; Iyengar et al., 2008, 2011; Kotler and Zaltman, 1976; Rogers, 1983; Summers, 1971; Van den Bulte and Lilien, 2001). Self-reported opinion leaders adopt in order not to lose their status advantage over others.

As predicted, prestige and new product adoption are found to be positively related. Early literature suggests prestigious individuals are more likely to adopt early because they are well connected to their networks (Burt, 1987; Valente, 1996; Iyengar et al., 2011, Coleman et al., 1966) and in these networks they are exposed to innovations constantly (Goldenberg et al., 2009). Such repeated exposure may result in new product adoption.

Out-group membership and new product adoption relationship was found to be non-significant. Burt (1999) argues about the importance of out-groups in the adoption of innovations process. Out-groups affect an individual's decision making process in the long term. This may be one reason that out-group membership does not affect adoption because adoption decision is a short-term decision.

Innovativeness is found to be an antecedent to self-reported opinion leadership, which is consistent with the earlier literature (e.g., Baumgarten, 1975; Robertson and Myers, 1969; Summers, 1971; Valente, 1996). Both innovators and self-reported opinion leaders are knowledgeable, enthusiastic and influential (Goldsmith et al., 2003). In addition, both consumers are likely to know about and buy new products right after they are introduced to the market.

Innovativeness is not found to be an indicator of prestige. It shows that prestigious individuals, who are said to have a large number of social connections might be affected by *exposure* rather than being innovative. When the norms of a particular

social group favor change, progressive behavior will be located in group leaders (Becker, 1970: 268). Therefore, when the norms of the network are for innovative behavior, innovativeness may affect *prestige*. Thus, the effect of innovativeness on prestige may be contingent on the norms of the network, which is also suggested in the literature.

Furthermore, innovativeness and out-group membership relationship is not found to be significant. This relationship has not been investigated in the literature before. Innovativeness is the desire to find out new ideas and intuitively, it might be thought to affect out-group membership since with different groups individuals might seek different and new ideas.

The findings indicate that there is a positive relationship between innovativeness and new product adoption. This is consistent with the literature. Accordingly, a person who desires to find out about new products tends to adopt more new products. When the individual has both the necessary knowledge and connectivity, he/she is more likely to reach new product adoption.

Moreover, independents self-construals with their strong emphasis on independence and uniqueness are more likely to be self-reported opinion leaders (Sun et al., 2004). In contrast to earlier studies on cultural-level self-construal, individual-level independent self-construal is not found to have a positive relationship with self-reported opinion leadership. There are two possible reasons for this inconsistency in results. First, independent self-construal may affect *connectedness* rather than *expertise*, which is the core component of self-reported opinion leadership. Second, individual level self-construal may act differently than cultural-level individualism.

Consistent with the literature, independent self-construal and prestige are found to be positively related to each other. Independent self-construals with a high degree of uniqueness and desire for achievement are more likely to be high in *prestige*.

In addition, independent self-construal is found to be positively related to out-group membership. This result is consistent with the literature since previous literature indicates that independent self-construals tend to be involved in several out-groups (Tolba and Mourad, 2011). The next section will provide several implications for adoption theory as well as for marketing practice.

5.2 Theoretical Implications

This current thesis discusses the antecedents of opinion leadership which are innovativeness and independent self-construal; and opinion leadership and innovativeness impact on new product adoption. The key contributions of the study are as follows:

First, this study contributes to the ongoing debate about the importance of opinion leaders and approaches to identifying them. The findings show that innovativeness is an antecedent to self-reported opinion leadership, not sociometric; and independent self-construal is an indicator of sociometric opinion leadership, not self-reported. Therefore, that self-reported and sociometric opinion leadership behave differently within the nomological network of constructs is also quite novel.

Within an adoption of innovations and network theory framework, it is argued that both self-reported and sociometric opinion leadership positively affect new product adoption. The evidence shows that self-reported and sociometric leadership are

weakly correlated. The findings indicate that the two measures most likely tap into different constructs. It is found that sociometric and self-reported measures of opinion leadership are distinct characteristics because they behave differently within the nomological network of constructs. The results show that opinion leaders are very important in the new product adoption process to try out new innovations.

Second, since there are no previous studies on the relationship between self-construal and opinion leadership, it is a novel finding of this study that self-construal is an antecedent to sociometric opinion leadership. This thesis fills in this gap and identifies sociological antecedents to opinion leadership to discover opinion leadership phenomena in a more complete framework. This adds to the literature on opinion leadership and social network theory.

Third, this study documents the strong relationships among innovativeness, opinion leadership and new product adoption. It is critical because the success of new consumer products lies behind the construct of innovativeness, which introduces the innovation to the social system (Rogers, 1995). Earlier research suggested that innovativeness may not discriminate early adopters from late adopters (Robertson et al., 1984; Steenkamp and Baumgartner, 1992) and opinion leaders may not be early adopters. Providing evidence that innovativeness and opinion leadership highly impact new product adoption resolves the conceptual confusions on the aforementioned constructs.

Fourth, this study provides new insight into the innovativeness and opinion leadership relationship. Although most studies noted an overlap between innovators and opinion leaders (Midgley and Dowling, 1993) some studies indicated that opinion leaders are not always innovators. In this study, innovativeness is found to be related to self-reported opinion leadership while it is not significantly related to sociometric opinion

leadership. Thus, this suggests that opinion leadership and innovativeness are different constructs and raises concerns on the overlap between them. Even though further investigation is needed, this study still brings light to the opinion leadership and innovative communicator literature.

To sum up, the current thesis contributes to the adoption of innovations literature and social network theory firstly by showing that sociometric and self-rated measures of opinion leadership tap into different constructs. The results show that using both sociometric and self-rated measures of opinion leadership will lead to healthier conclusions since self-rated results might be upwardly biased because they are based on self-confidence (Iyengar et al., 2010). Moreover, identifying whether the two constructs have same association with new product adoption is a novel contribution so as to explain the nomological validity of those constructs. For example, independent self-construal is shown to be positively related to prestige; however, it is not significantly related to self-reported opinion leadership. Therefore, the two constructs behave differently in the nomological network. Secondly, this study reveals an uncovered antecedent to opinion leadership which is self-construal. This is a crucial step in understanding the mechanisms underlying the opinion leadership phenomenon. Thirdly, this current thesis shows that innovativeness and opinion leadership greatly affect new product adoption. This further contributes to the adoption of innovations research. Lastly, this is one of the first studies to use sociometric opinion leadership together with self-reported opinion leadership; therefore it adds to innovative communicator literature.

5.3 Practical Implications

Managers need to identify and infer precisely who is influential for advertising, targeting and retention efforts since it is impossible to evaluate all potential users at once. Therefore, it is essential for the firms to be able to select influential customers that can affect others in their social environments in order to use their time and budget efficiently. Persuading these influential opinion leaders to adopt the innovation may serve as an important multiplier. This has several implications for companies that try to optimize their sales force, as influencing opinion leaders may indeed start and speed up the adoption process of innovative products.

The first implication of this study is that individuals with a high prestige seem to be important seeding points to start adoption processes. Opinion leaders may actively participate in word of mouth which has a high potential to turn into adoption (Molitor et al., 2011). Managers should assess the benefits of targeting sociometric opinion leaders by taking into account the marketing cost of identifying them and comparing it with the traditional marketing approaches.

Another key implication is that if opinion leaders can be identified a priori based on their personal/ psychological traits and social/sociological characteristics, marketers can target the consumers who are critical to the eventual success of their new product innovation. To capture both self-reported and sociometric opinion leaders, just focusing on innovative individuals will fail to leverage all potential influential seeding points. Consequently, individuals who are high in both independent self-construal and innovativeness should be targeted. Furthermore, understanding the personal and social characteristics of the opinion leaders, marketers can present themselves appropriately to those customers which may lead to positive word-of-mouth communication.

The practical implications of this study can be summarized as follows: First, self-reported together with sociometric opinion leadership can presumably help marketers to identify early adopters of their products. This is very important because early adopters contribute to a new product's initial sales. In addition, these early adopters can provide an important word-of-mouth communication. Second, identifying innovativeness and independent self-construals help marketers find out influential opinion leaders. Thus, these are crucial steps for the success of a new product.

5.4 Limitations and Future Research

The limitations of this study reveal the opportunities for expanding the new product adoption and opinion leadership literature. First, the new product adoption measure is widely considered to be a valid and reliable measure of new product adoption behavior, reflecting the pattern and breadth of actual adoption behavior (Foxall, 1988; Midgley and Dowling, 1978; Robertson, 1971; Rogers, 1995). However, it may not represent product knowledge and awareness, purchase intention and repeat purchase. Further investigation is needed improve the understanding of new product adoption.

Second, adding time of adoption in the opinion leadership-new product adoption debate, will offer avenues for the future. Following Midgley and Dowling (1993), to entirely understand the adoption and diffusion of innovations process, knowing *who said what to whom and when* need to be identified. Future research may benefit analyzing complete network data to reach a thorough understanding.

Third, there are potential mediators and moderators between innovativeness and opinion leadership such as product involvement, (i.e., enduring involvement, purchase decision involvement) novelty seeking, connectivity and expertise. In order to understand the relationships between innovativeness and opinion leadership in a more

detailed manner, these constructs may be assessed. Likewise, analyzing the impact of definitive personality traits (i.e., extraversion, agreeableness, self-monitoring) on opinion leadership might help understanding opinion leadership concepts more comprehensively.

Fourth, situational factors such as social structure and social norms of a network may affect adoption of opinion leaders. For example, a common favorable decision in the community about a particular product can be the reason for adoption rather than other factors (i.e., innovativeness). Controlling these situational variables opens avenues for further research.

Lastly, this study is a cross-sectional study conducted at a single point in time, therefore, does not provide the grounds to make causal conclusions on the relationships mentioned. Future research should consider a longitudinal approach to reach causal explanations.

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APPENDICES

A. Self-Reported Opinion Leadership

Opinion Leadership Scale (Childers 1986)

1. In general, do you talk to your friends and neighbors about technological products? (5-very often, 1-never)
8. During the last past six months, how many people have you told about technological products? (1-Told a number of people, 2- Told no one)

Opinion Leadership Scale (King and Summers 1970)

9. If you and your friends were to discuss technological products, what part would you be most likely to play? Would you mainly listen to your friends ideas or would you try to convince them of your ideas? (1-You mainly listen to their ideas, 2- You try to convince them of your ideas)
10. Compared with your circle of friends, are you less likely to be asked, about as likely to be asked, or more likely to be asked about technological products? (1-Less likely to be asked, 2-About as likely to be asked, 3-More likely to be asked)
11. Would you say you give very little information, an average amount of information, or a great deal of information about technological products to your friends? (1- You give very little information, 2- You give an average amount of information, 3- You give a great deal of information)
12. In general, do you like to talk about technological products with your friends? (1- Yes, 2- No)
13. Which of these happens more often? Do you tell your friends about technological products, or do they tell you about technological products? (1-You tell them about technological products, 2- They tell you about technological products)
14. Do you have the feeling that you are generally regarded by your friends and neighbors as a good source of advice about technological products? (1-Yes, 2- No)

B. Sociometric Opinion Leadership

Prestige

1. How many posts (writing/video) do your friends make on your wall on average?
2. How many photographs do your friends tag you in a month on average?
3. How many comments do your friends make about your photographs on average?

Out-group membership

Please indicate the percentage distribution (%) of your friends among categories given below. (The total of percentages must be 100)

School friends (Elementary/Middle/High school/ College)

Friends outside school

Family/ Relatives

Other

C. Innovativeness

Dispositional Innovativeness Scale (Steenkamp and Gielens 2003)

1. When I see a new product on the shelf, I'm reluctant to give it a try. (*)
2. In general, I am among the first to buy new products when they appear on the market.
3. If I like a brand, I rarely switch from it just to try something new. (*)
4. I am very cautious in trying new and different products. (*)
5. I am usually among the first to try new brands.
6. I rarely buy brands about which I am uncertain how they will perform. (*)
7. I enjoy taking chances in buying new products.
8. I do not like to buy a new product before other people. (*)

(*): Reverse coded item

D. Self-Construal

Self-Construal Scale (Singelis 1994)

1. I enjoy being unique and different from others in many ways. (I)
2. I feel comfortable using someone's first name soon after I meet them. (I)
3. Even when I strongly disagree with group members, I avoid an argument.
4. I have respect for the authority figures with whom I interact.
5. I respect people who are modest about themselves.
6. I will sacrifice my self-interest for the benefit of the group I am in.
7. I'd rather say "no" directly than risk being misunderstood. (I)
8. Having a lively imagination is important to me. (I)
9. I should [consider] my parents' advice when making education/career plans.
10. I prefer to be direct and forthright when dealing with people I've just met. (I)
11. I am comfortable with being singled out for praise or rewards. (I)
12. If my brother or sister fails, I feel responsible.
13. My relationships are more important than my own accomplishments.
14. Speaking up during a class (or a meeting) is not a problem for me. (I)
15. I would offer my seat in a bus to my professor (or my boss).
16. I act the same way at home that I do at school. (I)
17. My happiness depends on the happiness of those around me.
18. I value being in good health above everything. (I)
19. I will stay in a group if they need me, even when I am not happy with
the group.
20. Being able to take care of myself is a primary concern for me. (I)
21. It is important to me to respect decisions made by the group.
22. My personal identity, independent of others, is very important to me. (I)

23. It is important for me to maintain harmony within my group.

24. I act the same way at home that I do at school. (I)

(I) denotes Independent self-construal and the other items represent interdependent self-construal.

E. New Product Adoption

Please indicate which of the technological products below you own.

- Cell phone
- Smart phone
- TV
- Notebook
- Game console
- MP₃ Player
- Netbook
- Tablet computer

F. List of Tables

1. Descriptive profiles of demographic characteristics
2. Reliabilities
3. New product adoption frequency
4. The effects of self-construal and innovativeness on self-reported OL, prestige and out-group membership
5. The effects of self-reported OL, prestige and out-group membership on NPA