THE ROLE OF VIRTUAL COMMUNITIES AS SHOPPING REFERENCE GROUPS

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ABSTRACT

Virtual communities are self-selecting groups of individuals engaged in sustained computer-mediated interactions around common interests or goals, governed by shared norms and values, and serving individual and shared needs. This work proposes and empirically tests the model of social influence on individual shopping preferences in the context of virtual communities. This work proposed and supported a new motivational construct for joining virtual communities that integrates a social psychology approach with the media uses and gratifications paradigm. The findings confirmed the role of this motivational construct in explaining the degree of social identification and norms internalization within a community, and suggested that the influence of virtual communities on their members' shopping choices is exercised through the mechanism of social identification. These research findings highlight the importance for companies of developing interactive websites that support relationship formation and opinion sharing capabilities.

Keywords: virtual community, motivations, social identity theory, buying choice

1. Introduction

Virtual communities represent a new type of social formation on the Internet. They expand the power of technology to connect individuals by providing unprecedented opportunities of social interaction and relationships development among people with shared interests irrespective of geography and time. It has been estimated that 84% of US Internet users (close to 100 million people) belong to virtual communities, including professional associations, hobby groups, political organizations, and entertainment communities [Pew Internet 2005].

The interest of marketing professionals and scholars in virtual communities is caused primarily by their potential to affect sales by spreading electronic word of mouth [Hennig-Thurau et al. 2004], serving as self-selected highly specialized target markets, and being valuable sources of information about trends, preferences, and new product ideas [Muniz and O'Guinn 2001]. Other possible effects of virtual communities are related to their social nature, and include adding interactivity to electronic storefronts to increase their attraction to recreational shoppers [Bhatnagar and Ghose 2004, Lee 2005], and serving as reference groups that can influence their members' shopping preferences [Zhou, Dai and Zhang 2007].

The existing literature on reference group influence in consumer behavior generally addresses face-to-face direct membership groups where interaction occurs on a regular basis [Brinberg and Plimpton 1986] and socially distant (aspiration) groups that do not readily provide opportunity for interaction [Cocanougher and Bruce 1971]. Research on the role of virtual communities as shopping reference groups is practically nonexistent. In this paper, virtual communities are defined as self-selecting groups of individuals engaged in sustained computer-mediated interactions around common interests or goals, governed by shared norms and values, and serving individual and

shared needs [Bagozzi and Dholakia 2002; Dholakia, Bagozzi and Pearo 2004]. Due to their increasing presence and expanding membership virtual communities hold a strong potential for marketing, and therefore deserve attention. Such characteristics of virtual groups as open, non-discriminatory participation, possibility of anonymity, and low visibility of product usage suggest that virtual communities potentially employ mechanisms of influencing shopping decisions that are different from those of other reference groups.

This work proposes and empirically tests the model of social influence on individual shopping preferences in the context of virtual communities. In the conduct of this research we utilize social identity theory [Tajfel 1978, Ellemers, Kortekaas and Ouwerkerk 1999], normative influence research [Postmes, Spears and Lea 2000], and the concept of susceptibility to reference group influences [Bearden and Etzel 1982] to suggest that virtual communities influence their members' shopping preferences through the mechanism of social identification and internalization of group norms. We propose that the degree of social identification and norms internalization, in turn, is determined by members' dominant motivations to join a community.

Our research questions focus on exploring the social processes that take place within virtual communities, their motivational antecedents and their potential to stimulate virtual community influences on members' purchase choices and buying behavior. We limit our investigation of virtual community social activities to the computer-mediated postings, and do not investigate physical or telephone interactions among the members. As such, this paper contributes to the existing literature in the following ways:

1) It proposes and empirically supports the socially-based model of virtual community influence on members' shopping decisions.
2) It develops the construct of dominant motivations to join a virtual community as an antecedent to social identification with the community and internalization of its norms.
3) It delineates the dimensions of social processes that take place in virtual communities and their roles in affecting members' susceptibility to virtual community influence.
4) It approaches the Susceptibility to Influence concept as largely context- and situation-dependent (versus enduring), thus offering an alternative conceptualization of the susceptibility and influenceability constructs.

The paper provides important insights for electronic commerce practitioners by outlining potential ways to utilize social networks online for commercial purposes. In the following sections we review existing literature related to the key constructs, propose a conceptual framework and hypotheses, explain our methodology, provide research results and discussion of our findings, state the study limitations, and suggest managerial implications and directions for future research.

2. Virtual Community As A Special Case Of Shopping Reference Group

Evidence of early virtual community participants suggests close similarity of virtual communities to real-life communities and groups: "people in virtual communities do just about everything people do in real life … people carry on public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace" [Rheingold 1993, p.5]. Later descriptions of online communities recognize their characteristics of relationship formation, emotional commitment, and shared interests/goals while adding such specific functions as facilitating economic exchanges and exploring new identities in fantasy communities [Hagel and Armstrong 1997]. According to Muniz and O'Guinn [2001], any type of community is characterized by the following three core elements: a consciousness of kind, the presence of shared traditions, and a sense of moral obligation to the collective. On the whole, analysis of existing literature suggests that the attributes of virtual communities that make them similar to real-life groups include shared interests or goals, sustained social interaction, and shared values, membership rules or norms. The attributes differentiating online from real-life communities comprise computer mediation, lack of face-to-face non-verbal communication, possible anonymity, text-based exchanges, and self-selecting membership [Postmes et al. 2000]. Virtual communities represent a much broader concept than the electronic word of mouth that is generally defined as "communications directed at other consumers about the ownership, usage and characteristics of particular goods and services or their sellers" [Westbrook 1987, p. 361]. While members of online communities do provide electronic word-of-mouth, participation in a community also presupposes formation of relationships, long-term social interactions, and shared values and norms.

2.1. Reference Group Characteristics and Types of Influence

Reference groups are broadly defined as "actual or imaginary institutions, individuals, or groups conceived of having significant relevance upon an individual's evaluations, aspirations, or behavior" [Lessig and Park 1975, p.41]. They have been categorized based on membership status into direct membership groups (reference groups to which an individual belongs), and indirect aspiration groups (reference groups to which an individual aspires to belong) [Escalas and Bettman 2003]. Virtual communities appear not to fit exclusively any of the two categories, since their membership is not conditioned by physical proximity, and is available to practically anyone, thus creating

an opportunity to combine aspirational and direct membership. Also, in addition to registered participants, most of their interactions are accessible to outsiders ("lurkers") who for various reasons do not contribute to discussions, but nevertheless may be strongly influenced by the community. The text-based computer-mediated nature of virtual communities makes them more unique, and not identifiable in terms of the traditional reference group categories. It follows that the direct membership/aspirational classification is not relevant for virtual communities due to their non-discriminatory social, geographic, or demographic membership character, which makes moving from a non-member to a member status for the most part determined by the individual's choice.

Based on the above classification of reference groups, Kelley [1947] identified two types of reference group influence: *normative* referents (e.g. parents, teachers, and peers) provide the individual with norms, attitudes, and values, and *comparative* referents (e.g. sports heroes and entertainment figures) provide standards of achievement [Childers and Rao 1992]. Similar to Kelley [1947], Cocanonger and Bruce [1971] believe that normative influence "requires at least enough interaction to enable the group to evaluate the extent of the individual's conformity to group norms", and comparative influence "depends only upon … recipient being attracted to group members or activities" (p.379). An alternative classification of types of reference group influences was proposed by Lessig and Park [1975, 1977], and includes informational, utilitarian, and value-expressive motivational reference group functions. Informational influence occurs when an individual perceives enhancement of knowledge and ability to cope with environment when using information from opinion leaders, experts, or product users. Utilitarian influence manifests through the process of compliance with those who can exercise reward or punishment power. Finally, value-expressive reference group function operates through the identification process whereas an individual who associates oneself with a group to enhance self-concept adopts this group's consumption patterns.

An important factor affecting reference group influence on purchase decisions is product conspicuousness that, according to Bourne [1957], is manifested through public consumption and exclusivity. Bearden and Etzel [1982] suggested the two dimensions of this construct – public/private consumption and luxury/necessity product, and found that reference group influence is the strongest for public-luxury, and almost non-existent for private-necessity product and brand decisions. This means that reference group influences require the opportunity for social interaction and public scrutiny of behavior [Brinberg and Plimpton 1986]. Virtual communities provide ample opportunities for social interactions, but due to their computer-mediated and text-based nature do not facilitate public scrutiny of behavior, with the exception of picture sharing or demonstration of verbal conspicuousness among the members.

Due to their high level of expertise in particular areas, some virtual communities can exert informational influence on shopping decisions by facilitating the transfer of information among reference group members regarding product evaluations, preferences, or opinions [Deutsch and Gerard 1955]. In virtual communities information can be transmitted both through active interaction and passive observations of what other members post about their product and brand use, or revealed through picture sharing and in occasional face-to-face meetings. However, it is not clear whether their computer-mediated nature would prevent virtual communities from exercising comparative or normative influence on their members' consumption decisions. While virtual communities are found to form and enforce the norms of participation and member behavior [Postmes et al. 2000], it is not known whether any significant consumption-related norms or influences take place online. Earlier qualitative research on brand communities (online groups devoted exclusively to particular products and brands) revealed that members identify with respective brand-related communities through purchasing and using products and services [Muniz and O'Guinn 2001]. However, no mechanism has been proposed or tested that would explain how online groups may be able to exert influence on their members' consumption decisions.

To summarize, the unique attributes of virtual communities warrant their categorization as a special case of reference groups characterized by flexibility in membership status (direct vs. aspirational), lack of face-to-face interactions, possibility of anonymity, and low conspicuousness of products and consumption. These characteristics may warrant modification of the character of the traditionally accepted types of reference group influences. Prior research on the antecedents of virtual community participation tested such online influence mechanisms as social identification with the group and internalization of the group norms [Bagozzi and Dholakia 2002, Dholakia et al. 2004]. This paper integrates the theories of social identity and norms internalization [McKenna and Green 2002] to explain the influence that virtual communities exert on their members' consumption choices and behaviors.

3. How Virtual Communities Influence Members' Product and Brand Choices
3.1. Motivation to Join Virtual Communities and Social Identification

The social science approach to computer-mediated communications advocated by Spears et al. [2002] suggests that personal goals and needs are the main determinants of the effects of online communication. According to this view, specific purposes of individuals within a communication setting will determine the outcome of their

interactions, regardless of particular features of the communication channel. Current literature contains a number of classifications of the Internet users based on their goals. Wellman et al. [2001] differentiate between those who use the Internet for social activities that promote interaction and those who use it for asocial activities (e.g. Web surfing). According to this approach, social users help build and maintain social capital, while "networked individualism reduces … social cohesion" and "weakens their sense of community online" [Wellman et al. 2001, p. 451].

Gupta and Kim [2004] examined customers' commitment to a virtual community from a balanced beliefs (functional usefulness, system usefulness, system quality) and emotional (pleasure, arousal) perspective. They found that functional usefulness, social usefulness and pleasure are positively related to commitment to a virtual community. In Koh and Kim's study [2001], playfulness has direct positive relationship with influence and immersion. Leimeister and Krcmar [2004] conjectured that women are more motivated in social interaction than men in virtual communities. Chan et al. [2004] suggest recognition, self efficacy, self-esteem and sense of community are important factors in virtual community participation. Wasko and Faraj [2005] find that individual reputation and enjoying helping others are the two motivations to knowledge contribution in virtual communities. Wang and Fesenmaier [2003] identify four motivating factors related to online community contribution: efficacy, status, instrumental, and expectancy. In addition, they conclude that ease of communication and personality are also important in active online participation. Ridings et al. [2002] conclude that trust is a significant factor in predicting virtual community members' desire to get involved in the information exchange process. Wang and Fesenmaier [2004a, 2004b] confirm that different needs (functional needs, social needs, psychological needs, hedonic needs) are the driving force for virtual community members to participate. They also find that different age groups have different needs to motivate them to participate in a virtual community. Hsu et al. [2007] find that personal outcome expectations have a significant influence on knowledge-sharing behavior. They suggest that information-based trust leads to identification-based trust after members of virtual communities get familiar with each other. Bishop [2007] proposes a 3-level conceptual framework to understand what drives member participation in online communities. Level 1 focuses on desires, level 2 addresses cognition, and level 3 emphasize interpretation and interaction of members with their environment. Social networks literature supports the above categorizations by suggesting three types of online community members: users seeking new contacts, users seeking better communication with their existing communities, and potential members who can be converted from surfers and short-term goal-oriented users through increased interactivity [Hamman 2001].

The uses and gratifications theory of Blumler and Katz [1974] and the group studies in social psychology [Ridings and Gefen 2004; Thibaut and Kelley 1959] provide such major motivations for individuals to join virtual communities as the need for social integration (belong and be affiliated), the need for help in achieving goals (e.g. by obtaining information), the need for realizing economic exchanges, the need for status enhancement (by impressing and manipulating others), and the need for entertainment.

The Social Identity Theory postulates that members of an organization strive to derive a positive social identity as a consequence of their membership [Ellemers et al. 1999]. This proposition is further extended to suggest that the functionality of groups (extent to which they fulfill important needs of their members) shapes their members' social identification with these groups [Dholakia et al. 2004]. It is also known that shared interests lead to perceptions of similarity and contribute to attraction among individuals [Byrne 1971]. Existing empirical findings confirm such motivational antecedents of social identification with virtual communities as purposive value (desire to obtain information, negotiate, solve problems, etc.) and entertainment value (to play, relax, pass away the time, etc.) [Dholakia et al. 2004]. On the basis of the above, it appears logical to suggest that stronger motivations to join virtual communities for social interaction (as opposed to asocial activities) would lead to higher degrees of member identification with the group.

Ellemers et al. [1999] distinguished three dimensions of the Social Identification construct: cognitive self-categorization, affective commitment to the group, and evaluative group self-esteem. Cognitive aspect of social identity reflects the self-categorization process accentuating similarities between self and other group members. Affective component reflects emotional attachment to the group, and intentions to continue the participation, and evaluative component is defined as positive or negative value connotation attached to group membership. Ellemers et al. [1999] state that these aspects are related, but separate in their manifestations, and argue that these distinctions should be made in order to understand how the three components are affected differentially by specific characteristics of the group or the social context. Since members join virtual communities based on shared interests and values (as opposed to physical appearance and non-verbal cues), formation of deeper relationships can lead to stronger identification with the communities [Bargh and McKenna 2004]. Extending the finding that active and voluntary participation increases group commitment [Ellemers et al. 1999] and that entertainment motivation enhances all three elements of social identity [Dholakia et al. 2004], we propose that higher degree of socially-

oriented motivations will lead to stronger members' self-categorization, evaluative self-esteem, and affective commitment to the community.

> H1: *Higher degree of socially-oriented motivations to join a virtual community will lead to stronger*
>> (a) *cognitive social identification with the community*
>> (b) *evaluative social identification with the community*
>> (c) *affective social identification with the community*

3.2. Internalization

Bagozzi and Dholakia [2002] propose that in addition to identification with the group, another form of interpersonal mechanism prominent in virtual communities is internalization, defined as the "adoption of a decision based on the congruence of one's values with the values of another" (p.10). Their concept of values includes beliefs, attitudes, overlapping goals, and group norms shared by members of virtual communities. Under the conditions of voluntary participation and potential anonymity, internalization occurs through the process of interaction, whereby the properties of the group and behavior within it are inferred from others' and one's own actions (Web postings) and the responses to them [Postmes et al. 2000]. This process is sometimes referred to as social construction, and represents a dynamic reciprocal action occurring over time in which users continue to adapt their conventions to their social practice [Postmes et al. 2000].

According to Dholakia et al. [2004], group norms can be influential only if they are "volitionally accepted by members as congruent to their own motives" (p.246). Similarly, individuals may be attracted to the communities where members posses similar norms, beliefs, and attitudes, that would contribute to a sense of strong internalization. Consequently, socially-oriented motivations should positively correlate with internalization of virtual community norms and values. Such motivations to join virtual communities as purposive value (to solve problems, to make decisions, to provide others with information, etc.) and self-discovery value (e.g. to learn about oneself and others) were also empirically proven to increase the internalization of community norms [Dholakia et al 2004]. No empirical research exists today regarding relationships between transactional motivations to join virtual communities and internalization. However, it appears that norms are a necessary component for successful transactional outcomes. Consistent with these theories and finding, we propose the following hypotheses.

> H2a: *Higher degree of socially-oriented motivations to join a virtual community will lead to stronger internalization of the community's norms*

> H2b: *Higher degree of informational (purposive) motivations to join a virtual community will lead to stronger internalization of the community's norms*

> H2c: *Higher degree of transactional motivations to join a virtual community will lead to stronger internalization of the community's norms*

3.3. Social Identification, Internalization, and Virtual Group Influence

The concept of social identity is important in explaining how participation in a virtual community may influence members' consumption choices. Defined as "that part of an individual's self-concept which derives from his knowledge of his membership of a social group… together with the value and emotional significance attached to that membership" [Tajfel 1978, p.63], social identity has been shown to determine individuals' inclinations to behave in terms of their group membership.

Early social identity research demonstrated that social identification instigates behaviors that benefit the group [Tajfel 1978]. It has been further proposed [Dutton et al. 1994, Kramer 1993] that group identification should lead to cooperative and altruistic actions in organizations. More recent empirical research found that the affective commitment component of social identity leads to in-group favoritism [Ellemers et al. 1999]. Additionally, social identity was demonstrated to be effective in influencing citizenship behaviors by firm employees [Bergami and Bagozzi 2000]. The role of social identification with online groups is suggested to be more salient than in face-to-face groups due to the depersonalizing phenomenon taking place online [Bargh and McKenna 2004]. It is believed that personal accountability and identity is decreased online, making the group-level social identity more important. This should increase member conformity to virtual group norms and opinions. Additionally, social identification with an online group may be strengthened by the potential to idealize group members who are not physically close and may not fully disclose themselves [Bargh and McKenna 2004]. Idealizing one's online group members may facilitate the comparative and value-expressive influence of this group, which is similar to the influence of aspirational groups found in earlier marketing literature [Kelley 1947, Lessig and Park 1975]. For example, social identification was shown to influence participation behavior and intentions to join the group by virtual community members [Dholakia et al. 2004]. The above suggests that higher degree of social identification with a community

may increase virtual community's influence on members' shopping choices, thus manifesting the shopping reference group status of virtual communities.

A number of studies showed that internalization of values and norms can be stronger in computer-mediated groups due to the deindividuation effect (reducing one's self-awareness as a result of submergence in a large group), since the influence of self-standards decreases and the power of external cues increases in such situations [McKenna and Green 2002]. Postmes et al. [1999] found that those who interact under conditions of deindividuation or anonymity are more likely to conform to group norms than members of face-to-face groups. It has been suggested and confirmed that strong group norms generate consensus and promote agreement among virtual community members [Dholakia et al. 2004]. Stronger group norms have also been found to lead to stronger mutual agreement to participate in virtual communities, willingness to accommodate each other to enable participation, and to stronger participation intentions [Dholakia et al. 2004]. It is possible to conclude that internalization of group norms, values, rules and goals will play a key role in virtual community influence on members' shopping choices.

3.4. Susceptibility to Interpersonal Influence

Consumer susceptibility to interpersonal influence is defined as "the need to identify or enhance one's image with significant others through the acquisition and use of products and brands, the willingness to conform to the expectations of others regarding purchase decisions, and/or the tendency to learn about products and services by observing others and/or seeking information from others [Bearden, Netemeyer and Teel 1989]. This construct was developed based on the long tradition of investigating manifested influence of various types of reference groups in diverse situations [e.g. Bearden and Etzel 1982; Deutsch and Gerard 1955; Kelman 1961; Park and Lessig 1975, 1977]. Operationalized as a general trait, which is behaviorally consistent across situations, the construct of susceptibility has two dimensions: normative susceptibility (tendency to conform to others' expectations) and informational susceptibility (tendency to accept information from others as evidence about reality).

The conceptualization of consumer susceptibility to interpersonal influence as a general trait was derived from McGuire's [1968] conclusion that a person's influenceability is consistent across situations, along with such similar traits as conformity and persuasibility [Bearden et al. 1989]. It has been suggested that those who conform to one source on one issue would conform to other sources on other issues [Bearden et al. 1989]. However, a number of studies have demonstrated far greater contribution of situational factors to conforming behaviors than that of the personality trait of conformity. An empirical investigation by Vaughan [1964] found that the majority of the population does not exhibit consistent conforming behaviors, and that individual actions depend almost entirely on the individual's perception of the situation. Eagly [1969] showed that acceptance of influence is unrelated to personal variables for females, and is non-linearly related to self-esteem for males. Acceptance of influence among females in the sample was positively related to their sex role identification, which led the author to conclude that acceptance of social influence is a complex process that would be better understood by considering the role of social norms [Eagly 1969]. Finally, Berkowitz and Lundy [1957] discovered that individuals choose their reference groups depending on their current level of interpersonal confidence. Those who have an unsatisfied need for interpersonal relationships were more susceptible to peers' influence than to parents' influence, while individuals with high degree of interpersonal confidence were more readily influenced by authority figures [Berkowitz and Lundy 1957]. Thus, situational and reference group characteristics appear to be significant predictors of susceptibility to social influence, which contradicts its conceptualization as a general personality trait invariant across situations.

The 3M model of motivation and personality [Mowen 2000] may help reconcile the ostensible contradiction. According to this hierarchical model, genetic predispositions and early learning experiences determine the individual's elemental traits (e.g. the Big Five) that combine with a person's socialization process to shape compound traits (e.g. needs for arousal and cognition). Situational traits are further formed through interactions of compound traits and situational influences (e.g. health motivation). Finally, surface traits (e.g. bargain-proneness) evolve from situational traits and represent specific dispositions in response to the context [Mowen 2000]. From this perspective, conformity to interpersonal influences can be classified as a compound trait stemming from more general elemental traits, e.g. as agreeableness. In the context of virtual communities conformity manifests as a more specific Susceptibility to Virtual Community Influence situational trait that is differentially affected by the degree of social identification and internalization for each community and each member. From this perspective, the virtual community influence on members' consumption choices can be depicted as a situational influence mechanism, whereby the strength of social motivation to join a particular group determines the degree of identification with its members and internalization of the group's norms. These processes, in turn, impact the manifest member susceptibility to the virtual group's influence in making consumption choices.

Another conceptualization of the virtual community influence mechanism can be described as the sequence of antecedents to the subjective norms construct detailed in the Theory of Planned Behavior [Ajzen 1991]. Subjective norms reflect the need for approval from significant others, the "felt" social influence of the expectations of others

[Bagozzi and Dholakia 2002], and in this capacity are similar to the normative dimension of the susceptibility to interpersonal influences. Subjective norms have traditionally been considered a moderating variable affecting the strength of the relationship between attitude towards a behavior and behavioral intentions. However, researchers have pointed out that the effect of normative considerations on behavior varies for the same person and depends on such situational characteristics as observability and type of product [Batra, Homer and Kahle 2001; Bearden and Etzel 1982; Fishbein and Ajzen 1975]. The normative influence has been empirically proven to mediate the relationship between motivational values of sense of belonging, warm relationships, fun and enjoyment and product attribute preferences (e.g. brand reputation, style, fashion, or value) [Batra et al. 2001]. Subjective norms have also been shown to directly influence member's desire and indirectly (through desire) - member intentions to join virtual communities [Bagozzi and Dholakia 2002]. Therefore, it appears logical to suggest that normative susceptibility to virtual community influence would be stronger for individuals with higher internalization of their community's norms and values.

Drawing on the internalization concept, we theorize that online discussions and arguments about products facilitate convergence of attitudes towards them and would lead to formation of group-specific preferences. We propose that the extent to which virtual community members share their attitudes and norms will influence members' shopping choices. In addition, susceptibility to virtual community influence will be influenced by norms internalization, and will, in turn, positively influence members' buying behavior.

H3a: *Cognitive component of social identification with virtual community will be positively related to members' normative susceptibility to the online group influence.*

H3b: *Cognitive component of social identification with virtual community will be positively related to members' informational susceptibility to the online group influence.*

H4a: *Affective component of social identification will be positively related to members' normative susceptibility to the online group influence.*

H4b: *Affective component of social identification will be positively related to members' informational susceptibility to the online group influence.*

H5a: *Evaluative component of social identification will be positively related to members' normative susceptibility to the online group influence.*

H5b: *Evaluative component of social identification will be positively related to members' informational susceptibility to the online group influence.*

H6a: *Internalization of group norms and values will be positively related to members' normative susceptibility to the online group influence.*

H6b: *Internalization of group norms and values will be positively related to members' informational susceptibility to the online group influence.*

3.5. Susceptibility to Virtual Community Influence and Buying Behavior and Choices

As a situational trait, susceptibility to virtual community influence should exhibit a significant relationship with the community members' manifest behaviors of using other members' opinions and information while making shopping choices and decisions. Previous research reports positive correlation between normative dimension of susceptibility and the normative behavioral index, and insignificant positive correlation between informational susceptibility and informational behavioral index [Bearden et al. 1989, 1990]. We believe that due to high level of expertise in particular areas, some virtual communities can exert informational influence on shopping decisions by facilitating the transfer of information among reference group members regarding product evaluations, preferences, or opinions [Deutsch and Gerard 1955] both through active interaction and passive observations of what other members post about their product and brand use, or through picture sharing and in occasional face-to-face meetings.

H7a: *Normative Susceptibility to the online group influence will be positively related to members' buying behavior.*

H7b: *Informational Susceptibility to the online group influence will be positively related to members' buying behavior.*
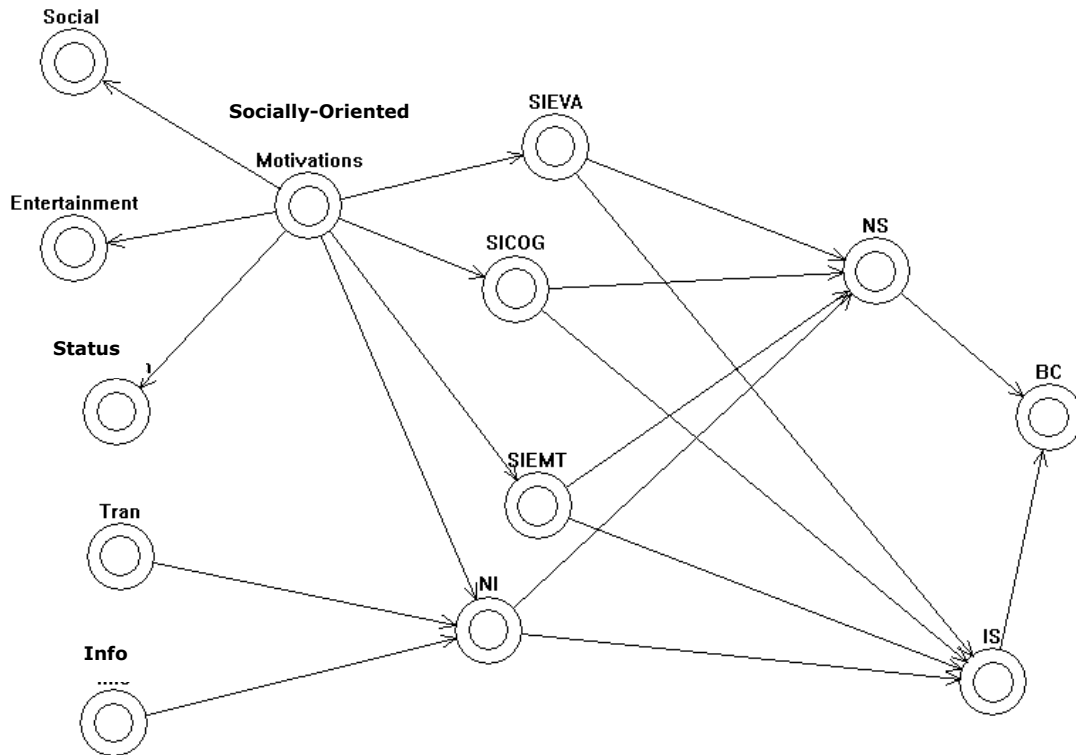
Figure 1: Conceptual Framework

Figure 1 presents the conceptual framework for this paper. We propose that higher degree of social motivation to join a virtual community will lead to stronger social identification with the community, and stronger internalization of its values, norms, and rules, since social orientation presupposes higher involvement, more active participation, and long-term commitment. This suggestion is based on the finding that the benefits virtual community participants seek to attain from social interaction explain the degree of the community's influence on its members [Dholakia et al. 2004]. We also propose that informational and transactional motivations to join virtual communities will lead to internalization of their norms [Dholakia et al. 2004]. Consistent with the social identity theory [Tajfel 1978, Ellemers et al. 1999] and norms internalization research [Bagozzi and Dholakia 2002], we propose that higher cognitive self-categorization, affective commitment, evaluative group self-esteem, and norms internalization will be positively related to the community's normative and informational influence on members' choices of products and brands within the area of the community's expertise represented by their susceptibility to virtual community influence. Finally, normative and informational components of susceptibility to virtual community influence, as a situational trait formed under the influence of social processes within the virtual group, are hypothesized to influence manifest buying behavior.

4. Method

The data were collected using an on-line survey, the URL of which was distributed via e-mail to undergraduate business students with the request to those who are currently active members of virtual communities to fill it out, and also forward it to friends and relatives who participate in virtual communities. They were instructed to base their responses on the one virtual community they are most actively involved with. We used snowball sampling that is usually applied for rare phenomena, since membership in online communities, although significantly increasing, is not universal in the population. As a result, 533 usable responses were obtained. The demographic characteristics of the sample (Appendix A) indicate that most of the respondents were undergraduate students (85.6%), with females representing 61.4% of the sample. The majority (91.2%) was between 19 and 30 years of age, and 39.6% had an annual household income of less than $20,000. This profile is representative of general student population and somewhat different from the demographics of a typical Internet user reported by Pew Internet [Pew Internet 2005], which recorded that males, households with higher income, and college graduates are more likely Internet users. However, our sample reflects the dominant age of contemporary Internet users (18 – 29), and represents Generation

Y Americans, who due to their size (72 million) and time spent online (on average 10 hours a week), are of major interest to marketers [Weiss 2003]. In addition, based on the community type, the structure of our sample is similar to the Pew Internet report data, which show that 50% of online community participants belong to professional groups, 50% - to hobby or interest-related group, 31% - to sports fan groups, 29% - to TV show or entertainer fan groups, and 28% participate in support groups for medical conditions or personal problems. In our sample, 25.8% of respondents belong to professional or educational communities, 23.6% to virtual communities of interest, followed by entertainment (23.1%), social support (10.1%), commercial (8.2%), and other (9.2%) virtual communities (Appendix A). These similarities allow us to consider our sample appropriate for testing the hypothesized relationships about virtual community membership.

Students have contributed to understanding virtual communities in previous studies [Wang and Fesenmaier 2003, Levin, Levin and Weller 2005] and have been considered appropriate subjects for Web evaluation [Gefen et al. 2003, Montoya-Weiss et al. 2003]. Additionally, students are frequently among the early adopters of technology and are familiar with a wide variety of Internet communities [Perlusz et al. 2003]. No monetary or bonus points were given to the students, and the responses were obtained on a purely voluntary basis. In order to control for non-response bias, we compared demographic characteristics of early and late respondents, and did not find any statistically significant differences on major demographic characteristics (χ^2_{gender}=0.79, p=0.779; χ^2_{age}=7.684, p=0.175; $\chi^2_{education}$=8.813, p=0.117; χ^2_{income}=2.247, p=0.788; $\chi^2_{community\ type}$=2.213, p=0.947).

5. Measures

5.1. Dominant Motivation to Join Virtual Community

We borrowed 21 items of the *uses and gratifications* scale from communications research to measure needs for using various communication technologies [Flanagin and Metzger 2001]. This scale was used in earlier research on social identification in virtual communities by Dholakia et al. [2004]. In addition, 7 items from social research [Thibaut and Kelley 1959; Ridings and Gefen 2004] reflecting people's needs to join groups were included to better reflect the social interaction motivations that were of major interest in this study. Among them were needs to receive and give emotional support, to meet like-minded people, to meet new friends, to socialize, to discuss interests, etc. The initial scale contained 28 items of 7-point Likert-type format, and was purified by means of principal components factor analysis, which produced 5 major categories of dominant motivations: social integration (α=0.92), entertainment (leisure) (α=0.93), purposive (informational) (α=0.836), status enhancement (α=0.873), and transactional (α=0.805) (Appendix B). The resulting scale was tested for convergent and discriminant validity by comparing inter-factor correlations with within-factor correlations [Churchill 1979]. All within-factor correlations were higher than inter-factor correlations (Appendix C). However, high correlations among items of different motivation dimensions suggested that socially-oriented motivations (social integration, entertainment, and status enhancement) may represent dimensions of a second-order factor, Socially-Oriented Motivations. We used PLS to confirm this finding. As a result of PLS analysis, the purified scale (20 items) contains three major categories of motivations to join virtual communities: Socially-Oriented, Informational/Purposive, and Transactional. The Socially-Oriented motivation represents a second-order factor with the three dimensions of Social Integration, Entertainment, and Status Enhancement (Tables 1, 2)

5.2. Social Identification

The 10-item, 7-point Likert-type scale for this construct was adapted from Ellemers et al. [1999] who differentiate between three related but separate aspects of social identity: cognitive self-categorization, affective commitment to the group, and evaluative group self-esteem, and report the unweighted mean reliability α=0.82. No reliability coefficients for separate components were reported in the original scale. The reliability values obtained in our study after removing one poorly loaded item were: cognitive SI α=0.80, evaluative SI α=0.76, affective SI α=0.81 (Table 1), acceptable based on the Nunnally's [1978] criterion of α=0.70.

5.3. Internalization

Based on the definition of Bagozzi and Dholakia [2002], we operationalized internalization through three 7-point Likert-type statements: I strongly hold the values of my online group; the goal of this online group is meaningful; I accept all the norms of my online group. The reliability for internalization is 0.72 (Table 1).

5.4. Susceptibility to Interpersonal Influence

We adopted Bearden et al.'s [1989] two-dimensional construct. Reliability coefficients in our study are α=0.84 for informational, and α=0.95 for normative dimension.

5.5. Buying Behavior

Buying Behavior was operationalized based on existing reference group literature [Moschis 1976; Lessig and Park 1977; Bearden and Etzel 1982] by six 7-point Likert-type statements about respondents' buying behavior in

response to the manifest influence by other virtual community members on individual product and brand choices (e.g. I usually buy products and brands in the category of my community expertise if they are recommended by my online group members, I buy products and brands in the category of my community expertise that I know my online group members would approve of, I frequently make purchases in the stores recommended by my online friends, etc.). The reliability for buying behavior is 0.93 (Table 1).

Table 1: Descriptive Statistics for Main Constructs

Construct/Dimension	# of items	Mean	Standard Error	Cronbach's Alpha Obtained in this Study	Previously Obtained Cronbach's Alpha
Dominant Motivation to Join	20				
Social Integration	6	3.63	2.00	0.93	
Entertainment	4	4.17	2.13	0.93	
Informational (Purposive)	3	4.15	1.82	0.80	
Status Enhancement	4	2.40	1.46	0.82	
Transactional	3	2.39	1.74	0.80	
Social Identity	8				0.82 [Ellemers et al. 1999]
Cognitive	3	4.09	1.53	0.80	
Affective (Emotional)	2	1.99	1.40	0.81	
Evaluative	3	2.38	1.43	0.76	
Internalization	3	4.27	1.50	0.72	
Susceptibility to RG Influence	12				
Informational	4	3.48	1.66	0.84	0.82 [Bearden et al. 1989]
Normative	8	2.56	1.51	0.95	0.88 [Bearden et al. 1989]
Buying Behavior	6	3.05	1.56	0.93	

Scale Anchor: 1=Strongly Disagree, 7=Strongly Agree

6. Data Analysis and Results

The hypothesized structural model (Fig. 1) was tested using Partial Least Squares (PLS) method. The use of PLS is consistent with the exploratory nature of the study [Chin 1998; Gopal et al. 1993]. Joreskog and Wold [1981] recommend using PLS for causal analysis "in situations of high complexity but low theoretical information" (p. 270). It is a powerful method of analysis that has minimal demands on measurement scales, sample size, and residual distributions [Chin 1998; Gopal et al. 1993]. Marcoulides and Saunders [2006] emphasize the importance of obtaining at least an appropriate sample size in PLS in order to produce reliable results. In this study the sample size of 533 satisfies the suggested minimum sample size requirement for analysis using PLS for the number of items that were analyzed.

Convergent Validity is the degree to which the items load highly on the same underlying construct they are intended to measure. Table 2 shows loadings, composite reliability scores and average variances extracted (AVEs) for all the constructs. The average variances extracted are greater than 0.5 for all the constructs, and all the composite reliability scores are greater than 0.7. All the PLS loadings are greater than 0.7. The composite reliability scores, AVEs and the statistically significant and high loadings provide evidence of convergent validity.

Discriminant validity refers to how well a measure actually measures the underlying constructs and does not correlate highly with the measure of other constructs. To establish discriminant validity, the square root of AVE for an individual construct must be higher than its correlations with other constructs. Table 3 shows that the square root of AVE of each construct is greater than 0.5 and greater than their correlations with any of the other constructs. According to Fornell and Larker [1981], this is consistent with the criteria required to establish discriminant validity.

The PLS analysis confirmed the three dimensions of the second order construct Socially-Oriented Motivation The path coefficients from the second order construct Socially-Oriented Motivation to the first-order constructs of Social Integration, Entertainment, and Status Enhancement are 0.93, 0.79, and 0.75 respectively. AVE for socially-oriented motivation is 0.53 and the composite reliability for socially-oriented motivation is 0.94 (Table 2).

Table 2: Loadings, Composite Reliability and Square Root of AVE

Construct/Dimension/Item	Loading	T-value	Composite Reliability	Square Root of AVE
Dominant Motivation to Join				
Transactional			0.86	0.82
m2	0.79	4.94		
m24	0.93	6.33		
m21	0.73	3.77		
Informational (Purposive)			0.86	0.82
m1	0.88	19.47		
m8	0.80	7.15		
m9	0.79	6.74		
Socially-Oriented Motivation			0.95	0.53
Social Integration	0.93	162.17	0.95	0.87
m15	0.83	56.07		
m20	0.89	84.31		
m22	0.91	111.73		
m25	0.84	47.97		
m26	0.91	91.17		
m27	0.80	37.41		
Entertainment	0.79	43.82	0.95	0.91
m10	0.91	86.28		
m11	0.91	100.76		
m12	0.92	114.60		
m14	0.90	86.77		
Status Enhancement	0.89	81.72	0.89	0.82
m16	0.89	81.72		
m18	0.78	25.69		
m17	0.90	86.75		
m19	0.70	25.22		
Social Identity				
Cognitive			0.83	0.83
SI5	0.82	31.18		
SI6	0.81	27.15		
SI7	0.86	47.82		
Affective (Emotional)			0.91	0.92
SI9	0.91	55.82		
SI10	0.92	77.89		
Evaluative			0.86	0.82
SI1	0.75	27.27		
SI3	0.88	53.36		
SI4	0.83	36.83		
Internalization			0.81	0.77
SI15	0.92	5.71		
SI18	0.79	6.83		
SI17	0.57	3.91		
Susceptibility to RG Influence				
Informational			0.89	0.82
S1	0.84	48.43		
S2	0.87	69.01		
S3	0.80	33.80		
S12	0.77	46.70		
Normative			0.96	0.87
S4	0.87	58.40		
S5	0.89	76.22		

S6	0.90	68.94		
S7	0.86	50.51		
S8	0.89	61.99		
S9	0.88	59.11		
S10	0.80	28.93		
S11	0.84	48.15		
Buying Behavior			0.94	0.86
B1	0.86	62.47		
B2	0.85	50.57		
B3	0.88	68.91		
B4	0.84	53.43		
B5	0.89	79.86		
B6	0.84	44.67		

Table 3: Correlation among Constructs, Square Root of AVE and R-square for Dependent Variables

	SIEVA	SICOG	SIEMT	NI	IS	NS	BC	Social	Entertai	Informat	Transact	Status	R-square
SIEVA	**0.82**												6.7%
SICOG	0.07	**0.83**											17.2%
SIEMT	0.65	0.01	**0.92**										3.7%
NI	0.00	0.52	0.01	**0.77**									12%
IS	0.20	0.33	0.19	0.36	**0.82**								19%
NS	0.41	0.29	0.44	0.25	0.65	**0.87**							31%
BC	0.30	0.35	0.29	0.33	0.71	0.74	**0.86**						64%
Social	0.14	0.44	0.08	0.16	0.25	0.30	0.30	**0.87**					
Entertai	0.16	0.27	0.07	0.04	0.20	0.21	0.20	0.62	**0.91**				
Informat	0.06	0.08	0.11	0.24	0.25	0.16	0.19	0.20	0.32	**0.82**			
Transact	0.37	0.05	0.36	0.16	0.29	0.32	0.28	0.01	0.09	0.09	**0.82**		
Status	0.42	0.30	0.42	0.21	0.27	0.53	0.39	0.60	0.38	0.01	0.29	**0.82**	

According to hypotheses H1a, H1b, H1c, and H2a, Socially-Oriented Motivation correlates strongly with social Identification (SI) and Internalization of the community's values and norms. Our results support our propositions. Socially-Oriented Motivation is significantly and positively related to Cognitive (β=.42, α=0.001), Evaluative (β=.26, α=0.01) and Affective (β=.19, α=0.01) components of Social Identification, and to Norms Internalization (β=.15, α=0.01), supporting H1a, H1b, H1c and H2a (Table 4).

Hypotheses H2b and H2c that posited positive relationships between Informational (purposive) and Transactional motivations and Norms Internalization were supported, with coefficients 0.31 and 0.10 respectively. Hypotheses H3a and H3b that predicted the positive relationships between cognitive SI and Normative (β=.22, α=0.01) and Informational susceptibility (β=.21, α=0.01) were supported as well. Tests of H4a and H4b confirmed the relationships between the Affective SI component and Normative (β=.31, α=0.01) and Informational Susceptibility (β=.12, α=0.01). Tests of H5a and H5b confirmed the relationships between the Evaluative SI component and Normative (β=.20, α=0.01) and Informational Susceptibility (β=.11, α=0.01). Tests of H6a and H6b confirmed the relationships between norms internalization and normative (β=.11, α=0.01) and informational susceptibility (β=.23, α=0.01). Hypotheses 7a and 7b stated that both Normative and Informational susceptibility to online group influences are positively related to members' buying behavior, and were supported, with Normative Susceptibility exhibiting stronger influence (β=0.49, α=0.01) than Informational Susceptibility (β=0.40, α=0.01) (Table 4).

Table 3 shows the r-squares for each dependent variable. Informational and Normative susceptibility explain 64% of variance in buying choices. Evaluative, Cognitive and Affective components of SI, and Norms Internalization explain 18.9% of variance in Informational Susceptibility and 30.6% of variance in Normative Susceptibility. Socially-Oriented, Informational and Transactional motivations account for 11.8% of variance in Norms Internalization. Finally, Socially-Oriented motivations explain 6.8% of variance in Evaluative SI, 17.2% in Cognitive SI, and 3.7% in Affective SI. Figure 2 shows the results of PLS analysis.

Table 4: Hypotheses testing

| Path	Hypothesis	Coefficients	Significance Level
Socially-Oriented Motivation → Cognitive SI	H1a - supported	0.42	0.001
Socially-Oriented Motivation → Evaluative SI	H1b – supported	0.26	0.01
socially-oriented Motivation → Affective SI	H1c - supported	0.19	0.01
Socially-Oriented Motivation → Norms Internalization	H2a – supported	0.15	0.01
Informational (purposive) motivations → Norms Internalization	H2b – supported	0.31	0.01
Transactional motivations → Norms Internalization	H2c – supported	0.09	0.01
Cognitive SI → Normative Susceptibility	H3a – supported	0.22	0.01
Cognitive SI → Informational Susceptibility	H3b – supported	0.21	0.01
Affective SI → Normative Susceptibility	H4a – supported	0.31	0.01
Affective SI → Informational Susceptibility	H4b – supported	0.12	0.01
Evaluative SI → Normative Susceptibility	H5a – supported	0.20	0.01
Evaluative SI → Informational Susceptibility	H5b – supported	0.11	0.01
Norms Internalization → Normative Susceptibility	H6a - supported	0.11	0.01
Norms Internalization → Informational Susceptibility	H6b - supported	0.23	0.01
Normative Susceptibility → Buying Behavior	H7a - supported	0.49	0.001
Informational Susceptibility → Buying Behavior	H7b - supported	0.40	0.001
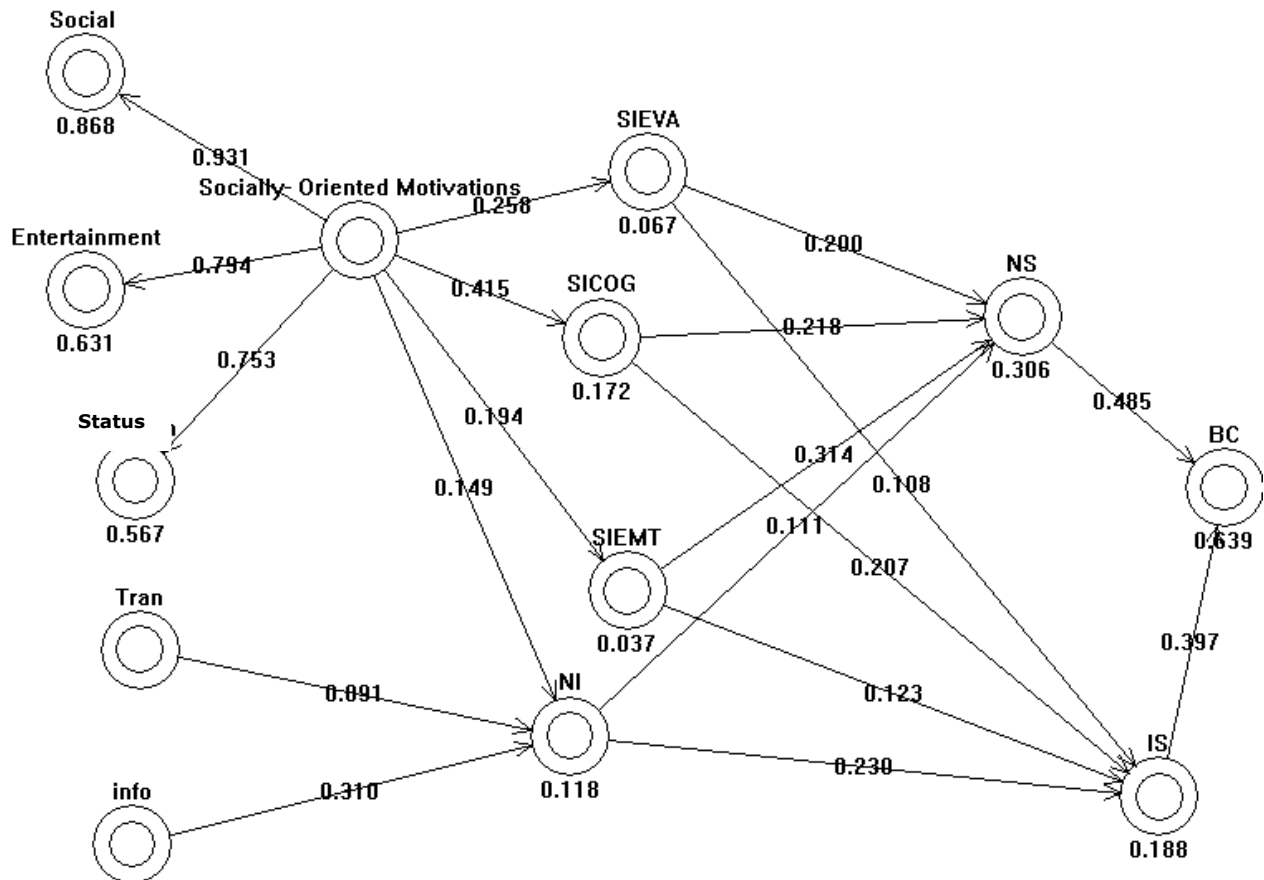
Figure 2: PLS Results

7. Discussion

The results support our conceptual model of the virtual communities' influence on the shopping choices of their members. Consistent with this model we posit and confirm that cognitive identification, affective commitment and positive evaluation with the community increases the likelihood of a virtual community's influence on its members' buying choices within the area of the virtual community's expertise because of an increase in the susceptibility to the community's influence. Our findings support prior research that stated that the affective component of social identification is the strongest determinant of acting in terms of group membership. In our study the affective SI has the strongest influence on normative susceptibility to virtual community influence. A new finding that may be specific to virtual communities is that the cognitive component of social identification has the strongest impact on the informational susceptibility. This means that in the absence of face-to-face interactions, perception of oneself as belonging to a certain virtual group leads one to act on information obtained from this group while making purchasing decisions.

Building upon prior research we proposed that identification with virtual social groups is derived from the dominant motivation of individuals to join the communities. We confirmed that joining a community with socially-oriented goals leads to identification with the community and internalization of its norms and values. Our results are consistent with Ellemers et al.'s [1999] claims that three dimensions of social identity are affected differentially by context. In our sample socially-oriented motivations are positively and significantly related to evaluative, cognitive and affective components of social identification. The coefficients within our model show that the relationship between socially-oriented motivation and cognitive SI is stronger than those between socially-oriented motivation and evaluative and affective SI. These results are potentially explained by the computer-mediated character of virtual community participation whereas even those individuals who join virtual groups to socialize with others experience less of affection and emotion towards the group and more of cognitive identification with other members.

Our findings show that both normative and informational susceptibility substantially affect buying choice, with normative susceptibility having a slightly stronger impact. These results are consistent with prior research on the role of subjective norms in virtual communities [Bagozzi and Dholakia 2002]. Contrary to assumptions that virtual communities can only influence their members by providing expert information, our data support the role of social relationships and the resulting normative influences on buying decisions. Normative and informational susceptibility to virtual community influences together explain 64.1% of the variance in buying choices, which highlights the increasing importance for businesses to invest in interactive websites with user-generated content. By investigating the "social motivations – group identification – susceptibility to influence" link, this paper provides valuable insights into social processes that lead to the formation of subjective norms in the context of virtual communities.

Our findings make a contribution to research on reference group influence by clarifying the mostly situational nature of the susceptibility trait, and suggesting a new approach to antecedents of the subjective norms construct in the virtual community context. Future research should focus on studying the combined role of personality and situational variables in influencing virtual community members' shopping behaviors.

8. Managerial Implications, Limitations and Further Research

Our findings suggest that virtual communities that can fulfill their members' social needs have a higher potential to influence members' shopping preferences, and may present opportunities for businesses. Businesses can benefit by upgrading their websites to provide more interactive interests-centered chat-rooms moderated by experts and encouraging opinion-sharing, exchange of ideas and information, and engaging in product-related discussions. These practices have the potential to generate valuable information while simultaneously developing loyalty and potential customers. Additionally, developing attractive informational and trading websites that offer discussion and socializing opportunities can assist businesses in cultivating loyal customers.

While the demographic characteristics of our sample were different from those of an average Internet user as reported by Pew Internet [2005] the sample demographics were similar to those of virtual community participants and, as such, are relevant to the population of interest. Additionally, our sample was taken from the Generation Y population, which is the most influential consumer segment after Baby Boomers, and is of strategic interest to marketers. While our work posits and supports several important relationships via the tested structural model, it is important to realize that other important factors (e.g. prestige, expertise, and source credibility of the online group) potentially impact the relationships of interest [Walczak, Gregg and Berrenberg 2006].

In this work we did not differentiate between the different types and modes of communication (posting, lurking, etc.) or community characteristics (e.g. size). Our goal was to test whether the social phenomena that take place in virtual communities in general affect their members' susceptibility to being influenced in their shopping decisions. Future research should focus on differentiating the limiting and facilitating conditions of the main effect confirmed in this study.

Notwithstanding the mentioned limitations, this study made a valuable contribution to understanding the social mechanisms at work within virtual communities. Our results have the potential to stimulate interest in the area of social processes in cyberspace and more research in the area of virtual community influence using existing social and group development theories. For example, norms formation and influence, the effects of anonymity on social identity, and distinctive power structures in the context of virtual communities represent interest for future research. Such issues as a virtual group's characteristics (e.g. size, prestige, and expertise), the members' demographic characteristics, and the type of product choices amenable to virtual group influences are also potential areas for future.

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Appendix A. Demographic Characteristics of the Sample.

Gender	Age		Education		Income		Community Type	
Female	19 – 24	73.9%	Undergraduate Student	85.6%	Under $20,000	39.6%	Special interest	23.6%
61.4%	25 – 30	17.3%	High School	6.6%	$20,000 - $39,000	22.1%	Educational	22.0%
	31 - 36	6.0%	Bachelor's degree	5.8%	$40,000 - $59,000	14.8%	Professional	3.8%
Male	37 – 42	1.9%	Master's degree	1.3%	$60,000 - $79,000	11.3%	Entertainment	23.1%
38.6%	43 – 48	0.8%	Advanced degree	0.4%	$80,000 - $99,000	3.0%	Social support	10.1%
	49 - 54	0.2%			$100,000 and over	9.2%	Other	9.2%
							Commercial	8.3%

Appendix B. Varimax Rotated Principal Components Exploratory Factor Analysis: Dominant Motivations to Join a Virtual Community

Variable/Factor	Social	Entertainment	Informational (purposive)	Esteem	Transactional
m20 To get to know others	0.831				
m26 To socialize	0.829				
m22 To meet new friends	0.825				
m25 To meet like-minded people	0.789				
m27 To discuss interests	0.762				
m3 To stay in touch	0.710				
m10 To be entertained		0.855			
m12 To relax		0.854			
m11 To play		0.851			
m14 To pass the time away when bored		0.813			
m8 To learn how to do things			0.830		
m9 To solve problems			0.825		
m4 To generate ideas			0.747		
m5 To make decisions			0.738		
m1 To get information			0.685		
m16 To impress people				0.850	
m17 To feel important				0.839	
m18 To get someone to do something for me				0.771	
m2 To negotiate or bargain					0.852
m21 To buy/sell stuff					0.839
m24 To market my products					0.759
Variance explained by factor (total=74.437%)	21.122	15.857	14.855	11.925	10.678
Cronbach's alpha	0.92	0.93	0.836	0.873	0.805

Appendix D. Convergent and Discriminant Validity of Dominant Motivation to Join (All correlations are significant at 0.05 level)

	M26	M20	M22	M25	M27	M3	M8	M9	M4	M5	M1	M6	M12	M10	M11	M14	M16	M17	M18	M2	M21	M24
M26	1.00																					
M20	0.79	1.00																				
M22	0.80	0.84	1.00																			
M25	0.69	0.66	0.75	1.00																		
M27	0.70	0.63	0.64	0.71	1.00																	
M3	0.61	0.63	0.56	0.41	0.44	1.00																
M8	-0.22	-0.13	-0.12	-0.01	0.04	-0.11	1.00															
M9	-0.24	-0.13	-0.15	0.00	0.02	-0.12	0.77	1.00														
M4	0.00	0.09	0.06	0.17	0.21	0.18	0.46	0.46	1.00													
M5	-0.19	-0.11	-0.13	-0.01	0.04	-0.05	0.47	0.55	0.59	1.00												
M1	-0.27	-0.16	-0.20	-0.07	-0.04	-0.07	0.48	0.45	0.39	0.42	1.00											
M6	0.10	0.16	0.11	0.23	0.30	0.20	0.36	0.36	0.47	0.43	0.43	1.00										
M12	0.53	0.49	0.51	0.39	0.41	0.32	-0.13	-0.16	0.01	-0.09	-0.30	0.00	1.00									
M10	0.54	0.45	0.47	0.36	0.41	0.35	-0.19	-0.25	-0.04	-0.15	-0.24	0.02	0.76	1.00								
M11	0.52	0.45	0.46	0.38	0.41	0.32	-0.17	-0.18	-0.03	-0.10	-0.32	0.01	0.81	0.77	1.00							
M14	0.53	0.49	0.48	0.38	0.41	0.34	-0.22	-0.25	-0.07	-0.18	-0.29	-0.04	0.77	0.78	0.73	1.00						
M16	0.36	0.41	0.46	0.46	0.36	0.25	0.09	0.10	0.15	0.12	-0.13	0.08	0.35	0.23	0.30	0.31	1.00					
M17	0.37	0.42	0.47	0.46	0.37	0.27	0.09	0.11	0.19	0.16	-0.10	0.16	0.35	0.24	0.30	0.29	0.83	1.00				
M18	0.24	0.30	0.31	0.30	0.27	0.19	0.11	0.13	0.14	0.21	-0.07	0.14	0.25	0.13	0.25	0.18	0.63	0.63	1.00			
M2	-0.10	-0.14	-0.07	-0.02	-0.04	-0.12	0.07	0.12	0.13	0.25	0.03	0.05	0.14	0.11	0.13	0.08	0.15	0.13	0.23	1.00		
M21	-0.19	-0.18	-0.11	-0.07	-0.12	-0.22	0.06	0.10	0.06	0.25	-0.01	0.00	0.13	0.08	0.07	0.10	0.15	0.12	0.21	0.65	1.00	
M24	-0.02	0.00	0.04	0.12	0.05	-0.06	0.13	0.21	0.17	0.29	-0.02	0.10	0.09	-0.02	0.04	0.07	0.32	0.32	0.39	0.53	0.55	1.00

Appendix E. Constructs and Measures

Construct and Definition	Measures	Scale	Borrowed from	Reported Reliability	Modified Scale
Motivation to Join	Value Perception **Purposive Value (9 measures)** – To get information – To learn how to do things – To provide others with information – To contribute to a pool of information – To generate ideas – To negotiate or bargain – To get someone to do something for me – To solve problems – To make decisions **Self-discovery value (2 measures)** – To learn about myself and others – To gain insight into myself **Maintaining Interpersonal Interconnectivity (2)** – To have something to do with others – To stay in touch **Social Enhancement Value (2)** – To impress – To feel important **Entertainment Value (4)** – To be entertained – To play – To relax – To pass the time away when bored	5 points	Dholakia et al. (2004) who borrowed it from Flanagin and Mentzger (2001)	ρ_ε=0.84 ρ_ε=0.89 ρ_ε=0.94 ρ_ε=0.89 ρ_ε=0.90	**Informational Motivation (10)** – To get information – To learn how to do things – To provide others with information – To contribute to a pool of information – To generate ideas – To solve problems – To make decisions – To be informed of professional events – To be informed of events and news – To provide information (recommendations) **Transactional Motivation (5)** – To negotiate or bargain – To get someone to do something for me – To find sellers and prices – To find buyers for my product – To buy or sell stuff **Social Motivation (11)** – To meet new and interesting people – To share opinions – To socialize with cool people – To play games – To meet new friends – To discuss interests – To observe others – To give advice to others – To receive and give emotional support – To communicate with existing friends and family – To meet like-minded people
Social Identity	**Group Self-esteem (4)** – I think my group has little to be proud of – I feel good about my	7 points	Ellemers et al. (1999)	One unweighed mean α=0.82	**Social Identity** **Group Self-esteem (4)** – I think my group has little to be proud of

	group − I have little respect for my group − I would rather not tell that I belong to this group **Self-categorization (3)** − I identify with other members of my group − I am like other members of my group − My group is an important reflection of who I am **Commitment to the Group (3)** − I would like to continue working with my group − I dislike being a member of my group − I would rather belong to the other group				− I feel good about my group − I have little respect for my group − I would rather not tell that I belong to this group **Self-categorization (3)** − I identify with other members of my group − I am like other members of my group − My group is an important reflection of who I am **Commitment to the Group (3)** − I would like to continue working with my group − I dislike being a member of my group − I would rather belong to the other group
Susceptibility to Interpersonal Influence: the need to identify or enhance one's image with significant others through the acquisition and use of products and brands, the willingness to conform to the expectations of others regarding purchase decisions, and/or the tendency to learn about products and services by observing others and/or seeking information from others.	**Normative (8)** − I rarely purchase the latest fashion styles until I am sure my friends approve of them − It is important that others like the products and brands I buy − When buying products, I generally purchase those brands that I think others will approve of − If other people can see me using a product, I often purchase the brand they expect me to buy − I like to know what brands and products make good impressions on others − I achieve a sense of belonging by purchasing the same products and brands that others purchase − If I want to be like someone, I often try to buy the same brands that they buy − I often identify with other people by		Bearden et al. (1989)	$\alpha=0.88$	− unchanged

	purchasing the same products and brands they purchase		α=0.82	
	Informational (4)			
	- to make sure I buy the right product or brand, I often observe what others are buying and using			
	- if I have little experience with a product, I often ask my friends about the product			
	- I often consult other people to help choose the best alternative available from a product class			
	- I frequently gather information from friends or family about a product before I buy.			