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Developing a Framework Explaining Continuous Participation in Digitally Engaged Communities

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Abstract

Digitally engaged communities are virtual communities in the sense that they exist in a cyberspace connecting different people with shared interests. They provide real-world communities a place to come together using the Internet. The eventual success of digitally engaged communities cannot thrive without continuous users' involvement and participation. Therefore, interests have been rising in studying the behaviour of continuous participation, and examining what influences the continuation of use of these communities. In this paper, we propose a framework explaining human behaviour and intentions of why would users continue or discontinue participating in digitally engaged communities and what sort of behaviours they might undertake. This framework is grounded on the decomposed theory of planned behaviour and consequently develops three main taxonomies along with their interrelationships: (1) the social influences affecting members' attitudes, (2) the intentional value elements offered by the community, and (3) the behavioural roles played by members. Implications of the developed framework for theory and practice have been explained demonstrating its value and efficacy on helping decision and policy makers, service providers, users and developers in pertaining a successful operation of a community where value elements are offered, exchanged and met at the same time.

Keywords: Digitally Engaged Communities, Online Communities, Virtual Communities, Social Networking, Theory of Planned Behaviour, Intentions, Value Elements, Behavioural Roles.

1. Introduction

Digitally Engaged Communities (DECs) otherwise referred to as online communities, have gained an increasing popularity during the last few years. With the advent of the third generation Internet-based broadband and other Web-based technologies, the structure and nature of social interacting has been transformed in a way extending the boundaries of human interaction and networking to a broader geographical context. This context is globally bounding people mind alike with shared interests and beliefs.

As more and more people have turned to DECs and actively joined many, there has been an increasing interest and an emerging need to understand their continuous behaviour of participation at a deeper level. And therefore, studying their continued participation in such communities has become a key research issue in the IS field for maintaining effective, and healthy growing digitally engaged communities (Bhattacharjee and Premkumar, 2004).

Digitally Engaged Communities have been defined by Hagel and Armstrong (1997) as computer-mediated spaces where there is an integration of content and communication with an emphasis on member-generated content. Nowadays, such technology-based spaces act as the lifeblood of the Internet; the medium that created an online environment for people to get together and socialize in a more accessible, understandable, and friendly community. They are the mainstream medium for elemental value exchange and social interaction.

Many digitally engaged communities attract a large number of members at an early stage, but suffer from turnover at a later stage; therefore, the successful operation of any digitally engaged community depends on the ongoing and continuous participation, and engagement of its own members. The intended purpose behind any community cannot be achieved without the presence of dedicated interactants ensuring the effective functioning of the community. Otherwise, it would simply be a cyberspace of outdated static contents rather than an ongoing source of value creation and exchange.

Moving on, the structure of this paper is organized where research aims and objectives are discussed next. Thereafter in Section 3, the theoretical background underlying this study is discussed. Then, Section 4 thoroughly explains the grounding of our proposed framework; classifying the social precedents of human behaviour, the

intentional values driving the continuous participation, and the actual behavioural roles of members. In section 5, the proposed framework is discussed demonstrating its implications for theory and practice. Finally, a summary of our work along with its concluding remarks are presented within section 6.

2. Research Motivation

The current research aims at investigating the continuation of use of digitally engaged communities, on the basis of identifying the social-related precedents leading to such a human behaviour. Thus, the research question can be formulated as follows:

“Why users continue or discontinue participating in digitally engaged communities? And what roles would they adopt as a result?”

This paper emphasizes the importance of the social aspects and characteristics in determining human intentions and their *post-usage* behavioural roles pertaining to DECs. We postulate that as people live within different contexts of social, behavioural and cultural backgrounds, the roles played by them in DECs is more likely to be different, due to the intentional differences in regards to which value elements are desired to be captured.

Retrospectively, we argue that attention should be paid to study the cognitive (social, cultural, and behavioural) beliefs underlying their continuous interest in coming back and participating in such communities, or not. This attention however is deemed pertinent as previous efforts were mainly concerned with a more technology-related thinking without giving much attention to precisely identify the social-related influences in this context (*See* for example Taylor and Todd, 1995a,b; Tan and Teo, 2000; Hsu and Chiu, 2004; Lee et al., 2005; Al-Gahtani et al., 2007).

The current research motivations are therefore attributed to the need of a further investigation of the social-related aspects that would influence the continuation of use in DECs. To this end, our research develops a framework that investigates the social-related precedents influencing human intentions, and as a result develops a categorization of those intentional value elements driving members into continuous participation, leading to the final categorization of the behavioural roles played by members.

3. Theoretical Background

Research in information systems has noticeably employed intention-based models and theories which use behavioural aspects to identify the influences of human intentions on the adoption and usage (i.e. post-adoption) of various innovations and technologies. Digitally engaged communities and their supporting technologies are no exception, and a wide range of theories has been utilized in this context. For example, researchers have adopted the theory of reasoned action (e.g. Hsu and Lin 2008), social capital and social cognitive theories (Chiu et al., 2006, Hsu et al., 2007), a “uses and gratifications” approach (e.g. Nambisan and Baron 2007), as well as an instrumental perspective (e.g. Leimeister et al., 2004) to understand drivers behind participation in DECs. However, despite the significance of the aforementioned theories, no one is considered appropriate or sufficient enough to accomplish the research outcomes.

Notwithstanding the high level of utilization in the literature related to DECs, TAM (i.e. Technology Acceptance Model) (Davis, 1989), and DOI (i.e. Diffusion of innovation) (Rogers, 1983) theories have been also excluded. This is because these two theories have been developed to measure and delineate the impact of different *technology-related aspects* on the *adoption and acceptance* of innovations and new technologies. This however contradicts our aim in two folds: (1) we are concerned with social aspects and characteristics, not the technology-related aspects; (2) we are concerned with post-adoption usage, and not the adoption decision itself.

Having recognized that, the Theory of Planned Behaviour (TPB) is deemed highly appropriate for this research as it best fits the purpose of studying the *social aspects* preceding human intentions of whether and how to continue using the system, or not. For achieving the current research objectives and goals, the theory of planned behaviour has some advantages over the other competing models since (1) it is capable of supplying more useful information to explain behaviour in a social-related context (Mathieson, 1991); (2) it provides good prediction while using few predictors, and (3) it offers a complete understanding of the phenomena as it includes variables with very different conceptual scope (Taylor and Todd, 1995a,b).

3.1 Theory of Planned Behaviour (TPB)

The theory of planned behaviour has proven to be a successful model in a wide range of behavioural disciplines to empirically predict, understand, and explain human behaviour in a variety of situations (Barnett and Presley, 2004; Hsu et al., 2006). The summary proposition of the TPB is that system users would intent to perform behaviour when they evaluate it positively, and perceive it to be under their own control. Although it has some recognized limitations (Eagly and Chaiken, 1993), and has been criticised (Venkatesh et al., 2003) it is still applied extensively demonstrating its importance and significance.

The theory of planned behaviour employs quite a simple model, including five constructs, which has shown great explanatory power (Armitage and Conner, 2001; Hagger et al., 2002). Yet, the decomposition of the TPB's constructs helps in providing clearer relationships and more readily understood. It provides a fuller understanding of behavioural intention by focusing on the factors that are likely to influence systems use. Taylor and Todd (1995a,b) stated that those researchers who are looking for a more comprehensive understanding of human intentions should consider decomposing the theory of planned behaviour, as it provides a more complete understanding of the determinants of human intention and a richer understanding of human intentions.

The theory of planned behaviour is a later refinement of the TRA proposed by Icek Ajzen's, which act as an extension to the TRA (*See* Ajzen and Fishbein, 1975). An extension that resides around controlled behaviour. Ajzen's theory of planned behaviour (1991) propose and incorporate an additional influence of human intentions which is the '*Perceived Behavioural Control*' into the reasoned action model to acknowledge the discovery that individuals might have incomplete control over their intended behaviour, as a result of unstable situational factors (Ajzen, 2002).

Within the core of the theory of planned behaviour lies the central factor, which is individuals' intention (or as referred to the intentional value elements in this research) that would motivate them to continue perform certain role-behaviours. Individuals' motivational intentions are indications of what values would influence his intent to continue acting in a certain role-behaviour. Thus, intentions would be expected to

affect and influence performance to the extent that the person has behavioural control (Ajzen, 1991).

Accordingly, human continuous intentions are preceded by 3 attitudinal constructs affecting the actual behaviour of individuals. Thus, the general framework postulates three conceptually independent influences of members' intentions; *Attitudes*, *Subjective Norms*, and *Perceived Behavioural Control*.

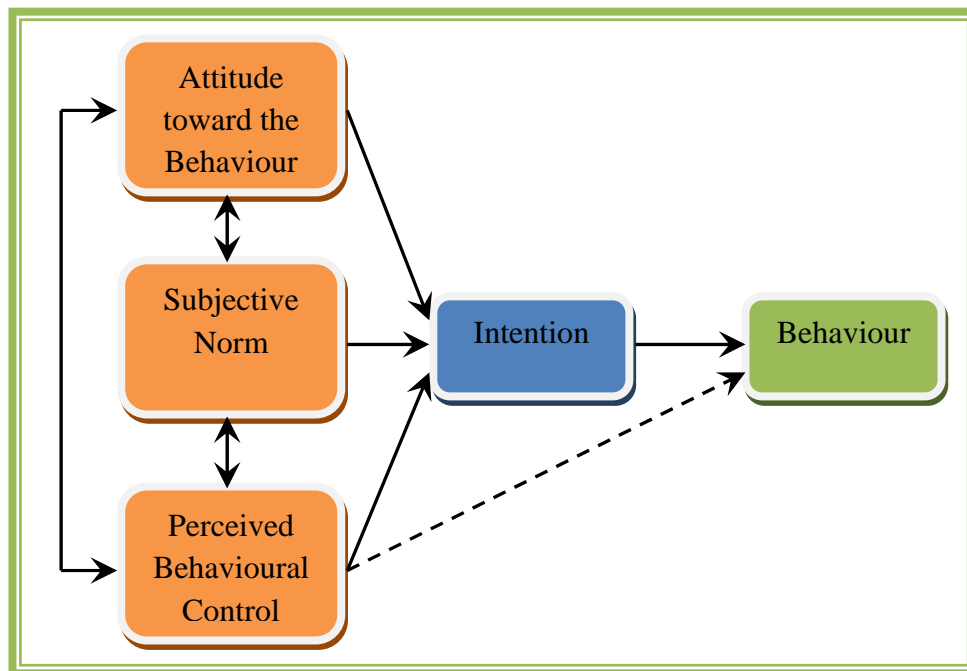


Figure 1. Theory of Planned Behaviour (Adapted from Ajzen, 1991).

However, these conceptually independent precedents have been applied as the grounding of our proposed framework, but to best fit the context of this research, they have been decomposed into three main taxonomies, which are thoroughly clarified within the coming sections.

4. Grounding of the Framework

4.1 Precedents of Behavioural Intentions

In developing the research framework, the post-adoption constructs influencing members' intentions have been adopted from the Theory of Planned Behaviour to predict, explain, and determine members' continuous behaviours in DECs in a continuous manner. However, those independent constructs have been decomposed into key sub-constructs in order to best fit our intended focus.

These proposed social-related precedents are: (1) *Attitudes* (User-characteristics, compatibility, satisfaction); (2) *Subjective Norms* (Critical Mass, Compliance, and Informational Influences); and (3) *Perceived Behavioural Control* (Facilitating Conditions, Self-Efficacy, and Controllability). The following sub-sections provide a detailed description pertaining to the aforementioned framework constructs and taxonomies.

4.1.1 Attitudes: Personal Influences

Attitude towards the behaviour refers to the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour to be acted upon (Ajzen, 1991; Taylor and Todd, 1995a, b; Orbell et al., 1997). Following are the decomposed beliefs of the human attitude investigated in this study:

A) User Characteristics: User characteristics can be defined as the personal traits that could possibly affect individual's attitudes towards his/her continuous participation in digitally engaged communities. For example, individuals' demographic variables such as gender, age, experience, personality, intellectual abilities, and educational level appear to have an influence on determining one's attitudes towards his intention of continuous engagement in behaviour (Ajzen, and Fishbein 1975; Thompson et al., 1994; Taylor and Todd, 1995a,b; Hernandez and Mazzon, 2007). In this research, it is considered a major attitudinal influence and a key factor of human continuous behaviour in DECs.

B) Compatibility: Compatibility is defined as the degree to which an innovation fits with the adopter's previous experience and current needs (Fishbein and Ajzen, 1975; Rogers, 1983). Although it has been widely applied within the context of IT adoption and other perspectives related to system design characteristics (Tan and Teo, 2000; Fu et al., 2006), it has been considered within our framework for the reason that as

people's needs change over time, as well as their previous experience is a cumulative knowledge that gets built over time, it presents a key determinant of members' attitudes, and therefore would influence their ongoing and continuance participation in DECs.

C) Satisfaction: Generally speaking, satisfaction, or as otherwise termed as gratification (Sangwan, 2005) is defined as an ex-post evaluation of member experience with the community, and is conceptualized as a positive feeling, indifference, or a negative feeling (Anderson et al., 1994). But according to the theory of Expectancy Disconfirmation where this construct has been derived from; it is well defined as the joint levels of pre-consumption expectation of a service and the post-consumption confirmation afterwards (Oliver, 1980). This level of confirmation (i.e. subjective judgement) is a result of comparing their expectations and their perceptions of the performance received.

Although this construct has been originated and widely used within the consumer behaviour research for studying human's post-purchase behaviour, it is asserted as a major attitude construct that affects behavioural intentions despite the differences in the contexts it is applied within (Coughlan et al., 2001; Hsu and Chiu, 2004; Huang and Chuang, 2007). Within the focus of this study, organizers of digitally engaged communities remain viable by their task performance and by providing benefits to their members and achieve considerable levels of satisfaction. Therefore, satisfied members form continuous intentions to re-participate and re-engage in the community again and again.

4.1.2 Subjective Norms: Social Influences

According to the TPB, Subjective Norms of individuals is the second attitudinal influence. Subjective Norms refer to the perceived social pressure of the external environment surrounding individuals on whether to perform a behaviour or not, and is consistently a weaker predictor of physical activity intentions than attitudes and perceived behavioural control (Blue, 1995; Hagger et al., 2002). In this paper, three key normative beliefs are to be examined: (a) Critical Mass, (b) Compliance, and (c) Informational Influences.

A) Critical Mass: According to Liao et al. (1999), critical mass refers to the wide and massive adoption of a certain innovation. In other words, it is described as the minimal number of continuous adopters of an interactive innovation.

In our context, the massive societal embracement and continuous acceptance of using and participating in any DEC would affect members' decision towards the continuation of participation or not. Therefore, we assume that having a strongly positive norm of joining and participating in digitally engaged communities would form a trend of continuous intentions to stay as a member and engage in an ongoing behavioural role within that certain community. On the other hand, negative societal trends of an engagement in a certain community will affect your internal perceptions and intrinsic intentions on whether to continue your membership or not, and as a result, can lead to discontinued attitudes.

B) Compliance: Compliance, otherwise referred to as societal, normative or personal pressures (George, 2004; Shih and Fang, 2004), is best known as the influence of others' expectations about engaging into a certain attitude and performing certain behaviours (Tan and Teo, 2000; Venkatesh et al., 2003). In other words, it is the degree to which the user perceives that others (i.e. internal influences of family, friends, and colleagues) approve their participation in DEC

s (Bhattacharjee, 2001). In this paper, we assume that the perceptions of individuals concerning the level of acceptance of certain actions and behaviours in DECs by others has a major influence on their intentions towards their actual behaviours (Hsu and Chiu, 2004; Guo and Barnes, 2007).

C) Informational Influences: Informational influence is another type of societal pressures that affects one's intentional attitudes. It differs from compliance and normative influences in that its source is non-personal and comes from other external influences such as mass media reports, television, radio, newspapers, magazines, expert opinions (Bhattacharjee, 2001; Venkatesh and Brown, 2001). These non-personal and secondary sources of information are major examples on the informational influences on one's behaviour. External sources of information outline a considerable influence affecting individuals' perceptions towards playing certain roles in DEC

s.

4.1.3. Perceived Behavioural Control: Situational Influences

The third construct influencing human behavioural intentions is the degree of Perceived Behavioural Control. This construct refers to one's perceived ease or difficulty of performing behaviour (Orbell, 1997). Ajzen (1991) assumes that perceived behavioural control reflects to some extent situational influences and past experience as well as other anticipated hurdles and obstacles (e.g. resources and opportunities available). Perceived behavioural control contributed by Ajzen plays an important part in the theory of planned behaviour. In fact, the theory of planned behaviour differs primarily from the Theory of Reasoned Action (TRA) in its addition of this construct. Below are the three main control beliefs considered in our research.

A) Facilitating Conditions: Facilitating conditions have been defined by Ajzen and Madden (1986) as the extent to which circumstances facilitate or interfere with the performance of the behaviour. More specifically, the availability of external resources (i.e. time, money, effort) needed to facilitate the performance of a particular behaviour, which is referred to in literature as *Resource Facilitating Conditions* "RFC" (Triandis, 1977; Fu et al., 2006; Guo and Barnes, 2007; Ajjan and Hartshorne, 2008). Another element is the availability of technological equipments, broadband connections, and the WWW applications that signifies the *Technology Facilitating Conditions* "TFC" (Triandis, 1979; Taylor and Todd, 1995a,b; Fu et al., 2006).

Therefore, we postulate that the external influence of facilitating conditions and the perception of whether or not an individual lacks enough information resources to perform an intended behaviour is a crucial influence of continuous human behaviour.

B) Self-Efficacy: Bandura's theory of Self-Efficacy (Bandura, 1977) posits that individual's judgement and self-assessment of one's capability to use a WWW application or service may have a positive or negative influence on his/her behavioural attitude. Being internally confident of the ability to behave successfully in any given situation positively influence the continuation of person's certain behaviour (Compeau and Higgins, 1991; Bhattacharjee, 2001; Torkezadeh and Van Dyke, 2002). In other words, self-efficacy can be simply put as the ease or difficulty of performing certain behaviour. This element, in our context, would influence individuals' intentions of whether to continue using DECs, or not, and to which extent.

C) *Controllability*: Having control over one's own behaviour is a major construct influencing human intentions to continue participating in digitally engaged communities. Controllability refers to the beliefs about the extent to which performing the behaviour is up to the actor own decision (Ajzen, 2002; Hsu and Chiu, 2004; George, 2004). Controllability is essential in sustaining an ongoing behavioural attitude for the reason that lacking control in an open space with thousands of unknown parties can threaten the continuance participation of members in such communities; as they may lose power and control of managing their own confidential information, personal pictures, and other private data, and as a result intimidate advantage takers and hackers.

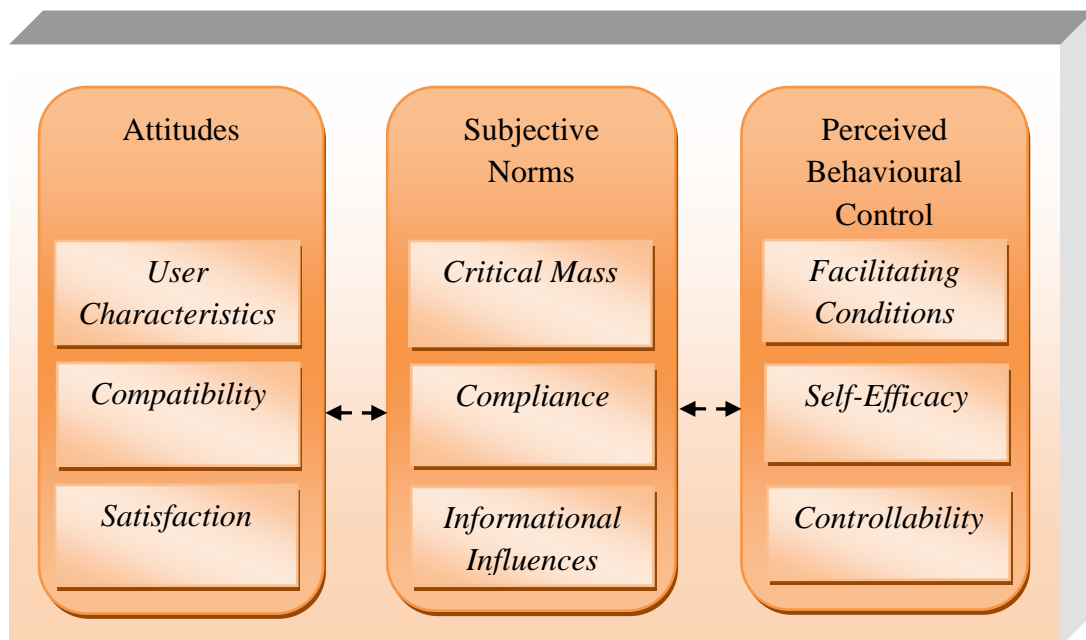


Figure 2. Social precedents of behavioural intentions.

4.2. Intentional Value Elements behind Continuous Participation in Digitally Engaged Communities

Digitally engaged communities cannot survive without lasting user involvement and participation in terms of generating and exchanging value elements (Soroka and Rafaeli, 2006). Indeed, DEC

s need committed members, if they are to be successful. However, what most important are the motivational values offered and exchanged within a certain community. This is because people may join a community for one

reason, but participate for another. Therefore behind any level of digitally engaged participation, lie numerous classes of value created and exchanged.

Digitally engaged communities offer a wide range of publicly transferred benefits, and people join them to fulfil personal needs, whether individually-oriented, or community-oriented. Nonetheless, users of these communities are normally driven by their own desires to perform a certain action as opposed to satisfy an internal desire (Nielsen and Norman, 2003; Bishop, 2007). Thus, their participation can be described as purposive and the level of involvement and continuation might vary depending on the purpose being gratified.

Therefore, we believe that the successful operation behind any digitally engaged community is in its growing value elements. Based on our analysis of DEC

s, the intentional value elements that can be captured can be classified as (1) *Social*, (2) *Hedonic*, (3) *Epistemic*, (4) *Gift*, and (5) *Utilitarian*.

4.2.1. Social Value

Social values or otherwise referred to as '*Human values*' (Leitner et al., 2008) concern the beneficial utility derived from users' association with certain social groups. The desire to become part of the community through socializing and communicating is what constitutes this value. This value element however can be broken down into (a) *Emotional*, (b) *Networking*, (c) *Self-Esteem*, and (d) *Self-Discovery* needs.

A) Emotional: emotional support is offered by many digitally engaged communities in different aspects of life, as those specific communities have been founded for that purpose. Individuals may join these communities desperately seeking for personal affection and fondness (Eysenbach et al., 2004; Law and Chang, 2008). The need to feel warmth and friendliness drive them into calling out for help and advice. Examples on communities offering support in emotional, health and mental matters are: Bebo/Be Well, Bebo/Beat, and the Samaritans.

B) Networking: The value of Networking, meeting new people, and building sociable relationships through interacting with one another is another goal for many digitally engaged communities (Hagel and Armstrong, 1997; Janzik and Herstatt, 2008; Rood and Bruckman, 2009). In social networking, interactants tend to bond, maintain relationships, and re-unite with old friends through continuous interaction. This

ongoing pattern of communication is the foundation of such relationships (Ridings and Gefen, 2004; Blanchard, 2008).

C) *Self-Esteem*: Platforms of DECs enable users to get a feeling of togetherness through interaction with other community members. Adding and managing friends, participating in groups and events gives members the feeling of being connected. The creation of groups and the contribution to group discussions can help members establish a certain reputation, which according to the theory of human motivation (Maslow, 1943) represents the outer self-esteem need and thereby enable them to feel important (e.g. inner self-esteem).

Generally speaking, the esteem needs both on the outer and inner levels to be satisfied are (1) the need of respect of others, the need for status, fame, recognition, attention, appreciation, dignity, even dominance, and (2) the need for self-respect, including such feelings such as confidence, competence, achievement, mastery, independence, and freedom (Janzik and Herstatt, 2008).

D) *Self-Discovery*: Self-discovery is defined as: “a sense of emotional involvement with the group” (Bagozzi and Dholakia 2002, p.11). Generally speaking, joining a group creates a sense of attachment, belongingness, and relatedness to that group; as long as one’s certain needs are satisfied (Dholakia et al., 2004; Seddon et al., 2008). In digitally engaged communities, despite the lack of face-to-face interaction, the stronger the sense of community belonging individuals conquers, the more they are likely to take an active and continuous role in creating and exchanging values (Hall, 2003; Soroka and Rafaeli, 2006; Brandtzaeg and Heim, 2008).

4.2.2. *Hedonic Value*

Hedonic values highlight three personal F's – one’s fantasies, feelings and fun (Holbrook and Hirschman, 1982). Hedonic values are mainly referred to an intrinsic motivation in doing something that is inherently interesting, entertaining and enjoyable (Preece 1998; Wasko and Faraj, 2000; Johnson and Ambrose 2006).

DECs that give members interactive entertainment opportunities through the consumption of a positive, confluent experience through interaction would encourage them to continue participating again and again. Online poker players for example, enjoy setting up tournaments to challenge their skills against those of other members in addition to their financial motives.

4.2.3. Epistemic Value

Epistemic value can be defined as that value that would persuade users looking for curiosity and novelty experience as well as new knowledge acquisition (Sheth et al., 1991; Janzik and Herstatt, 2008). In other words, a person's Cognitive needs are expressed in the individual's mental desire to discover, know, understand and explore (Kim et al., 2007; Wang et al., 2008). Technically, DECs can satisfy cognitive needs through messaging, chatting or studying profile information of other users. In Line with that, epistemic value is considered to be a key function of value and can influence behavioural intentions and switching behaviours (Zeithaml et al., 1996).

4.2.4. Gift Value

DECs are a great source of valuable, free, communal information with the large numbers of users pitching in, and collectively contributing for the greater good and its provision where "the possibilities are endless" (Ho et al., 2007). The huge amounts of random information available on the Internet are staggering. In the world of DECs, the gift value is referred to the public informational products available for everyone with no favour asked in return (Kollack, 1999; Cho et al., 2002).

Therefore, gift economies (i.e. Web-based communities) are social phenomena driven by social relations (Wenger, 1998). As Schwartz (1970) affirms, people tend to continuously contribute in DECs as a sense of fairness, public duty, and concern for their community. That tends to help the community successfully operate and continuously grow (Bock and Kim, 2002; Chiu et al., 2006).

4.2.5. Utilitarian Value

Satisfying a utilitarian value is the effective achievement of a functional goal which is often suitable for learners, solution seekers and problem-solvers (Bishop, 2007; Law and Chang, 2008; Rood and Bruckman, 2009). It is characterized as instrumental and extrinsic, that is beneficial for functional and practical queries. Such value can be referred to as *instrumental*, which is described as a functional value for an acquisition of new knowledge, and an increase in idea creation and enhanced problem solving (Arguello et al., 2006; Liang et al., 2008). For example, asking for a handy advice in solving a dilemma, or support when having a technical difficulty (i.e. Yahoo Answers). This can lead to further skill enhancement.

It is worth mentioning here that such a classification of values in DECs is novel as well as their distinction from the researchers' point of view into *interpersonal values* (social, hedonic and epistemic) and *informational* (epistemic, gift and utilitarian). The same is true concerning the behavioural roles adopted by different users of DECs which are unequivocally clarified in the next section. Figure 3 depicts a graphical representation of the above mentioned value elements.

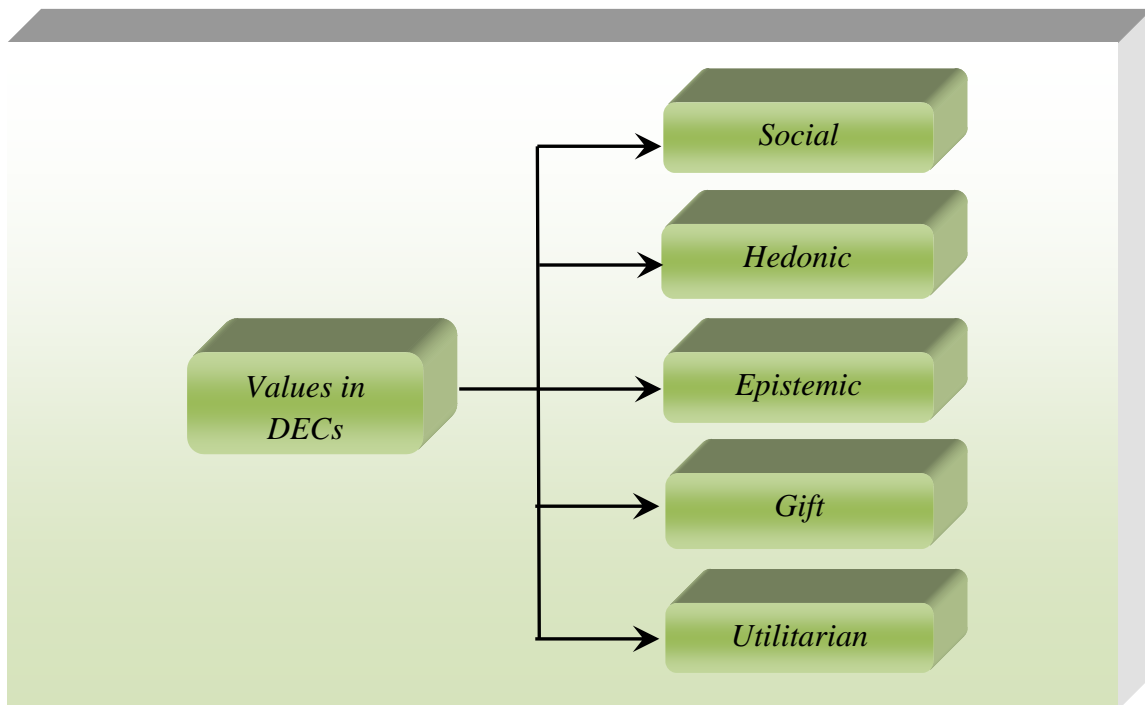


Figure 3. Values Exchanged in DECs.

4.3. Behavioural Roles in Digitally Engaged Communities

In time, when enough members join a community, an identity for the community begins to develop. Members formulate a common language of online communication and share certain norms and customs ruling that. And as the community grows, they select the roles they will play, and then participant roles become identifiable. Some members lead discussions and volunteer information, while others follow, and lurk for support and information.

Generally speaking, users' roles and behaviours in DECs can be classified into (1) *Passive* and (2) *Active* (Soroka and Rafaeli, 2006). Passive users are users whom are subjected to an action without responding or initiating in return as these users flow within the atmosphere of the community for their own self-sake rather than benefiting

others. Active users on the other hand, are energetically active in terms of their participation and contribution. Within the context of this study, the authors have classified the behavioural roles of members in DEC

s as (1) *Newbie*, (2) *Lurker*, (3) *Novice*, (4) *Insider*, and (5) *Leader*.

4.3.1. Newbie

A newbie (Blanchard, 2008) is most widely used to express newly joining members into any DEC

s. Newbies indirectly participate through watching, listening or reading information most often without getting involved or contributing to the community (Schoberth et al., 2003). Their indirect participation is a way of sensing the community and its members. They are users with a desire to contribute but yet not much of contributors. But once they grab a full sense of the community, and get familiar with the norms and rules governing the space, they most likely to get publicly involved and might become active insiders, or even leaders.

4.3.2. Lurker

Lurkers are depicted as ‘*Observers*’ (Lambropoulos, 2006). This is because their main role is invisibly observing the community, and consuming contents with unstructured levels of participations, and mainly no desire for contribution or involvement in any sharing activity (Nonnecke and Preece, 2000; Li et al., 2008; Assmann et al., 2009). They passively join communities, snoop around, and view any publicly available information for specific personal desires. Lurking, however, excludes users who have visited the community once or twice and never showed up after (Soroka and Rafaeli, 2006).

4.3.3. Novice

A ‘*Novice*’ (Waters and Gasson, 2006) is a relatively new member of a DEC, who is still inexperienced with the atmosphere of participation. After passing the newbie stage, a member usually becomes a novice. Novice members are interactive beginners who are just beginning to engage within the community and contribute through different group discussions and conversations, once they get fully engaged; they are most likely to participate on a higher level and get more involved. Based on that, they are heading towards full participation (Lave and Wenger, 1991). They have less to contribute but are able to learn through interactions with experts who contribute much more (Hall and Graham, 2004).

4.3.4. Insider

Insiders (Rood and Bruckman, 2009) are active participants who are fully engaged to the community, and regularly contribute to the public communications. They consistently add to the community's content, share knowledge, and get engaged into group discussions (Blanchard, 2008). Their level of interaction is high and frequent. They can be described as '*Chatters*' (Nolker and Zhou, 2005), and '*Contributors*' (Huang and DeSanctis, 2005; Duan et al., 2008) as well.

4.3.5. Leader

Leaders (Bateman and Grey, 2006; Li et al., 2008) can be referred to as '*Advanced*' (Lambropoulos, 2006), '*Key Communicators*' (Cho et al., 2002), and '*Experts*' (Bougoussa et al., 2008). They are key members that attempt to create and support the social network, and more specifically lead conversations. They are defined as high contributors to the success and health of the community since they are in a central position to spread knowledge, and thus provide cohesiveness and consistency among others (Nolker and Zhou, 2005).

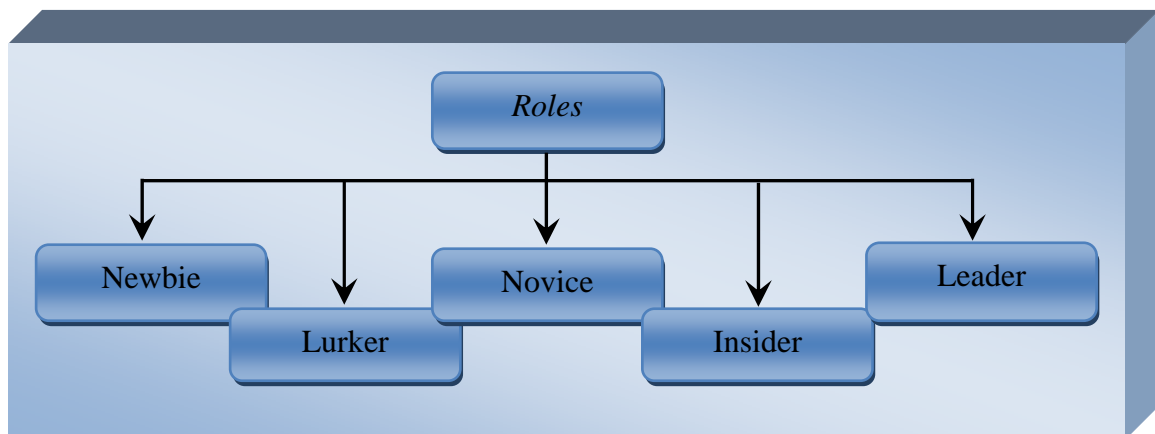


Figure 4. Behavioural Roles in DEC.

5. The Developed Framework and its Implications

The developed framework investigates the social-related determinants that would influence members' intentions to continue or discontinue participating in a DEC over a period of time.

More specifically, the framework posits that member's continuance intentions are determined by *personal*, *social*, and *situational* influences at the post-usage stage. As a result, the choice of the value elements to be gratified from their participation would determine the role each member would adopt and play if they are to continue their participation. This developed framework incorporates three main taxonomies and their relationships (see figure 5):

1) The taxonomy of the social-related influences affecting members attitudes; i.e. *Personal* (User Characteristics, Compatibility, and Satisfaction); *Social* (Critical Mass, Compliance, Informational Influences); and *Situational* (Facilitating Conditions, Self-Efficacy, and Controllability).

2) The taxonomy of the intentional value elements that members aim to gain and achieve from the community; i.e. *Social Value* (emotional, networking, self-esteem, and self-discovery); *Hedonic Value* (self-entertainment); *Epistemic Value* (where a user may join a community for the purpose of gratifying his curiosity in acquiring knowledge, or even surfing into others private details); *Gift Value* (free public information); and *Utilitarian Value* (functional needs).

3) The taxonomy of members' behavioural roles in DEC

s; where members are classified as; i.e. *Newbie* (New-comer); *Lurker* (Non-contributor); *Novice* (Beginner); *Insider* (Contributor); and *Leader* (Advanced key member).

Accordingly, the originality of this work adds a new dimension of research in DEC

s, and opens up opportunities for possible extensions and amendments of efforts within this research area. Thus, its novelty comes from the intense effort of investigating the post-adoption factors and exploring the social-related influences of the continuous human behaviour of using the system.

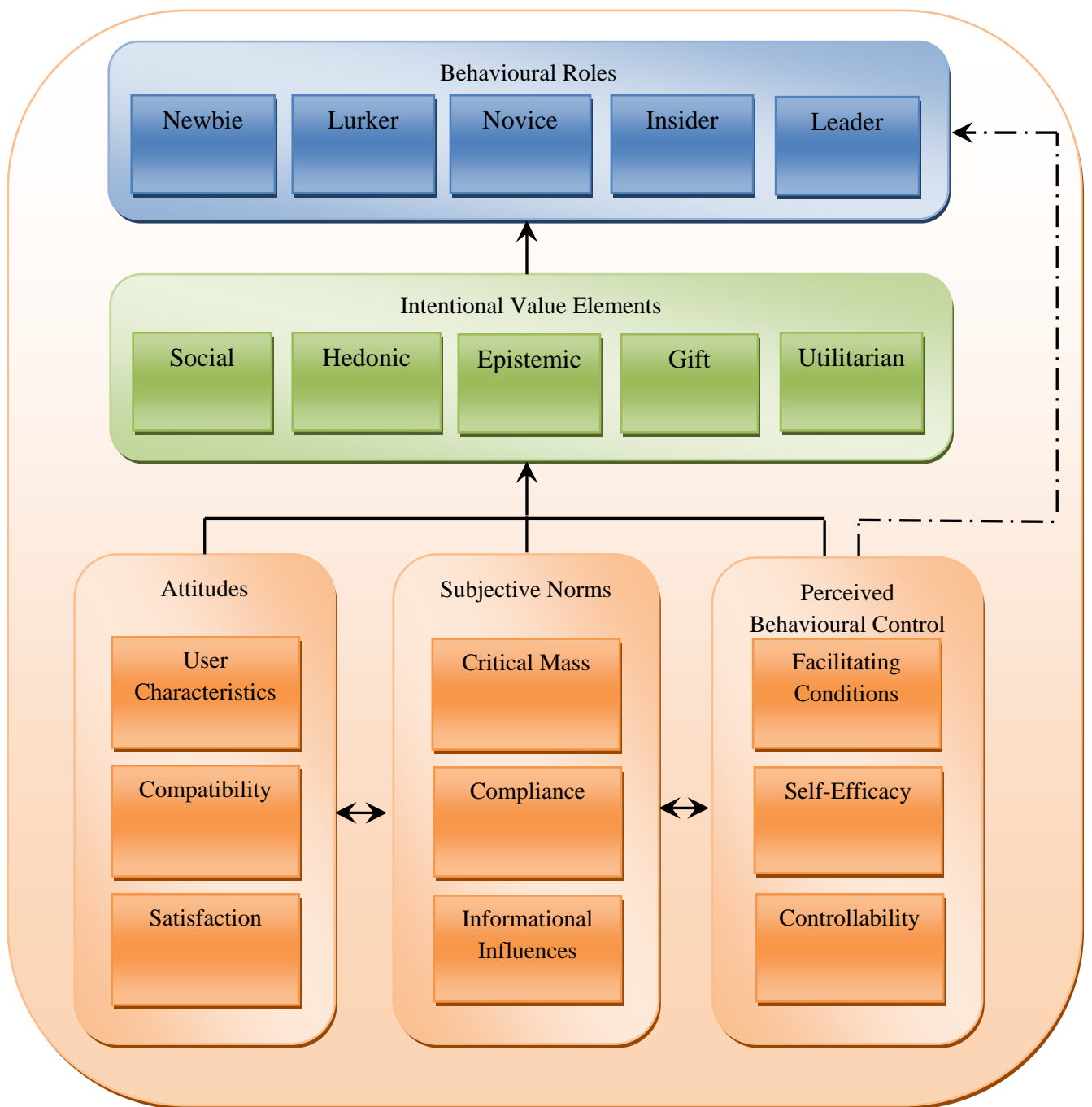


Figure 5. Research Framework.

The outcome of this research makes multi-fold contributions to the body of literature on DECs in terms of theory and practice. From a *theoretical* point of view it:

- Tests the theory of planned behaviour within the context of continuance participation in DECs, taking solely into consideration the social-related determinants that would influence a person's attitude and behaviour towards that continuous behaviour.
- Develops a comprehensive taxonomy classifying the value elements driving members' intentions into continue participating and engaging in DECs as they are expected to be gained as a result.
- Develops an inclusive categorization of the various behavioural roles adopted and played by users and members of DECs.
- Investigates the effect of the attitudinal determinants on continuous human intentions to participate and engage in DECs, and as a result that intentional influence on determining members' behavioural role based on the examination of the relationships flowing within.

From a *practical* perspective, it is a unique model that provides insights on the societal, organizational, and individual levels for:

- *Decision and Policy Makers* in building strategic plans for a sustainable and continuous participation and engagement in the digitally engaged community, and according to that, policies and regulations might need re-engineering for the sake of supporting certain members.
- *Service Providers* in knowing what factors to examine, whom to support and whom to watch, it eases up their ability of recognizing which parts of the digitally engaged community to balance and to focus on for re-enhancement purposes.
- *Users* where they can exactly know which value element they would gain and acquire when acting upon a certain role and vice versa depending on each members' own attitudinal characteristics, normative and social beliefs and influences, and the situational factors accompanied by every member and thus affecting their decisional intentions to re-participate again.

- *Developers*, it inspires them in knowing and meeting the exact needs and intentional values of members according to their different behavioural roles. Taking into consideration the personal, societal, and situational differences affecting their intentions and actual behaviours. But as individuals' needs and desires change in each stage of the online community evolution over time, developers require re-designing the tools, features, mechanisms, and technologies. They have to identify carefully each behavioural role played within the community, and know what kind of intentional value elements are related to it, and thus add the right technology components that will better support the community, in a way a sustainable information system life cycle prescribes.

6. Summary and Concluding Remarks

Digitally engaged communities have become the lifeblood stream of the Internet nowadays. They are the home space of social networking and interacting. Most importantly, are the values and benefits being created and exchanged as a result of this Web-based interaction. However, these communities cannot succeed and sustain without committed members, where continuous participation takes place. Therefore, studying the behaviour of continuous participation is appealing for a healthy operation of such communities. As users join in, they intend to gain certain personal desire and need, and thus play and act upon a specific behavioural role to achieve that.

However, this cannot be done without studying human intentions and what influences would affect their attitudes and overall behaviours over a period of time. Therefore, this research aims at investigating why would users continue participating or not in any digitally engaged community. This is significant as many personal, social, and situational determinants would affect their attitudes towards using these communities, change their intentions, and upon that, determine their behavioural role in the community. The authors propose a theoretical framework predominantly grounded on the theory of planned behaviour to examine the social-related influences of users' post-adoption actual behaviours.

The framework utilizes the decomposition of the theory of planned behaviour to best fit the context of this research, and therefore, three main taxonomies are developed; (1) the attitudinal influences of a social-related nature, that would affect individuals intentions of whether to continue participating or not; (2) the intentional value

elements driving users into participating in the community, which can be referred to as the benefits being created, exchanged and offered by the community; and (3) the behavioural roles they adopt and act upon in order to achieve and satisfy their intentional values.

Future plans for this research concerns the conduction of an empirical testing of the proposed theoretical framework through a multi-method data collection process examining members of the Web page of the Placement and Careers Centre/Brunel University on the social networking site Facebook. This triangulation in the data collection method provides a holistic validation of the research framework. Authors will be running 2 focus groups interviewing users and developers of this community to grab in-depth insights of the community and its members. Follows that a questionnaire that will be uploaded online to overcome any geographical limitations and cover a wider scope of community audience. It is also worth mentioning here that in line with these two phases, continuous online ethnography (i.e. online observation, and field notes) will be supporting the primary data collection all the way through due to the nature of this study as it takes place in an online environment.

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