

Towards understanding members' participation behaviour in Business to Business (B2B) Virtual Communities: A socio-technical approach

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Abstract. *The importance of virtual communities for businesses has been well documented in the literature. Particularly, information and knowledge exchange has been identified as one of the main reasons for businesses to participate in virtual communities. The success of a virtual community depends on its members' active contribution to the community. A considerable amount of literature has been published on factors affecting members' participation behaviour in various community types. Limited research has focused on B2B virtual communities. Subsequently, there is limited understanding of what motivates businesses to actively participate in their virtual communities. Hence, the primary goal of this paper is to provide some understanding of the crucial factors that determine businesses' participation behaviours in virtual community environments. Towards achieving this aim, underpinned by two well-known theories: Social Exchange Theory and Information System Success Model, this study proposes an integrated theoretical framework. The application of the framework has yet to be tested with a particular B2B virtual community.*

Keywords. B2B Virtual Communities, Participation, Social Exchange, and Information Systems Success

1 Research Background

The phenomenon of Virtual Communities (VCs) has been known for several decades and for the past decade it has been seen as a very popular subject amongst researchers. The concept has been extensively studied by scholars from a variety of disciplines ranging from Social Science and Psychology to Business and Education. Subsequently, numerous different definitions have been reported in the literature. Researchers often define the term VC briefly as virtual social spaces that enable individuals to come together to give/receive information [1]. Similarly, Cothrel and Williams [2] have also provided a very short definition for the concept, describing it as a group of people who use a computer network to interact with each other. Several scholars have attempted to provide much richer definitions for

VC by including more attributes. For example, Riding et al. [3] posit that VCs are "groups of people with common interests and practices that communicate regularly and for some duration in an organised way over the Internet through a common location or a mechanism". As to the definitions, numerous classification schemes are also found with regards to VCs. The present taxonomies proposed are based on different attributes of VCs: community purpose or members' needs, types of people involved in the community, and technologies [4, 5]. Reviewing the current stream of literature on VC, helped the authors to reach a conclusion that VC is a complex phenomenon and therefore its definition and classification can vary and change from one study context to another. However, this study defines a B2B VC as a virtual place consisting of a group of people (business owners and managers) from different physical locations with a shared purpose (e.g. sharing information) governed by policies (e.g. community rules), who have already established some level of participation (e.g. posted questions and replied to others' questions) regardless of time through a communication technology (e.g. discussion boards) [6]. An example of this type of VC includes the UKBusinessForum where members come together to discuss business-related topics. Other examples of these types of communities include B2B groups on LinkedIn (e.g. SmallBusinessGroup) where businesses come together to share information, to discuss business-related matters, and to form business relationships.

The importance of VCs has been emphasised in various environments including education, health, and business. Particularly, information and knowledge sharing has been identified as one of the main reasons for existing VCs [7]. Thus, they can be used as an important source to foster knowledge exchange between professionals and businesses [8]. According to Lin [9], a VC is an effective tool for knowledge sharing, and this can provide greater opportunities for businesses to expand their markets and to improve access to information at low cost. Hence, in the context of B2B VCs the primary benefits include sharing knowledge, providing/seeking expertise and forming business relationships [6].

Past research indicates that active participation is a fundamental success factor for any types of VC. It is believed that having a large number of community members and having a large balanced proportion of active members are the two main factors for the success of VCs [10, 11]. The value of a VC can be achieved only if there are a large number of members who are willing to actively exchange information with each other [12]. Further supporting this argument, past research has found that many VCs have failed due to lack of active participation between the community members [13]. Considering the importance of active participation for the success of VCs, a large number of researchers have focused on the participation phenomenon. A considerable amount of research has been discovered in the literature that examined members' participation behaviour in various VC types. For example, participation behaviour in virtual knowledge sharing communities has been explored by Kankanhalli et al. [14]. A study by Wasko and Faraj [15] has examined the determinant factors for knowledge contribution in virtual communities of practice. In their subsequent studies, Wang and Fesenmaier [10, 11] have studied factors affecting participation levels in virtual travel communities. Members' participation behaviour in B2C VCs has been examined by Evans et al. [16]. Having discovered numerous research on factors effecting members' participation in various types of VCs ranging from online discussion forums to virtual knowledge sharing communities, we found that none has adequately explained the factors impacting participation in B2B VCs, which is the main focus of this study. Subsequently, this paper proposes that the factors affecting members' participation behaviour in B2B VCs is a gap in the literature. Therefore this study's aim is to better understand the key factors affecting members' participation behaviour in B2B VCs. Towards achieving this goal and filling the gap in the literature, this study next proposes a conceptual framework.

2 Proposed Theoretical Framework

VCs are recognised as socio-technical systems that facilitate interaction between individuals and firms [17]. Therefore, this study takes a socio-technical approach in developing the framework. This strategy is seen as a rational choice because it allows for covering both social and technical related factors predicting members' participation behaviours in B2B VCs. Underpinned by two well-known theories - Social Exchange Theory (SET) and Information Systems Success Model (ISSM) - this research proposes a theoretical framework to help better understand factors affecting members' participation behaviour in B2B VCs.

3 SET

SET is one of the most commonly used theories that has been successfully utilised to investigate the behaviour of individuals in online environments, particularly VCs [18]. The theory originated from Economic Exchange Theory [19, 20]. SET views a VC as a place for exchanging resources (e.g. information and knowledge) between its participants (e.g. individuals, groups, or businesses). The paradigm suggests VC participants use a cost-benefit approach to interact with each other and seek to maximise their benefits and minimise their costs when interacting with others [21]. Drawing upon the extant literature in the field, this research identifies three components of SET, namely reciprocity, commitment and Trust [21, 22] that may impact on B2B participation.

3.1 Reciprocity

In the context of VC environments, reciprocity has been described as a salient motivator for members [14], as a moral obligation for members [23], and as an extrinsic motivational factor for contributors [24]. Regardless of these definitions, the evidence supporting the positive relationship between reciprocity and participation in VC environments is well documented in the literature. For example, in their study Wasko and Faraj [23] posited that knowledge sharing in VCs of practice is facilitated by a strong sense of reciprocity. A study by Hew [1] found a positive relationship between reciprocity and participation in VCs. Similarly, in their study Lu and Yang [25] found a positive relationship between reciprocity and quantity of posted information in online discussion forums. More research underpinned by SET, further suggests that reciprocity increases self-disclosure of working professionals in VCs. For example, Posey et al. [26] have found in a study of a VC for working professionals, that members who have a higher belief in reciprocity tend to disclose more information about their personal details, intentions, and activities, therefore they will make more content contribution to the community. There is limited evidence regarding reciprocity in the context of B2B VCs. However, the literature offers us a profound framework to understand how reciprocity may impact members' participation behaviour in B2B VCs. Following a critical evaluation of the findings of past research on reciprocity in VC environment [e.g. 23, 24, 25, and 26], this study postulates that reciprocity has a positive impact on members' participation behaviour in B2B VCs.

3.2 Commitment

Commitment has also been described as willingness to make short term sacrifices, a desire to continue a relationship, investment in a relationship, and confidence in the stability of a relationship [27]. In a B2B relationship, commitment is defined as willingness to make short term sacrifices to maintain the relationship [28]. In the context of VC, it has been defined as a sense of emotional involvement with the community [12] and as a psychological bond which stabilises members' participation behaviour [29]. Substantial evidence is found in the literature to support the positive relationship between commitment and VC members' active participation behaviour such as posting and replying. For example, in their study Cheung and Lee [12] reported that the stronger a user's sense of emotional attachment to a VC the higher the likelihood he/she will make contribution. Bateman et al. [29] discovered that in VCs commitment is positively associated with members' participation behaviour evidenced by members posting messages and replying to posted messages. In the context of a B2B relationship, commitment is seen as a foundation of successful relationships for firms [30]. Ryssel et al. [31] indicated that commitment is a crucial element determining the relationship outcomes in B2B relationships. Further, it is found that in a B2B relationships with higher commitment, businesses are more likely to share more information with one another [32]. Accordingly, this study proposes that commitment has a positive impact on members' participation behaviour in B2B VCs.

3.3 Trust

Trust has also been recognised as another crucial element in the SET model [26] and it has been considered as an important factor for members' participation behaviour in VCs [33]. Trust is a multi-dimensional concept and it has captured the attention of researchers for many decades [34]. The phenomenon has been studied from a wide variety of disciplines and backgrounds ranging from philosophy to economics [35]. Subsequently, numerous definitions of trust are reported in the literature. For example, Gefen et al. [36] extensively reviewed the definition of trust in various literature sources that focused on B2B relationships. Gefen et al.'s study further provides numerous different definitions of trust, which shows the long lasting confusions about the concept. However, in this study trust is defined as beliefs or the willingness of a party to be vulnerable to the actions of another party based on the anticipation that the other party will perform a particular action important to the trustor, regardless of the ability to monitor or control the other party [37]. This definition is commonly used in the VC and Information System (IS) literature.

The role of trust in VC has received considerable attention by IS and VC scholars. Chen and Hung [38] stated that in a VC, trust refers to the degree of belief in good intention, benevolence, competence, and reliability of members who are sharing knowledge. Chen and Hung conducted an empirical investigation on members' knowledge contribution behaviour in a VC for professionals and found that trust has a positive impact on members' sharing behaviour. In a VC context, participation involves carrying out several activities, these include providing help and support, socialising, discussing ideas, sharing information, forming relationship, and getting involved with other members. These activities inside VCs were found to have direct relationships with trust [40, 41]. For example, Preece [41] pointed out that without trust people's relationships may not flourish because sharing personal information with another requires some level of trust. The findings from a study by Levin and Cross [39] suggest that trust can increase a person's desire to share knowledge. Knowledge management scholars have also reported that trust will lead to greater knowledge exchange in VCs [3]. Lin [20] stated that trust is important for VC members who are willing to exchange information, and further asserted that lack of trust among participants is a major obstacle in fostering VCs, since members lack face-to-face communication. Thus, the need for trust in VC environments perhaps can be explained by the existence of differences between VCs and traditional communities. In VCs individuals share information and interact with people whom they had no prior interaction and this can create uncertainties and a risky atmosphere for the people. Unlike VCs, in traditional communities such uncertainties and risky atmospheres can be minimised by the face-to-face interaction.

From a B2B VC view, trust can also be seen as a crucial element, since the findings from past studies indicate that trust affects members' behaviour such as information sharing [42, 43]. For example, Mason [43] reported that trust is one of the main factors affecting SMEs' willingness to share knowledge online. Hence, the current literature provides a full understanding of the importance of trust in various VC types including B2B VCs. The results of past research suggest that the importance of trust in B2B VCs is undisputable, and therefore this study suggests that trust has a positive impact on members' participation behaviour in B2B VCs.

4 ISSM

This study proposes that two factors (information quality and system quality) of the ISSM by DeLone and Maclean [44], can also determine the members' participation behaviour in B2B VCs. These factors have successfully been applied to examine the success

of various information systems including VC, and thereby they are seen as a foundation for empirical research in the VC field [9]. They are therefore utilised to underpin the framework in this study.

4.1 Information Quality

Information quality is a multi-dimensional concept and therefore different attributes are used to measure the constructs [44, 45]. In the context of VC environments, information quality attributes include: accuracy of posted messages, meaningfulness and relevancy of posted messages, completeness of posted messages, currency of posted messages, and format of posted messages [46]. The importance of the construct is renowned in the VC literature. An examination of the extant literature reveals that the construct can positively impact people's participation behaviour in VCs [47, 48]. Chen [48] identified information quality and system quality as two technological factors and found them to have positive impacts on an individual's intention to stay in professional VCs. Sharrat and Usoro [47] conducted an extensive literature review on knowledge sharing mechanisms in VCs of practice. Following that, they proposed a theoretical model with the aim to identify the factors affecting participation behaviour (e.g. knowledge sharing) in communities of practice. Their model identified information quality (e.g. perceived usefulness) and system quality (e.g. perceived ease of use) as two key determinant factors for online knowledge sharing behaviour. Consistent with past reports, this study postulates that B2B VC members expect to obtain quality information from their communities and this will impact their decision to make active contributions. Accordingly, this study postulates that information quality has a positive impact on members' participation behaviour in B2B VCs.

4.2 System Quality

According to the IS literature, system quality refers to the characteristics of information systems such as usability, reliability, adaptability, stability, and security [44]. Consistent with prior research, in the context of B2B VCs, this study defines system quality as having several characteristics. These include ease of use - members believing that using the B2B VC does not need significant effort [24], accessibility - posted messages inside the B2B VC can be easily accessed with low effort [46], response time - the speed of the B2B VC website [46], and reliability - the availability of the B2B VC website over time [46]. The available literature provides contradictory information on how system quality might impact members' participation behaviour in B2B VCs. Research indicates that business owners and managers who are confident in using web-based applications are more willing to share knowledge online [49]. A study

by Wang and Fesenmaier [10] suggested that system quality in terms of the ease of communication of VC systems encourages members' contribution. Contrarily, the results of a study by Preece et al. [40] suggest that system quality in terms of usability does not have any impact on members' participation behaviour. Similarly, several researchers have discovered that usability issues were not the major factors affecting content contribution in VCs [50]. Considering the lack of research in the area of B2B VC, it is important to investigate the system quality phenomenon in the context of B2B VC. Accordingly, this study proposes that system quality has a positive impact on members' participation behaviour in B2B VCs. The proposed theoretical framework is shown in Figure 1.

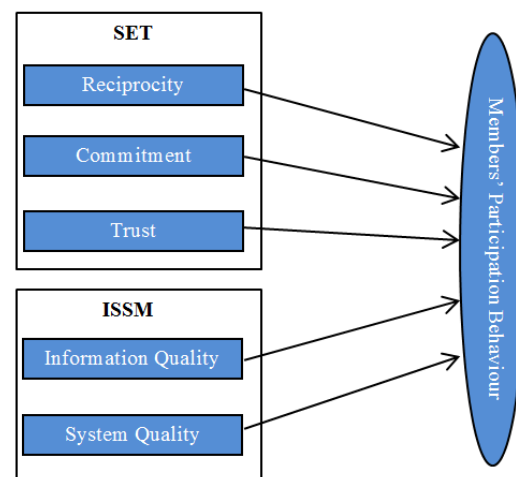


Figure 1: Theoretical Framework

5 Conclusions and Future Work

This study revealed that factors affecting members' participation behaviour in B2B VCs is a gap in the literature, since very limited research was found in the area of B2B VC. Towards filling this gap, underpinned by two well-known theories (SET and ISSM), this study proposes a theoretical framework which helps us to understand some of the key factors affecting members' participation behaviour in B2B VCs. This study is limited at this point by its theoretical nature. Our framework has still to be tested. An exploratory study will be carried out with members of B2B VCs to further explore the framework and identify any other important factors that were missed during the framework development stage. Finally, an empirical study will be conducted to test the framework. For this purpose a large scale survey will be distributed to members' of B2B VCs. Results will be shared in subsequent papers.

6 References

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