
The impact of small business B2B virtual community commitment on brand loyalty

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Abstract: In effort to focus research attention on emerging business-to-business (B2B) virtual communities (VCs), we review and extend business-to-consumer (B2C) literature, resource-advantage theory and relationship marketing to describe how community-hosting organisations build brand loyalty in B2B markets. We explain how functional usefulness, system quality, business opportunity, dialogue initiation and response frequency impact B2B VC commitment and brand loyalty towards the community-hosting organisation. Results of this study support hypotheses that B2B VCs critically impact relationship marketing. Further, functional usefulness, system quality, business opportunity, dialogue initiation and response frequency impact B2B community commitment and brand loyalty.

Keywords: relationship marketing; social networking; small business virtual community; brand loyalty.

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1 Introduction

With the current social movement to virtual communities (VCs) and in an effort to focus research attention on the operational business-to-business (B2B) VCs as proposed by Simmons and Ammeter (2008), we extend current business-to-consumer (B2C) literature to explain how small business B2B community participation impacts brand loyalty of the community-hosting organisation. Our research focuses on small business firms participating in B2B VCs, the factors that lead to commitment to the community, and the outcomes of the intangible benefit of brand loyalty. A B2B VC is made up of businesses that engage and participate in information sharing with one another by means of an online setting administered by a host organisation (Simmons and Ammeter, 2008). B2B VCs have been studied from the hosting firms' economic benefit perspective – that is, the way the hosting firm gains monetary income from hosting the community (Simmons and Ammeter, 2008). In this paper, we address the factors that lead business owners to participate in virtual B2B communities. We analyse the small business owners' actions because they make most of their business decisions, handle many of the day-to-day operations, and would be the main people interacting in the community (Carland et al., 1984).

In this paper, we draw on relationship marketing, including brand loyalty and resource-advantage theory, to examine how B2B VCs may impact brand loyalty. This paper makes two important contributions. First, it contributes to research by responding to several calls for research focusing on VCs (Tan, 2007) and B2B VC benefits (Simmons and Ammeter, 2008). The focus of this paper is small business B2B VCs, whereas prior literature has focused on customer-to-customer (C2C) communities or B2C communities. Second, this research contributes to practice by examining how B2B VCs may contribute to the success of the host organisation by increased brand loyalty from members participating in the online community. This research will also assist designers of future B2B VCs in creating the most efficient and useful communities to facilitate benefits for the members and loyalty to the hosting organisation.

We suggest that small business owners participating in B2B VCs develop commitment to the community and an increased level of brand loyalty as their participation increases. Commitment can be studied from the perspective of human behaviour since certain actions take place in the community. Cognitive evaluation theory advocates that intrinsic motivation leads to higher levels of effort (Deci, 1975) and can be driven by intrinsic needs or by outcome expectancy (e.g. perceived usefulness and business opportunity) (Venkatesh, 1999). We seek to understand the mechanisms that cause small business owners to become committed to the community by assessing commitment through functional usefulness of the hosting organisations' community, the system quality of the community website, business opportunity, dialogue initiation habits and response frequency actions. We use dialogue initiation and response frequency to describe the type of active thinking and decision making that leads to continued participation in the community. By assessing the functional usefulness and system quality of the community, small business owners receive knowledge and use the system to decide if they will commit to the community. Business opportunity is a viable reason for small business owners to participate in such a community. Small businesses do not have resources of large corporations to gather relevant business information (Rubin, 2005). Usefulness and quality are used by small business owners to assess the community, and a commitment will be formed based on that assessment. In an attempt to test if small

business owners act similarly to consumers, our conceptual model can be used to retest usefulness and quality variables in a B2B VC setting as opposed to the B2C setting studied by Gupta and Kim (2007).

We also put forward proactive factors of member dialogue initiation and frequency of responding as antecedents of commitment to the B2B VC that also impact brand loyalty. Usefulness of information received from the community and technical quality of the VC have been found to positively impact the members' commitment to the C2C VC (Gupta and Kim, 2007). We plan to extend these findings by researching how small business owners' participation in a B2B VC impacts brand loyalty.

B2B VCs are an emerging area both in research and in practice, often frequented by small business owners. The Small Business Administration Office of Advocacy defines a small business as one with fewer than 500 employees (2006). Of the nearly 26 million firms in the USA, most are very small – 97.5% of employer and non-employer firms have fewer than 20 employees. Yet, cumulatively, these firms account for half of the USA non-farm real-gross domestic product and have generated 60–80% of the net new jobs over the past decade (US Office of Advocacy, 2006). Therefore, studying and understanding how small businesses stay competitive, how B2B VCs are assisting them and if the hosting organisation is reaping any additional loyalty benefits by hosting a B2B community is important.

This paper is organised as follows. We first describe the five factors that cause or sustain participation among businesses in B2B VCs and that also impact brand loyalty. Next, we review literature on relationship marketing, highlighting the role of brand loyalty and resource-advantage theory. Then, we review the literature on the types of VCs used in business and their benefits, following this with a discussion of the newest generation of VCs, the B2B VC. Finally, we develop research hypotheses based on a synthesis of the relationship marketing literature, the VC's literature and the examination of several B2B VCs. We conclude with suggestions for community designers, managers of hosting firms and future research directions.

2 Conceptual framework

Our conceptual framework describes how commitment is developed by members' receiving and giving in a B2B VC. We propose that members of a community initially begin as receivers or lurkers learning about the community and assessing if they will fit into the community. They start as receivers of the community knowledge and benefits and, based on their assessment of the functional usefulness, system quality and business opportunity, may become committed to the community. Commitment to the B2B VC can simply be defined as an obligation to the community and further defined by Gupta and Kim (2007) as active participation and helping behaviour in the community. A positive outcome of commitment to the community is brand loyalty, that is, rewarded to the community-hosting organisation, as was found in a recent B2C online brand community study (Jang et al., 2008).

We offer five factors that impact brand loyalty in a unique B2B environment. Functional usefulness and system quality assessments take place when small business owners receive knowledge, use the system to lurk, and ultimately decide if they will commit to the community. Business owners starting or expanding their businesses will receive the opportunity to advertise their businesses through the B2B community.

Therefore, business opportunity may lead to B2B VC commitment. We adapt usefulness and quality from Gupta and Kim (2007) as they are used by the small business owner to assess the community, and a commitment will be formed based on that assessment. Dialogue initiation and response frequency describe the type of participation, active thinking and decision making that leads to prolonged participation in the community. Next, we review the past and present offerings of VCs, marketing themes and loyalty.

3 Social interaction in VCs

3.1 VCs

Communication in VCs takes place in a computer-mediated environment (Adjei, 2006) via message boards and public forums where members can interact with each other by posting information available for the entire community to view. Two of the most common classifications of participants in VCs are elders and lurkers. An elder refers to a participant who is an active member of the community (Bishop, 2007). Elders post messages in the VC on a regular basis, sharing their knowledge and also trying to obtain new knowledge from other community members. The direct opposite of an elder is a lurker. Lurkers are members who are rarely involved in posting messages in the community (Kwai Fun IP and Wagner, 2008). Instead, they are primarily there to gather information.

A case study of a brand VC conducted by Rothaermel and Sugiyama (2001) showed that 84% of the community's members used e-mail to take part in off-site communication with other community members. Therefore, in addition to posting messages for the entire community to read, members are using off-site communication (e.g. e-mail) to spread word-of-mouth information about the brand as well. In B2B VCs, we would assume that business owners may continue to exchange with other business members offline to further network and share information about their own businesses as well as the hosting community's brand.

Rothaermel and Sugiyama (2001) note that B2C VCs allow individuals to participate in the exchange of information in such a way that it may meet one or more of the hosting organisation's commercial needs. Additionally, Ridings et al. (2002) identified B2C VCs as groups of people who interact with each other over the internet. The type of VC most prevalent is the brand, or B2C, VC. It can be defined as a group of consumers who voluntarily relate with each other because of a shared interest in the same brand or product (Muniz and O'Guinn, 2001). Since an organisation's VC exists on the internet, the community is able to provide opportunities for members to interact and access information 24 hrs a day, whereas, the rest of the organisation is subject to time constraints. This is of benefit to the hosting organisation since consumers may wish to gather information or support outside of the hours of the traditional workday.

3.2 Relationship marketing

Relationship marketing is defined as "marketing activities directed toward establishing, developing, and maintaining successful relational exchanges" (Morgan and Hunt, 1994, p.22). Morgan and Hunt (1994) propose that consumers seek purchasing relational exchanges with partners that they can trust. By doing so, the consumer minimises the

risks associated with the purchase because they perceive the business to have a certain level of 'reliability, integrity and competence' (Hunt et al., 2006, p.75). Furthermore, according to Vargo and Lusch (2004), the paradigmatic shift in marketing is such that the focus is being taken away from marketing and selling tangible items and moving more towards 'interactivity and connectivity and ongoing relationships' (p.12) with consumers so that a company's products may be produced with the customer in mind. Relationship marketing encourages the relational exchange between consumers and producers so that goods and services are tailored to the consumers' needs, thus aligning with Vargo and Lusch's view of marketing. Additionally, the resource-advantage theory within relationship marketing posits that organisations enter into relational exchanges when the relational exchange is perceived to contribute to the organisation's capacity to produce a good or a service that has value for some market segment (Hunt et al., 2006). Resource-advantage theory provides relationship marketing a theoretical grounding as a strategic choice (Hunt and Derozier, 2004), a strategic choice that may foster brand loyalty.

3.3 Brand loyalty

B2C VCs are increasingly used as tools to engage consumers in discussions of the host company's products so that information about consumers' likes and dislikes may be found. Although a lack of B2B literature exists, Casalo et al. (2008) note that B2C online communities supply the host organisation with opportunities to dialogue with customers, which is a significant step towards creating brand loyalty. Loyalty to a brand transpires when a consumer has a favourable attitude towards a brand and subsequently demonstrates that loyalty through repeat purchases of the brand's product (Dick and Basu, 1994). Similarly, brand loyalty occurs when a customer makes consistent purchases of the same brand (Assael, 1992). Casalo et al. (2007) define loyalty as "a non-random behavior, expressed over time, which depends on psychological processes and closeness to brand commitment" (p.779). The attainment of loyal customers is a way to achieve long-term business profitability (Mittal and Lassar, 1998). Reichheld (1993) argues that when a company achieves consumer loyalty, revenue tends to increase while the cost of obtaining customers decreases. In addition, brand loyalty can lead to reduced marketing costs (Aaker, 1991). In B2C literature, the diminishing cost of gaining new customers is due in part to brand loyalists' positive word-of-mouth promotion of the brand. Within the context of a VC, word-of-mouth marketing may be achieved when members post positive messages in community forums or converse outside the community with other community members. Newcomers to the community, as well as lurkers, may begin to look favourably upon the host organisation because of the positive information contained within the community, thus contributing to the creation of brand loyalty. Once customers are loyal to a brand, they may be more willing to pay higher prices to purchase the brand's products even when lower cost alternatives exist (Casalo et al., 2007).

3.4 B2B VCs

As more businesses look for innovative and creative means of building relationships and loyalty with their business customers, organisations are launching VCs designed specifically for business owners. A B2B VC is comprised businesses engaging and participating in information sharing through an online organisation hosted setting (Simmons and Ammeter, 2008). A recent upsurge in B2B VCs has taken place, and we

plan to study how these communities lead to brand loyalty for the community hosting organisation. But, first we examine the past to determine how these new B2B VCs were created.

B2B VCs seem to be born from B2B e-commerce and the need for advanced relationship building between business partners and customers. The area of B2B and e-commerce has been maturing and developing over the past 30 years.

E-commerce activity dates back to the 1970s with the implementation of interorganisational systems such as electronic data interchange systems (EDI), which were used between trading partners to exchange high-volume transactions. As time progressed and the internet became a large part of the way of doing business, e-commerce became defined as the process of buying, selling, transferring or exchanging products, information or payments over computer networks, including the internet (Turban et al., 2004). Kim and Aiken (2004) detail in an e-commerce research overview that the vast majority of researchers and the general populace use the term e-commerce to refer to business activity over the web; thus, e-commerce research first began to appear in the mid- to late-1990s. Moving to the present, organisations are furthering their business activity and business relationships over the web.

Organisations such as Bank of America and Amazon.com have online B2B VCs for their business customers and partners to share information about not only the products and services of the hosting organisation but also about how to build more successful businesses and how to network (Simmons and Ammeter, 2008). American Express hosts a B2B VC called Open Forum where businesses can create a profile with their business information, share their business story and have an opportunity to be featured on the site by American Express. Open Forum is a place for business owners to network, to find other members in their industry and region, to join discussion boards about topics and issues related to their business and to get advice from other business owners. Members can register to attend live events and view webcasts from American Express once they are logged in. Other prominent USA firms such as Microsoft and Oracle host similar communities for businesses.

3.5 Marketing theory and B2B communities

B2B VCs are a new area of relationship marketing in the business world and an up-and-coming research area in academia. Since B2B community research is lacking, we can only speculate that for-profit firms are creating the communities to strengthen their B2B relationships through online B2B communities as previously shown in B2C literature (Rothaermel and Sugiyama, 2001). The word 'community' seems poised to overtake 'relationship' as the new marketing buzzword (McWilliam, 2000). In B2C communities, the sponsoring organisations tend to be more open with members of the communities, sharing much more semi-confidential and early-stage information, asking for advice and feedback, explaining how the community's ideas are being used, and engaging with customers as cocreators in the ideation and development process (Hessan and Schlack, 2006).

To extend this thought into the B2B environment, why do organisations enter into relationships with other organisations? From a marketing theory perspective, resource-advantage theory answers that firms do so when such relationships contribute to the competitiveness of their organisation. Firms enter into relational exchanges with individual customers when, because of the relationships, firms are better able to develop

market offerings that are customised to the tastes and preferences of the consumers (Hunt et al., 2006). This helps to explain why B2C communities are so important to firms. The more a firm can tailor marketing offerings to its customers, the better it can satisfy them and build brand loyalty. But in a B2B relationship, resource-advantage theory suggests that marketing-based strategies can be used in firm-to-firm relationship building when the relationship leads to competitiveness of firms and the development of complementary resources (Hunt et al., 2006). We propose that the same is true for small businesses that are members of an organisation-sponsored B2B VC. The sponsoring organisation will depend on the relationships formed to create more valuable products and services, just as the small business participating in the exchange expects its input and preferences to be included in future products. Relational resources work in favour of the organisation and the small business in that the relational resources contribute to a benefit for both parties. For that reason, we posit that firms host B2B VCs so that businesses can network and build e-business partnerships.

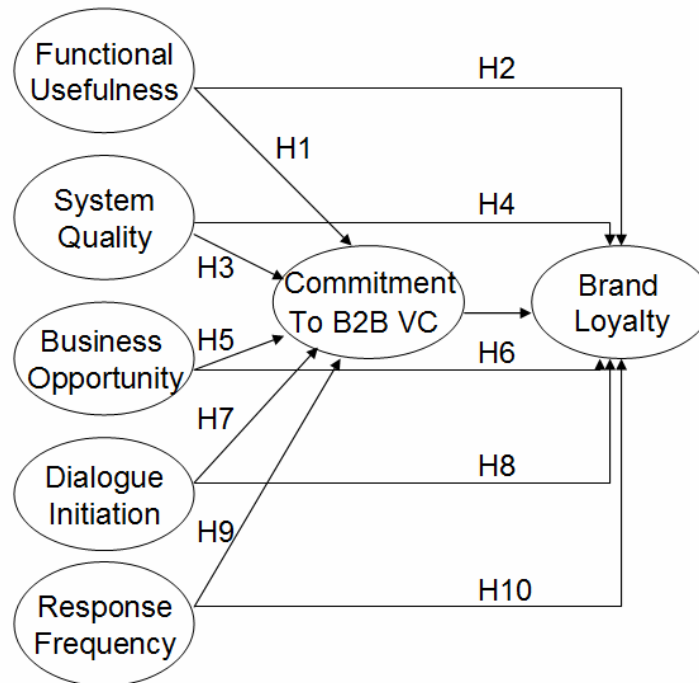
Asher (2007) showed the main reasons for pursuing e-business partnerships were to reduce costs, reduce cycle time and eliminate paperwork and errors in the procurement process. How is it that organisations that now offer free communities benefit from their investments? Based on social exchange theory, Simmons and Ammeter (2008) conceptualised that businesses that participate in an organisation's B2B community provide a direct economic benefit to the hosting organisation. Based on resource-advantage theory and prior B2C empirical literature, we propose that participation in B2B VCs not only leads to economic benefits as the scant B2B literature suggests but also creates the intangible benefit of brand loyalty. Prior B2B e-commerce literature has not focused on the social interaction aspects of B2B markets, and there is a need to understand this next phase in B2B e-commerce.

We extend B2B e-commerce literature and B2C VC literature to further build B2B VC literature by using resource-advantage theory to explain how business customers can build brand loyalty to the host organisation through VC participation as shown in B2C literature (e.g. Gupta and Kim, 2007). Through this research, we endeavour to understand how virtual world social connections impact businesses seeking brand loyalty in the new age of technology.

4 Hypotheses

Building on resource-advantage theory and prior research on B2C VCs and brand loyalty, we have developed ten hypotheses relating to the impact of social interaction on brand loyalty by way of participation in B2B VCs. Figure 1 illustrates a conceptual model drawn from our hypotheses. For participants in the community, the model represents paths that lead to a commitment of the community and to brand loyalty of the firm.

Members of the B2B VC seek information from the community to help them in their business efforts. Functional usefulness in B2B VCs includes receiving information from other business owners in the community. Not only for information on products and services offered by the organisation hosting the community, but also for general business knowledge and tips from other business owners in the community.

Figure 1 Model of B2B VC commitment on brand loyalty

In B2B community settings, we anticipate that the more useful the information is to the business members, the more committed the members become to the community. For example, on Open Forum by American Express, useful information could include current interest rates that American Express may be offering or service information for products. If the information is not very useful to the community members, visits and participation will be low. At a point of low participation, members may stay lurkers and eventually decrease their number of visits to the community and have no commitment to the B2B VC.

B2B VC functional usefulness is a perceived benefit of members and it has a direct impact on brand loyalty. We propose that functional usefulness of information gained will directly impact whether the member will become loyal to the brand. Information gained about products, services or business tips in general can leave a lasting sense of appreciation and loyalty to the brand itself.

H1: Perceived functional usefulness of the B2B VC is positively related to brand loyalty to the community-hosting organisation through a commitment to the B2B VC.

H2: Perceived functional usefulness of the B2B VC has a direct impact on the members' brand loyalty to the community-hosting organisation.

Another important factor that impacts commitment to a B2B VC is the technical quality and ease of use of the VC. The VC should be easy to navigate, be clear in language and be consistent across all web pages contained within the community (Roy et al., 2001). Studies show that members prefer simple website designs and easy-to-use websites

(Reichheld and Schefter, 2000). At this point, the members are still more concerned with receiving a benefit from the community than making any participatory actions. Empirical research confirms that perceived website usability has a positive effect on the degree of consumer trust and loyalty in the website (Flavian et al., 2006). Alternatively, slow page loading, broken links and other dissatisfying system attributes can deter members from becoming committed to the community. Relationship marketing theory contends that individuals are only willing to exchange with partners they trust (Morgan and Hunt, 1994). As such, an unstable website may lead to the visitor or member distrusting the website. The technical quality of the website will impact commitment to the community but may not have an impact on brand loyalty because visitors may refrain from participating in the community but may continue to be a customer of the brand since the brand is more than an online organisation.

H3: Perceived system quality of the B2B VC is positively related to brand loyalty to the community-hosting organisation through a commitment to the B2B VC.

H4: Perceived system quality of the B2B VC does not directly affect loyalty to the brand.

Business opportunity is what we believe to be a major reason for participation in B2B VCs. Newer communities such as Open Forum by American Express allow members to advertise their business products and services on their own page of the community. The abundance of idea sharing among members, articles by experts and advertising opportunities may lead to greater participation in the community. Just as in traditional B2B settings, the partners/members may benefit from complementary resources, alliances and e-business partnerships. As mentioned earlier, there are many benefits to businesses creating such alliances and partnerships including reduced costs, cycle time and paperwork when working with trusted partners (Asher, 2007).

H5: Perceived business opportunities from the B2B VC is positively related to brand loyalty to the community-hosting organisation through a commitment to the B2B VC.

H6: Perceived business opportunities from the B2B VC has a direct impact on the members' brand loyalty to the community-hosting organisation.

Members of a VC who post regularly within that community's online forums can be seen as acting out their creative desires by assisting other community members with their problems or questions (Bishop, 2007). Community content is generated as a natural product of member participation and perceptions of the argument quality of a posted message and of the credibility of its source influence adoption of the information in a community (Zhang and Watts, 2008). As early adopters may wish to be credible sources, we propose that a member's initiative in starting dialogue in a VC will be positively related to that member's commitment to the community.

H7: The more a member initiates dialogue in the B2B VC, the more committed the member becomes to the B2B VC and thus brand loyalty to community-hosting organisation.

H8: Dialogue initiation in the B2B VC has an indirect impact on brand loyalty to the community-hosting organisation through a commitment to the B2B VC.

These favourable perceptions of the host organisation may lead to brand loyalty towards the host organisation's brand (Dick and Basu, 1994). When the hosting organisation

interacts with members and asks them for feedback and input for new products, a rapport is built that facilitates relationship marketing. Members may be more willing to complete surveys for the hosting organisation if they feel their input and preferences will be included in future products or changes to existing products.

In addition, some small business owners may be interested in learning more about the community through participation and discussion with other members. A study by Bagozzi and Dholakia (2006) suggests that user group VCs can substantially benefit from creating a positive association for a brand through the pleasant experiences of user group participation. Constant et al. (1996) examine the use of e-mail for help seeking and giving within an organisation and find that citizenship behaviour and the desire to benefit the organisation are the major motivations for helping behaviour. We extend this thought into VCs as the citizenship behaviour of small business owners may be of a helping and giving nature. In studies of online communities of professionals, Wasko and Faraj (2005) state that reputation, altruism, generalised reciprocity and community interest may be important motivations underlying member knowledge contribution. This community interest may lead to commitment in the community that eventually leads to brand loyalty. Overall, the more responses a community member posts in a VC, the more committed that member becomes to the VC. We propose that community members who value the VC will initiate dialogue and respond frequently to other members' dialogue, thus resulting in increased brand loyalty through relationship marketing to the host organisation.

H9: The more a member responds to posts and discussions in the B2B VC, the more committed the member becomes to the B2B VC and thus brand loyalty to community-hosting organisation.

H10: Response frequency of members in the B2B VC has a direct impact on the members' brand loyalty to the community-hosting organisation.

The intentional motives and behaviour of community members is to find useful information and resources in an easy and quick way, to seek business opportunities, and possibly to help others in the community. Overall, a commitment to a B2B VC means that the members will frequently visit the community, will be a part of its growth, and, based on relational exchange theory, will want to pursue relational exchanges with purchasing partners. The interactions of both receiving and giving in the community lead to commitment of members and to commitment of a brand in the form of loyalty.

As mentioned earlier, brand loyalty is of great strategic value to many organisations. For organisations that can create relationships with businesses through a VC that leads to brand loyalty, the lifelong value of that business customer can be very rewarding.

5 Methodology

To empirically test our hypotheses, we used role playing to learn about the behaviour and psychological processes of B2B VC participants. Role playing studies ask respondents how they would feel or behave if they were in a particular situation (Aronson and Carlsmith, 1968; Greenberg and Eskew, 1993). Numerous role playing studies have been conducted to learn about behaviour, attitudes and psychological processes (for a review see Greenberg and Eskew, 1993). For this study, undergraduate students in the business

school of a large southern USA university participated in the role playing scenario. Each student was presented with a scenario and was asked to put themselves in the place of a small business owner. Students then responded to an online survey containing established scales (see Appendix). These scales used a seven-point Likert scale ranging from *strongly agree* (1) to *strongly disagree* (7). The scenario was deemed to be high in realism, as 91.6% of respondents indicated that they *somewhat agree* to *strongly agree* with the statement “I can imagine this situation happening to business owners”. We used computer self-efficacy as a control variable and included a manipulation check to ensure that respondents had paid attention to details within the scenario. In all, 249 usable responses were obtained from students within five classes.

6 Data analysis and results

Regression analysis was used to test our model. We used Sobel.spss.sbs script (Preacher and Hayes, 2008) to test for mediation in SPSS. Table 1 shows a summary of the results that were found when regression was used to analyse the model. Table 2 shows the correlations between the variables in the hypothesised model.

Table 1 Hypotheses results summary

<i>Hypothesis</i>	<i>Relationship</i>	<i>Result</i>
H1	FUsefulness → CommitmentVC → BrandLoyalty	Supported (0.681*)
H2	FUsefulness → BrandLoyalty	Supported (0.435*)
H3	SystemQuality → CommitmentVC → BrandLoyalty	Supported (0.783*)
H4	SystemQuality → BrandLoyalty	Supported (−0.023)
H5	BOpportunity → CommitmentVC → BrandLoyalty	Supported (0.743*)
H6	BOpportunity → BrandLoyalty	Supported (0.159*)
H7	DInitiation → CommitmentVC → BrandLoyalty	Supported (0.746*)
H8	DInitiation → BrandLoyalty	Not supported
H9	RFrequency → CommitmentVC → BrandLoyalty	Supported (0.726*)
H10	RFrequency → BrandLoyalty	Supported (0.216*)

*Significant at the 0.05 level.

Note: Functional usefulness: FUsefulness; system quality: SystemQuality; business opportunity: BOpportunity; dialogue initiation: DInitiation; response frequency: RFrequency; commitment to B2B VC: CommitmentVC; brand loyalty: BrandLoyalty.

Table 2 Correlation matrix

	<i>RF</i>	<i>DI</i>	<i>CC</i>	<i>BL</i>	<i>BO</i>	<i>FU</i>	<i>SQ</i>	<i>NS</i>
RF	1							
DI	0.791**	1						
CC	0.576**	0.532**	1					
BL	0.525**	0.464**	0.782**	1				
BO	0.344**	0.269**	0.500**	0.448**	1			
FU	0.374**	0.357**	0.534**	0.553**	0.561**	1		
SQ	0.235**	0.260**	0.304**	0.232**	0.216**	0.388**	1	
NS	0.293**	0.291**	0.326**	0.322**	0.249**	0.382**	0.733**	1

**Correlation is significant at the 0.01 level (2-tailed).

Note: RF: response frequency; DI: dialogue initiation; CC: community commitment; BL: brand loyalty; BO: business opportunity; FU: functional usefulness; SQ: system quality; NS: navigational structure.

6.1 Direct effects

Functional usefulness of the community had a significant positive effect on the commitment to the VC ($H2$, $\beta = 0.680$), thus implying that members who perceive the community as functional useful may lead to more loyalty to the brand. As hypothesised, system quality does not significantly impact loyalty to the brand-hosting the community ($H4$). Business opportunity also had a significant impact on the brand loyalty of the organisation hosting the B2B VC ($H6$, $\beta = 0.159$). This suggests that a small business owners perception of gaining a business opportunity by participating in the VC lead to brand loyalty of the hosting firm. Dialogue initiation in the community does not significantly predict brand loyalty, hence, no support for $H8$. However, response frequency had a significant positive effect on brand loyalty ($H10$, $\beta = 0.216$).

6.2 Mediated effects

Functional usefulness of the community had a significant positive effect on brand loyalty of the firm through the commitment to the VC ($H1$, $\beta = 0.235$ – partial mediation), thus, implying support for $H1$. This indicates that perceived functional usefulness of the B2B VC lead to a commitment to the community and therefore, loyalty to the brand. Functional usefulness positively impacted community commitment ($\beta = 0.664$) and community commitment impacted brand loyalty ($\beta = 0.680$). Commitment to the VC mediated the relationship between system quality and brand loyalty to the host organisation ($H3$, $\beta = -0.0073$ – full mediation). Consequently, $H3$ was supported. Furthermore, system quality had a positive effect on the small business owner's commitment to the VC ($\beta = 0.336$), and commitment to the VC was positively related to brand loyalty to the host organisation ($\beta = 0.783$). Commitment to the VC also significantly mediated the relationship between business opportunity and brand loyalty to the host organisation ($H5$, $\beta = 0.087$). Therefore, $H5$ was supported indicating that as small business owners perceive the B2B VC as a means to acquire new business opportunities, he or she will become committed to the community and, thus, become

more loyal to the brand through that the commitment. Also, business opportunity had a significant positive effect on commitment to the VC ($\beta = 0.22$). Commitment to the VC was related to brand loyalty ($\beta = 0.744$). Commitment to the VC mediated the relationship between dialogue initiation and brand loyalty to the host organisation (H7, $\beta = 0.051$ – full mediation). Thus, H7 was supported. When a small business owner increasingly creates new posts in forums or blogs, he or she is becoming more committed to the community and that commitment leads to brand loyalty. Dialogue initiation positively impacted commitment to the VC ($\beta = 0.409$) and commitment to the VC had a significant positive effect on brand loyalty ($\beta = 0.746$). Commitment to the VC mediated the relationship between response frequency and brand loyalty to the host organisation (H9, $\beta = 0.079$ – partial mediation). Thus, H9 was supported. Following dialogue initiation, increased response frequency leads to brand loyalty through B2B VC commitment. Response frequency positively impacted commitment to the VC ($\beta = 0.473$) and commitment to the VC had a significant positive effect on brand loyalty ($\beta = 0.726$).

7 Discussion and conclusion

Our model has significant managerial and research implications. We will first discuss the managerial implications in the form of recommendations then highlight future research directions.

7.1 Managerial implications

7.1.1 Host B2B VCs

Businesses hosting a B2B VC can receive benefits such as having their customers visit their organisation's website often, higher probability of customer participation in the community and higher probability of participation in customer surveys. If the customer perceives functional usefulness and system quality, the company will benefit from the customers' loyalty. B2B VCs give organisations an opportunity to receive valuable opinions from their customers directly. If the organisation can provide a useful community where businesses want to come back and see what is new from other members and the organisation, the hosting organisation will develop more committed business customers and partners. This type of customer may be more willing to complete surveys and questionnaires to help the organisation with new products and services, thus allowing the company to produce products with the customer in mind. Organisations may work for loyal, life-long customers, and we have support that B2B VCs are a mechanism to produce this type of customer. Be sure to encourage dialogue initiation and responding in the community as this further contributes to commitment and loyalty.

7.1.2 Provide functional useful tools and resources

One of the main keys to a successful B2B VC as supported in our study is functional usefulness. In most B2B VCs, the hosting organisation only provides information about and promotes its own products and services. Community organisers, whether an employee of the hosting organisation or unaffiliated volunteer, should write functionally useful articles for the community members and provide tools and resources such as tax

advice, financial calculators and business forms and templates that are specific to the VC's target audience. Doing so will give small business owners even more reasons to frequent the website, and brand loyalty is bound to occur based on our results.

7.1.3 Provide small business owners with business growth opportunities

Managers and owners of small businesses should seek B2B VCs, in which to participate to strengthen their relationships with their suppliers and partners. By giving members the opportunity to advertise their business and network with other businesses, hosting organisations will realise more frequent visits and loyal customers. By giving members, opportunities for advertising, e-business partnerships, alliances, etc. the hosting organisation will receive customers who may be willing to choose the brand over competitors, pay a higher price for the host organisation's products, and receive new customers through the word of mouth promotion of loyal customers.

7.2 Research implications

7.2.1 Empirically study multiple B2B communities

This paper consists of concepts gained from observing new B2B VC sites and literature on VCs and marketing. A next step towards empirically testing our hypotheses is to collect data on VC features and usage statistics from different genres of existing B2B VCs. Future data collection may be done by administering online surveys to various live community members and the host organisation.

7.2.2 How firms can encourage participation

As we have highlighted throughout our paper and as B2C literature has shown, lurkers are prevalent in B2C communities, and we propose they are just as prevalent in B2B communities. Research is needed to identify ways to turn lurkers into community dialogue initiators and responders. B2B VCs will benefit from members communicating and reciprocating knowledge.

7.2.3 Explore costs and tradeoffs

Knowing the cost impacts for attaining brand loyalty through the use of B2B VCs would be relevant. A future study detailing the time spent by and characteristics of members participating in B2B communities would also be beneficial to this research area.

Our main argument is that B2B VCs critically impact relationship marketing and that functional usefulness, system quality, business opportunity, dialogue initiation and response frequency impact B2B community commitment and brand loyalty. Using resource-advantage theory and relationship marketing, we have shown that such factors statistically predict a relationship with brand loyalty of the firm hosting a B2B VC. We believe that our model enhances the scant knowledge and understanding of how new B2B VCs impact customer commitment and brand loyalty.

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Appendix

Measurement

Response frequency: $\alpha = 0.849$

(Wiertz and Ruyter, 2007)

Dialogue initiation: $\alpha = 0.846$

(Simmons and Ammeter, 2008; Wiertz and Ruyter, 2007)

Commitment to B2B community: $\alpha = 0.874$

(Parasuraman et al., 2005; Wiertz and Ruyter, 2007)

Brand loyalty: $\alpha = 0.880$

(Mollenkopf et al., 2007; Wiertz and Ruyter, 2007)

Business opportunity: $\alpha = 0.813$

(Simmons and Ammeter, 2008)

Functional usefulness: $\alpha = 0.877$

(Davis, 1989)

System quality: $\alpha = 0.871$

(Davis, 1989)

Navigational structure: $\alpha = 0.827$

(Montoya-Weiss et al., 2003)

Scenario realism: $\alpha = 0.800$

(Fedor et al., 2001)

Computer self-efficacy: $\alpha = 0.929$

(Lin and Huang, 2008)

Manipulation check: $\alpha = 0.803$

(Simmons and Ammeter, 2008)
