The Challenge of Creating Virtual Communities

Matthew Tickle, AIMES Centre, The University of Liverpool, UK; E-mail: m.tickle@liverpool.ac.uk
Roula Michaelides, AIMES Centre, The University of Liverpool, UK; E-mail: roulam@liverpool.ac.uk
Dennis Kehoe, AIMES Centre, The University of Liverpool, UK; E-mail: dfkehoe@liverpool.ac.uk

ABSTRACT

The MySpace phenomenon and the increased use of virtual communities (VC) by large international organisations such as IBM and Procter and Gamble (P&G) confirms the importance of VC in today's society and the global economy. The holistic approach of using modern Internet tools and technologies with social networks presents both opportunity and challenges in the modern era. This paper addresses both the challenges and opportunities presented to communities wishing to establish a virtual cyber-presence. The research outputs are based on a review of academic literature in the area of VC. The research objective of this paper is to review current practices and success strategies as proposed in academic publications and studies.

INTRODUCTION

A virtual community is a community of people with a common interest but not necessarily a common geographic location (Sands, 2003). In their most basic form, virtual communities are websites that allow their users to interact with each other using tools such as discussion forums, 'Blog Spaces', real-time chat and trading areas.

Virtual communities allow companies to build stronger, more cost-effective connections between themselves, their partners and their customers (Roberts, 2006). If planned and executed correctly, VCs can benefit businesses by improving resource allocation, customer service and revenues, as well as lowering operating costs. Furthermore, virtual communities can act as bridges between companies and their customers by fostering product awareness, providing forums for questions and concerns and serving as conduits for feedback to improve future company products.

Virtual communities effectively allow the exchange of vast amounts of information between users scattered globally. Amazon.com, for example, utilises a virtual community to ensure that purchasing customers share information and opinions on their products, and this information can then be used to promote additional sales from other potential customers. This ensures that customers come back to Amazon for this free service that allows them to review what other customers have thought about products there.

The research objective of this paper is to review the challenges of virtual communities as highlighted in academic literature, and then look at suggested solutions to these. The paper will then summarise the findings and propose solutions to the challenges associated with virtual community implementations.

The research methodology employed in this paper will involve reviewing academic literature on the subject of virtual communities with a focus on problems associated with their implementation and uptake.

RESEARCH METHODOLOGY

A literature review was undertaken to obtain an in-depth understanding of the VC research area.

The methodology adopted in this paper is to firstly identify what virtual communities are from the extensive published academic literature. The paper shall continue by summarising the academic literature on the following topics:

- Why virtual communities are needed
- The various types of virtual communities
- Technologies for virtual communities
- Community member roles
- Virtual community life cycle

The paper will then discuss the various problems and challenges associated with virtual communities before outlining several success strategies from the academic literature that need to be followed in order to create a successful virtual community.

VIRTUAL COMMUNITIES

There are many definitions of virtual communities. Sands (2003) describes virtual communities as "*a community of people with a common interest but not necessarily a common geographic location*" that interact over the Internet.

Barnatt (1998) uses a similar definition, describing virtual communities as "*...any group of people who share a common bond, yet who are not dependent on physical interaction and a common geographic location in order to sustain their group affinity*".

Case et al (2001) describe the term 'community' in a traditional sense - i.e. a location where people with similar interests can share experiences, ask questions and collaborate. Members of a given profession can join a community bringing with them a large amount of critical information, knowledge and experience, which they share only occasionally at events such as conferences. Virtual communities, on the other hand, overcome this minimal interaction by connecting geographically disparate groups in real time, through an online environment. This allows them to share knowledge and information with speed, but with little expense. Like traditional communities, virtual communities also act as a repository of information for their members, but they can store a much larger amount of important data (Case et al, 2001). Another advantage for virtual community members is access to opinion leaders and industry experts with a mouseclick with whom they would otherwise never have contact.

One of the most widely used definition of VC is Communities of Practice (CoPs). These link together cross-functional teams that are focused on the same set of business processes (Hagel and Armstrong, 1997). A CoPs is a group of people that share a passion for something they specialise in and who interact on a regular basis in order to learn how to do it better (Wenger, 2004). Each one of us belongs to a number of CoPs (at work, at school, in our hobbies etc.) - we are core members of some communities and in others we are more peripheral (Wenger, 1998). CoPs improve the performance of their members, by allowing them to share the experience or advice of other members (Wenger, 2004).

According to Hagel and Armstrong (1997) the main types of Virtual Community are:

1. Customer-Focused Communities
   - **Geographic Community** - formed around a physical location of common interest, e.g. Amsterdam, South Africa, New York.
   - **Demographic Community** - focused on gender, life stage or ethnic origin. These communities may stimulate a good volume of high-value transactions from members such as teens, single parents, senior citizens etc.

- **Topical Community** - centred on topics of interest such as hobbies, pastimes, sport, politics, culture, etc. An example of this type is the Liverpool football club community.

2. Business-to-Business Communities
   - **Vertical industry Community** – these are widespread forms of early business communities, particularly in high-tech industries (e.g. forming software user groups). For example source forge is a community of open source developers contributing free software components.
   - **Functional Community** – these communities serve the needs of people in specific business functions, (e.g. marketing) and are useful for mutual support and access to information.
   - **Geographic Community** - similar to consumer-focused geographic communities described earlier, in that they are formed around a physical location of common interest. Small businesses may benefit from the ability to exchange information about their concerns and needs with similar companies.
   - **Business Category Community** – members of these communities include SMEs, franchises, and exporters, all of which have a similar need for information, and again a similar benefit from regular interaction with similar businesses. An example of this VC includes the Department of Technology and Industry (DTi) knowledge network.

VIRTUAL COMMUNITIES AND TECHNOLOGIES

Technology plays an important role in the life of many communities (Wenger et al, 2005). The technologies mentioned in this paper are regularly used not only by virtual communities, but also by communities of people that are able to meet face-to-face.

A community implies an experience of togetherness that extends through time and space (Wenger et al, 2005). Therefore recreating this behaviour of personal interaction through technology is vital for a VC to operate successfully.

In acquiesce Hagel and Armstrong (1997) also stress that members are the most important factor in the success of virtual communities - technology is merely the enabler that facilitates the delivery of value to end users.

Wenger et al (2005) state that there is no "perfect" technology configuration – it changes from community to community over time.

The technologies most relevant to virtual communities can be split into:

- Synchronous technologies - allow members of a virtual community to communicate and collaborate in 'real-time'. Instant messaging, video conferencing and whiteboard applications are good examples.
- Asynchronous technologies – allow members to communicate when there is a time difference involved. Examples include discussion boards and E-mail.
- Publishing technologies – allow members to collaborate through information exchange. Blogs, RSS feeds, newsletters, document repositories (including version control) and calendars are used to facilitate publishing.
- Transaction technologies – payment technologies allow members to securely purchase goods and services through the virtual community as well as identifying the parties involved in the transaction. (e.g. Paypal).
- Data Collection and Interpretation Software – allow community organisers to analyse member profiles and participation statistics, in order for them to continually re-engineer the community in order to meet the users' needs.

COMMUNITY MEMBER ROLES

Flavian and Guinaliu (2005) suggest that there are 5 types of roles required in

Table 1. Community member roles

Role Name	Role Function
Coordinators	• Understands the community's business area / industry / interest • Understands which members should talk to each other • Orchestrates community activities • Connects community members • Nurtures the community • Establishes new sub-communities • Optimises the community's structure and design
Moderators	• Respected members of the community • Channels debates in a suitable direction • Manages member-generated content (. bulletin boards, chat areas) and ensures it is suitable for the community • Manages member profiles • Builds up a library of member-generated content. Moderators work with Instigators to decide what content is kept and what is not from bulletin boards and chat areas
Instigators	• Evaluates and searches for useful resources for the community • Voluntarily and respectfully proposes conversational topics to encourage participation • Utilises member profiles from Moderators in order to understand which information is important to the users • Searches for new resources of interest to them
Support Team	• Understands the technical requirements of the community • Provides training for community members • Manages the technology infrastructure - ensures that community members have enough server capacity to store both content and profiles • Ensures that the community is secure • Liaises between the community members and the executive sponsor to ensure that the community delivers its goals • Responds to community's questions effectively without large expenses • Evaluates feedback from a number of sources (such as bulletin boards) in order to keep service levels high • Ensures that community transactions are secure
Executive Sponsor	• Responsible for staffing of the community • Gives investment, guidance and legitimacy to the community • Maximises the community's revenues from advertising and transactions and ensures that the products and services offered to community members are relevant to the their needs

Table 2: Development Stages of a VC (Adapted from Hagel and Armstrong, 1997)

Stage of Evolution Description Key Features
1 Virtual Villages Communities are highly fragmented but profitable businesses, each containing multiple, small sub communities. • Low barriers to entry • Many entrants • Companies participate across multiple communities • Network users sample across multiple communities • May become profitable niche businesses
2 Concentrated Constellations Concentration of core communities, and development of affiliate relationships with niche communities.. • Increasing returns lead to concentration within "core" topics, such as travel, teenage interests, the legal profession etc. • Niche communities benefit from affiliating with core communities
3 Cosmic Coalitions Core communities aggregate across complementary core topic areas (such as sports or music). They do so either because of the proactive efforts of one community organiser or because all see benefits in becoming a wider "co-operative". • Members find value in formation of coalitions, a common user interface and billing, for example
4 Integrated Infomediaries Communities and coalitions evolve into agents for members, managing their integrated profiles to maximise value to members. • Members themselves represent the most efficient location for capture of profiles • Members assert ownership over their profiles (and understand their value) • Specialised infomediaries can organise and maximise value of member profiles

order to keep a VC successful. Wenger et al (2005) believe that there are 3, whilst Hagel and Armstrong (1997) believe there are 9.

This paper builds on the assumption that there are 5 roles, summarised in Table 1.

VIRTUAL COMMUNITY LIFECYCLE

Hagel and Armstrong (1997) believe that in order to create a successful VC the organisers need to understand the possible evolution of both the structure of the community business and the relationships between communities themselves. As such Hagel and Armstrong (1997) proposed an evolutionary route for VCs (Table 2).

Wenger (1998) takes another view to the development stages of a virtual community, described in Figure 1.

BENEFITS FROM VIRTUAL COMMUNITY USE

There are several benefits for all parties using VCs. The main benefit is that VCs allow fast and inexpensive dissemination of knowledge and information between members whilst controlling information overload (Case et al, 2001). Members receive far more information than they would typically be able to access conveniently and cost-effectively in the past. Member's opinions and previous experiences are also disseminated throughout the entire community so benefiting all members (Hagel and Armstrong, 1997).

Benefits to Customers

VCs enable customers to exchange "word-of-mouth" experiences with each other, allowing other potential customers access to a critical evaluation of products or services they are interested in. Companies like Amazon.com have recognised this and built on it using a feedback system with customer comments. The company benefits from satisfied customers' comments to other members of the community. This gives customers the purchasing confidence and encourages return visits to the company. This feedback system works perfectly in a VC rather than in the offline world (Hagel and Armstrong, 1997).

Every new member of a VC increases the value of the community to both the new and existing members. The more members a virtual community has, the more attractive it will become to future members therefore creating a self-feeding cycle.

It is important to stress that the benefits of virtual communities are not related solely to financial transactions and commodities. They allow vital exchange of knowledge between experienced and inexperienced people that would otherwise be difficult to attain.

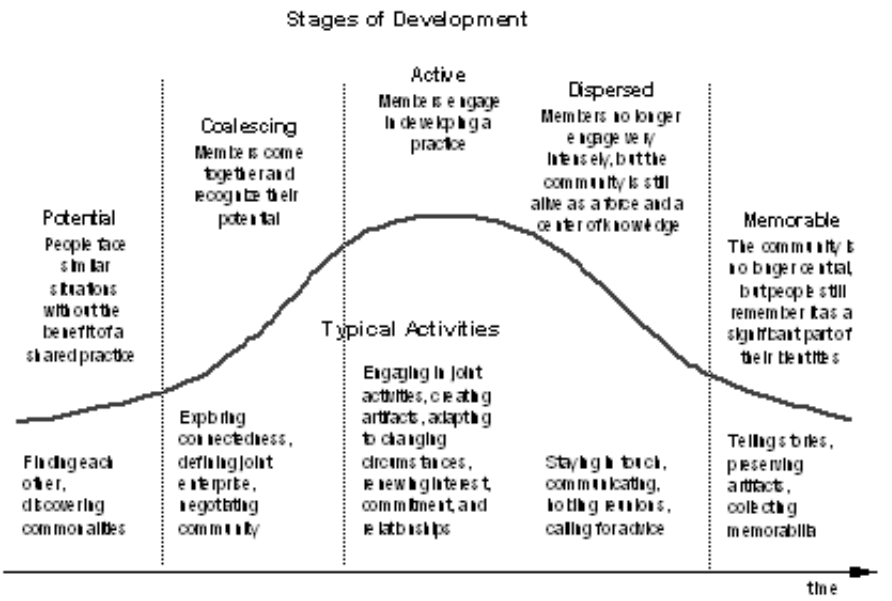
Benefits for Companies

Virtual communities' effectiveness at bringing companies and customers together enables small producers to have a national marketing capability for the price of an online advertisement. The customer feedback obtained from VCs is not only accurate and easy to obtain, it is extremely cost effective, with very little investment required. Companies could easily sponsor a VC in their area of business and converse with members in there to raise their awareness of their products (Hagel and Armstrong, 1997). These factors are all incredibly beneficial to Small to Medium Enterprises (SMEs) where it is vital that production mistakes are kept to a minimum.

Benefits for Individual Members

VCs create benefits for users at an individual level by enabling them to complete their job faster, more effectively, cheaper or even more enjoyably (Roberts, 2006). For example, an employee at a car manufacturer that works on the assembly line

Figure 1. Virtual communities development stages (Wenger,2005)



may have difficulty in one aspect of their job, but when they share this problem on the virtual community, other members can post suggestions to them for new ways of counteracting that problem.

CHALLENGES OF VIRTUAL COMMUNITIES

Despite the benefits there are numerous challenges that stand to impede the success of each virtual community. There is a critical short-term problem for all VC pioneers – the time it takes to establish the critical mass of members (Barnatt, 1998). It is unlikely that the virtual community will show anything but a financial loss in its early years, and attempts to raise short-term income from the new virtual community (such as subscription fees or the selling of members' information on to marketing organisations) are likely to fail.

Another challenge is that virtual communities have very low barriers for exit, meaning that it is difficult to keep that critical mass of members for long periods of time.

Hagel and Armstrong (1997) describe the threat that VC pose to larger organisations as the "piranha" effect. Just as piranhas reverse the principle that bigger fish eat the smaller fish, so too VCs become a threat to big corporations if they flourish in numbers. If more than a handful of these communities survive the first two or three years and are successful in wooing proportions of the customer base, they pose a long-term threat to larger organisations.

VCs will also not be eligible for every business application (particularly when the producer is also the distributor). For example, it is unlikely that many people will want to regularly visit a financial services virtual community. There is a challenge to this type of virtual community, as people are generally interested in each other (in areas such as gossip, news and sports), and not in the latest financial offerings or payment plans (Barnatt, 1998).

Maclaran and Catterall (2002) also raise the point that the discussion traffic on a VC is not evenly spread over 24 hours seven days a week. There may be long periods of inactivity followed by a surge of messages over a shorter time period. Different groups may also be active at different times, so there is a tendency for information overload.

Roberts (2006) highlights the fact that building VCs poses major challenges and risks to the organisers as well as the staff responsible for their design, launch and operation. The corporate landscape has become littered with VCs initiatives that failed to deliver tangible value. Poor preparation, unrealistic expectations and no clear sense of how the virtual community will support organisational goals are cited as reasons why virtual communities fail.

One of the greatest challenges is convincing both potential members and associated companies that participating in VCs is worthwhile. Hagel and Armstrong (1997) believe that the greatest challenge for management is converting traditional wasy of working to the innovative way that virtual communities operate. The company's business model changes from a "push" strategy (whereby companies push products or services onto potential customers) to a "pull" strategy whereby the newly empowered customers dictate the products stocked by the company. This shift in power (from companies to customers) is described as a "reverse market". Hagel and Armstrong (1997) also believe that failing to embrace VCs will result in a loss of opportunity and they will risk becoming squeezed by new players that understand this new phenomenon.

Technology can also be a challenge. Community technology is designed for communities, but is experienced by individual members (Wenger et al, 2005). Therefore, having to take into consideration so many users' needs, designing the appropriate technology is difficult. In fact this challenge is one of the reasons why large companies may avoid launching their own virtual community (Hagel and Armstrong, 1997).

Another issue is the return on investment is generally long term. Those who expect an immediate return on investment may become frustrated. Significant revenues are unlikely to be forthcoming until certain thresholds have been reached, and therefore, initial investments are generally made in an environment of uncertainty and risk. Revenue streams such as member fees are likely to slow the growth of membership substantially and other competing virtual communities may offer the same / similar service for free. Advertising and transaction commission is unlikely in the early years of the virtual community - companies are likely to wait until a critical mass of members has materialised (and usage profiles can be reviewed), which takes time (Hagel and Armstrong, 1997).

SUCCESS STRATEGIES FOR VIRTUAL COMMUNITIES

Despite these challenges, several strategies are proposed by academic researchers to maximise virtual community success. They are as follows.

1. Analyse User Needs

Successful VCs depend on accurate analysis of members needs. The community should be created according to its members' needs and not those of the company promoting it, their advertisers or any other group outside the community (Cothrel and Williams, 1999). The needs of the community members need to be constantly reviewed and refined to ensure that the community is fulfilling its purpose (Flavian and Guinaliu, 2005). Community organisers cannot assume that all their members have the same levels of commitment and therefore the same needs (Wenger et al, 2005). Roberts (2006) states that the following questions ensure the virtual community delivers its goals:

- Who are the intended users?
- How will they be introduced to your community?
- What is the "critical mass" required for the community to be cost-effective?
- How web-savvy is your intended audience?
- What do your intended users really think about the introduction of a virtual community? (Roberts, 2006)

Roberts (2006) cites the example of Mary Kay skin-care, who's IT department invested months of analysis of the company's sales force and back-office needs from every stakeholders' points of view before considering the solutions to meet those needs online. User surveys, industry newsletters and user discussions were all used to allow the organisation to explore what was important in their users' work lives.

Another idea is to review competitors' sites periodically in order to keep abreast of new developments as they occur (Hagel and Armstrong, 1997).

2. Get Members Involved and Strengthen Community Feeling

The key to becoming a successful community organiser over time is their ability to aggregate members, retain them and even encourages them to transact (Hagel and Armstrong, 1997). Flavian and Guinaliu (2005) suggest that the VC should be formed around individuals who are highly motivated and willing to participate in the group - creating a higher commitment to the community. Members should also be able to locate or be directed to relevant people and stored information (Case et al, 2000) therefore fostering a community spirit and so improving members' loyalty to the VC.

The VC which fails to provide immediate, tangible benefits, will fail to impress users. Successful VCs empower users with the ability to perform their current job more effectively (Roberts, 2006).

Hagel and Armstrong (1997) believe that aggregating members, as well as aggregating relevant resources are vital for success. From these, member profiles can be analysed enabling organisers to better understand the needs of their members.

3. Don't Control Members

Freedom to choose the topics of discussion will allow the community to grow freely as will leaving members to resolve their disputes wherever possible. (Flavian and Guinaliu, 2005). A moderator interfering will only result in limiting the amount of information discussed, and eventually drive members away.

Marketers need to create discussion boards and risk allowing members discussing freely not only the company's products but those of its competitors. The results can then be analysed objectively and result in increased trust (Hagel and Armstrong, 1997).

4. Use Suitable Technologies and User Interface

Hagel and Armstrong (1997) propose 4 key guidelines to create a successful technology strategy:

- Use proven technologies
- Use robust technology for information capture and analysis
- Avoid developing any technology in-house, and
- Use a modular technology architecture.

Flavian and Guinaliu (2005) suggest systems that can transmit complex messages (e.g. combining text with images and sounds), in a simple way similar to the way in which members interact offline. Members should be able to locate or be directed to relevant people and stored information with ease (Case et al, 2001). Members should also have access to all the information they require without feeling overwhelmed - the amount of communication and information flow should be intelligently regulated so that the burdens of membership do not outweigh its benefits.

Roberts (2006) suggests starting with a small functional system to deliver results and quickly create a critical following which can then be built upon. The more effective the VC becomes, the more it will impact on its members. Therefore, scale and capacity to perform at the promised level should be considered (Roberts, 2006).

In a community that depends on technologies for interaction, tending to the technology becomes an important role. Wenger et al (2005) state that organisers must keep abreast of the latest technologies - they must then decide which new technologies would apply to the evolving needs of their members.

5. Assign Roles

As described earlier, different roles within the community allow for an increased level of dynamism (Flavian and Guinaliu, 2005). The roles allow the members to concentrate solely on their area, thus promoting a high level of focus within the community.

6. Community maturity

Management of the virtual community is essential. Timely, accurate and relevant content will attract users and make them return (Roberts, 2006). Interesting, provocative material is vital to maintain the conversations. Successful virtual communities require regular monitoring for problems and modifying for the evolving needs of their members (Snyder, 2000). Even the most successful virtual communities are works-in-progress, and user feedback should be used to redesign the web interface (Roberts, 2006).

CONCLUSIONS

This paper has demonstrated that although there are many benefits to adopting virtual communities, there are also several challenges involved that may deter potential community managers from VC implementations. Getting the critical mass of members remains the biggest challenge, due to the low barriers for exit that virtual communities operate within. Without this critical mass, it is difficult to attract members and investment for the community. Other challenges include selecting the correct technology, ensuring continual participation from members, convincing business managers that virtual communities are worthwhile and the fact that virtual communities are not applicable to every type of business application.

The challenges can be overcome, however, by using the success strategies mentioned in this paper. Analysing user's needs (both before development and throughout the lifetime of the virtual community) is a must if the virtual community is to deliver value to the end-user. Encouraging participation, selecting appropriate technologies, allowing members to contribute freely, and assigning roles to community members all aid in making the virtual community a success.

A future research area would be to measure the challenges (and their respective impacts) for each type of virtual community and also classify the importance of each of the success strategies for each type.

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