

HELSINKI UNIVERSITY OF TECHNOLOGY  
Department of Industrial Engineering and Management  
Institute of Strategy and International Business

**Mikko O. J. Laine**

**KEY SUCCESS FACTORS OF VIRTUAL COMMUNITIES**

Thesis submitted in partial fulfillment of the requirements for the degree of  
Master of Science in Engineering

Espoo, 31.5.2006

Supervisor: Annaleena Parhankangas D.Sc. (Tech.)  
Instructor: Samuli Hänninen M.Sc. (Econ.)

Author: Mikko O. J. Laine		
Subject of the thesis: Key Success Factors of Virtual Communities		
Number of pages: 109+6	Date: 31.5.2006	Library location: TU-91
Professorship: Strategy and International Business		Code of professorship: TU-91
Supervisor: Annaleena Parhankangas, D.Sc. (Tech.)		
Instructor: Samuli Hänninen, M.Sc. (Econ.)		
<p>Virtual communities are the big phenomenon of today. They are changing how people work, spend their free time and interact socially. Consequently, they are also an area of significant business opportunities and thus an intriguing prospect for many companies. Even though there are some remarkable success stories in the virtual community field, numerous communities have failed or the providing companies are not experiencing the expected returns. Therefore, to be able to consider building virtual communities the underlying factors for success must be determined.</p> <p>The research problem of this study is: "What are the key success factors of B2C virtual communities?" The objectives of the study are:</p> <ul style="list-style-type: none"> <li>- to obtain knowledge about virtual communities and related previous research.</li> <li>- to identify the factors that contribute to the success of a B2C virtual community and construct a model from those factors.</li> <li>- to determine whether the model can be used in analyzing existing B2C virtual communities and use the process to further develop it.</li> </ul> <p>The extensive literature review reveals that a virtual community is a new, multi-disciplinary concept with various definitions and characteristics. A fitting definition for the study is picked and a classification schema for a B2C virtual community selected. Success for a virtual community is defined and success factors discussed. The theoretical framework concerning virtual community success factors is fragmented and weak and thus by applying a grounded theory methodology, a success factor model for B2C virtual communities is built. The model consists of five interlinked success factor categories: focus, members, functionalities, business model and technical factors.</p> <p>To further evaluate and specify the model, three case studies are conducted. The cases include three virtual communities of the client company. They are a personal experience sharing community, a gaming community and a concept for a wide-scope consumer community. Analyzing the case studies leads to verification of the model and to the addition of an important factor "goals and measuring" to the business model category. The model thus portrays the key success factors of B2C virtual communities.</p> <p>Finally, recommendations are given to the client company concerning the analyzed communities, the whole virtual community domain and the usage of the key success factor model. The findings of the research have been applied throughout an ambitious project in the client company, thus proving their applicability and significance.</p>		
Keywords: virtual community, success factor, key success factor model		Publishing language: English

Tekijä: Mikko O. J. Laine		
Työn nimi: Virtuaaliyhteisöjen avainmenestystekijät		
Sivumäärä: 109+6	Päiväys: 31.5.2006	Työn sijainti: TU-91
Professuuri: Strategia ja kansainvälinen liiketoiminta		Koodi: TU-91
Työn valvoja: Annaleena Parhankangas, Tekniikan tohtori		
Työn ohjaaja: Samuli Hänninen, Kauppatieteen maisteri		
<p>Virtuaaliyhteisöt ovat tämän päivän suuri ilmiö. Ne ovat muuttamassa sitä, miten ihmiset työskentelevät, käyttävät vapaa-aikansa ja kanssakäyvät sosiaalisesti. Tästä johtuen ne ovat myös alue merkittävälle liiketoimintamahdollisuuksille ja siksi kiehtova mahdollisuus yrityksille. Vaikka on olemassa joitain merkittäviä menestystarinoita virtuaaliyhteisöjen alalla, lukuisat yhteisöt ovat epäonnistuneet tai niitä tarjoavat yritykset eivät saa niistä odotettuja tuottoja. Jotta pystytään harkitsemaan virtuaaliyhteisöjen rakentamista, niiden perustana olevat menestyksen tekijät pitää määrittää.</p> <p>Tutkimusongelma, johon tutkimus vastaa on: “Mitkä ovat yritysten kuluttajille tarjoamien virtuaaliyhteisöjen avainmenestystekijät?” Tutkimuksen tavoitteet ovat:</p> <ul style="list-style-type: none"> <li>- hankkia tietoa virtuaaliyhteisöstä ja niihin liittyvästä aiemmasta tutkimuksesta.</li> <li>- tunnistaa tekijät, jotka myötävaikuttavat yritysten kuluttajille tarjoamien (B2C) virtuaaliyhteisöjen menestykseen ja rakentaa malli näistä tekijöistä.</li> <li>- määrittää voiko mallia käyttää B2C virtuaaliyhteisöjen analysoimiseen ja edelleen käyttää tätä prosessia mallin kehittämiseen.</li> </ul> <p>Laaja kirjallisuuskatsaus paljastaa, että virtuaaliyhteisö on uusi poikkitieteellinen konsepti, jolla on lukuisia määritelmiä ja ominaisuuksia. Tutkimusta varten valitaan sopiva määritelmä virtuaaliyhteisöille ja luokittelukaavio B2C virtuaaliyhteisöille. Menestys määritellään ja menestystekijöistä keskustellaan. Virtuaaliyhteisöjen menestystekijöihin liittyvä teoreettinen viitekehys on hajanainen ja heikko, ja siksi grounded theory -metodologiaa käyttäen rakennetaan B2C virtuaaliyhteisöjen menestystekijämalli. Malli koostuu viidestä toisiinsa liittyneestä kategoriasta: fokus, jäsenet, toiminnallisuudet, liiketoimintamalli ja tekniset tekijät.</p> <p>Mallin arviointia ja tarkennusta varten suoritetaan kolme tapaustutkimusta, jotka muodostuvat kolmesta asiakasyrityksen tarjoamasta virtuaaliyhteisöstä. Ne ovat henkilökohtaisten kokemusten jakamiseen tarkoitettu yhteisö, peliyhteisö ja konsepti laaja-alaiselle kuluttajayhteisölle. Tapausten analysointi johtaa mallin vahvistamiseen ja tärkeän tekijän “maalit ja mittaaminen” lisäämiseen liiketoimintamalli-kategoriaan. Kokonaisuudessaan malli esittää B2C virtuaaliyhteisöjen avainmenestystekijät.</p> <p>Lopuksi annetaan suosituksia asiakasyritykselle liittyen analysoituihin yhteisöihin, koko virtuaaliyhteisöjen alueeseen ja avainmenestystekijämallin käyttöön. Tutkimuksen löydöksiä on käytetty eräässä asiakasyrityksen kunnianhimoisessa projektissa, mikä todistaa niiden soveltuvuuden ja merkityksen.</p>		
Avainsanat: virtuaaliyhteisö, menestystekijä, avainmenestystekijämalli		Julkaisukieli: Englanti

## FOREWORD

*“The empires of the future are the empires of the mind.”*

– Sir Winston Churchill, 1943

A journey is coming to an end. And what a journey it has been.

Thanks to Samuli for letting me have creative hands on this thrilling topic, for providing sharp feedback and for watching over.

Thanks to the whole “Community vision and concepts”-project team.

Thanks to Annaleena for super supervision.

Thanks to all my friends in and out of Prodeko and especially the Board of 2002 for making the journey worthwhile.

Thanks to Karri for connecting people.

Thanks to my family for their existence and support.

Finally, special thanks to Sonja for getting me through all this.

Espoo, May 2006

Mikko O. J. Laine

---

---

## TABLE OF CONTENTS

<b>1. INTRODUCTION .....</b>	<b>1</b>
1.1 Background.....	1
1.2 Research Problem and Objectives .....	2
1.3 Scope .....	3
1.4 Structure.....	4
<b>2. VIRTUAL COMMUNITIES .....</b>	<b>5</b>
2.1 Background.....	5
2.1.1 <i>Conventional Communities</i> .....	5
2.1.2 <i>Emergence of the Internet</i> .....	6
2.2 Defining the Virtual Community .....	7
2.3 Users.....	12
2.3.1 <i>Needs</i> .....	12
2.3.2 <i>Roles</i> .....	13
2.3.3 <i>Critical Mass</i> .....	14
2.4 Virtual Community Types.....	14
2.5 Formation and Evolution of Virtual Communities.....	19
2.6 Benefits of Virtual Communities.....	21
2.7 Virtual Community Business Model.....	22
2.8 Successful Virtual Community .....	24
2.8.1 <i>Success</i> .....	24
2.8.2 <i>Success Factors</i> .....	25
2.9 Literature Summary.....	28
<b>3. METHODOLOGY .....</b>	<b>29</b>
3.1 Research Methodology .....	29
3.1.1 <i>Grounded Theory</i> .....	30
3.1.2 <i>Case Study</i> .....	31
3.2 Research Approach .....	31
3.2.1 <i>Research Paradigm</i> .....	31
3.2.2 <i>Quantitative and Qualitative Research</i> .....	33
3.2.3 <i>Theoretical and Empirical Research</i> .....	34
3.2.4 <i>Longitudinal and Cross-sectional Research</i> .....	34
3.3 Research Process .....	34
3.4 Research Methods .....	37
3.4.1 <i>Grounded Theory Methods</i> .....	37
3.4.2 <i>Case Study Methods</i> .....	39
3.4.3 <i>Triangulation</i> .....	40
<b>4. RESEARCH MODEL.....</b>	<b>42</b>
4.1 Conducted Grounded Theory Inquiry .....	42
4.2 The Success Factor Model .....	43
4.2.1 <i>Focus</i> .....	45
4.2.2 <i>Members</i> .....	46
4.2.3 <i>Functionalities</i> .....	47
4.2.4 <i>Business Model</i> .....	49
4.2.5 <i>Technical Factors</i> .....	51
4.2.6 <i>Factor Summary with the Model</i> .....	53
4.3 Next Steps to Evaluate the Model .....	53

---

---

<b>5. LIFELOG .....</b>	<b>54</b>
5.1 Introduction .....	54
5.1.1 <i>Overview</i> .....	54
5.1.2 <i>Background</i> .....	55
5.2 Functionalities .....	56
5.3 Focus .....	56
5.4 Members .....	57
5.5 Business Model.....	57
5.6 Technical Factors.....	58
<b>6. N-GAGE ARENA .....</b>	<b>60</b>
6.1 Introduction .....	60
6.1.1 <i>Overview</i> .....	60
6.1.2 <i>Background</i> .....	61
6.1.3 <i>N-Gage Devices</i> .....	61
6.1.4 <i>Games</i> .....	63
6.2 Functionalities .....	63
6.3 Focus .....	65
6.4 Members .....	65
6.5 Business Model.....	66
6.6 Technical Factors.....	67
<b>7. ALPHA COMMUNITY .....</b>	<b>69</b>
7.1 Introduction .....	69
7.1.1 <i>Overview</i> .....	69
7.1.2 <i>Background</i> .....	70
7.2 Functionalities .....	70
7.3 Focus .....	71
7.4 Members .....	72
7.5 Business Model.....	73
7.6 Technical Factors.....	74
7.7 Current Status.....	77
<b>8. RESULTS .....</b>	<b>78</b>
8.1 General.....	78
8.2 Lifeblog.....	78
8.3 N-Gage Arena.....	79
8.4 Alpha Community .....	81
8.5 Cross-case Considerations.....	82
8.6 Roundtable Workshop.....	83
8.7 Success Factor Model .....	85
8.7.1 <i>Feedback from the Experts</i> .....	85
8.7.2 <i>Revising the Model</i> .....	87
8.8 Evaluation of the Research .....	88
8.8.1 <i>Limitations</i> .....	88
8.8.2 <i>Quality of the Research</i> .....	90
8.8.3 <i>Assessment of the Developed Theory</i> .....	93
<b>9. CONCLUSIONS.....</b>	<b>94</b>
9.1 Conclusions .....	94
9.2 Recommendations .....	96
9.2.1 <i>General</i> .....	96

---

---

9.2.2	<i>Lifeblog</i> .....	97
9.2.3	<i>N-Gage Arena</i> .....	98
9.2.4	<i>Alpha Community</i> .....	98
9.3	Future Research .....	99
9.4	Final Words .....	100
<b>10.</b>	<b>REFERENCES</b> .....	<b>102</b>
	<b>APPENDIX I: INTERVIEWS</b> .....	<b>110</b>
	<b>APPENDIX II: EVALUATION TABLES FOR CASE COMMUNITIES</b> .....	<b>113</b>

---

---

## TABLE OF FIGURES

Figure 1. Structure of the study.....	4
Figure 2. Interactions in a virtual community.....	11
Figure 3. Types of virtual communities (Kozinets, 2002).....	17
Figure 4. A typology of virtual communities (Porter, 2004).....	18
Figure 5. Characterizing the virtual community (Markus, 2002).....	18
Figure 6. Virtual community shifts (Klang & Olsson, 1999).....	19
Figure 7. Steps in passive observation approach to research process (Remenyi et al., 1998).....	35
Figure 8. Research process of the study.....	37
Figure 9. Success factor model for B2C virtual communities with underlined factor categories. ....	43
Figure 10. Success factor model with individual factors. ....	53
Figure 11. Lifeblog PC interface example. ....	54
Figure 12. Lifeblog mobile interface example.....	55
Figure 13. Lifeblog data transfer alternatives.....	59
Figure 14. N-Gage Arena website. ....	60
Figure 15. N-Gage, N-Gage QD and N-Gage QD Silver Edition.....	62
Figure 16. An MMC game card for N-Gage.....	63
Figure 17. N-Gage Arena Launcher application.....	67
Figure 18. Roundtable workshop results mapped on the success factor model.....	84
Figure 19. Revised, final key success factor model for B2C virtual communities.....	88

---

---

## TABLE OF TABLES

Table 1. Summary of virtual community definitions from different perspectives (adapted from Gupta & Kim, 2004).....	12
Table 2. Classification based on objective of the virtual community (Gupta & Kim, 2004).....	15
Table 3. Stages of evolution of a typical virtual community (Gupta & Kim, 2004).....	20
Table 4. List of virtual community success factors from literature identified by Leimeister et al. (2004) and ordered according to their results. ....	26
Table 5. Comparison of four research paradigms (Tashakkori & Teddlie, 1998). ....	32
Table 6. Success factor summary for Focus category.....	45
Table 7. Success factor summary for Members category.....	47
Table 8. Success factor summary for Functionalities category.....	48
Table 9. Success factor summary for Business Model category.....	50
Table 10. Success factor summary for Technical Factors category. ....	52
Table 11. Cross-case comparison of case evaluations. ....	82
Table 12. Top 5 virtual community success factors defined by the three groups in roundtable workshop.....	83

---

---

## 1. INTRODUCTION

### 1.1 Background

Virtual communities are the big phenomenon of today. They have been emerging rapidly for the past decade and now they are everywhere, having traversed from being an upcoming trend to being the prevailing reality. The synchronous (real-time) communication possibilities and the nearly ubiquitous presence of the Internet have drastically changed how people work, spend their free time and interact socially. All of the aforementioned actions are happening more and more through virtual communities.

This transformation is naturally also intriguing for companies because of the emerging, seemingly enormous business opportunities fostered by this change. Years ago, virtual communities were considered as one of the most promising innovations resulting from the Internet revolution. As a result, Internet ventures tried to artificially build and foster virtual communities in different forms – as part of online shops, portal sites or business-to-business (B2B) platforms, or as design, relationship or gaming communities, to name a few. In addition, scientific research was mainly related to topics such as how to build a virtual community and how to gain critical mass and market shares as soon as possible (Lechner, Nonnecke, Schubert, 2005).

In fact, some of these opportunities did realize, and some communities boomed to be the huge success stories that we know of today, such as the bookstore Amazon (<http://www.amazon.com/>) and the auction service eBay (<http://www.ebay.com/>). However, the success for the rare few did not come overnight. Moreover, one easily is mistaken to narrow their thinking only to these atypical sensations, while forgetting that barely a handful of virtual communities are financially sustainable. Numerous ventures have disappeared from existence and in many cases companies are not experiencing the sworn gains.

One easily comes to ask what, then, makes some of these virtual communities work, while others fail? Consequently, in future research, the most important research questions concerning virtual communities are actually related to the investigation of factors for success or failure, financially as well as socially (Lechner et al., 2005).

Now, the Finnish telecommunications giant Nokia is interested in exploring further the opportunities in virtual communities. It has provided virtual communities in the past, such as the gaming community N-Gage Arena (<http://arena.n-gage.com/>) and United Kingdom pilot of E-Support Discussion forums (<http://discussions.nokia.co.uk/>). However, all the virtual community efforts have either not been overly popular or only short-termed or narrow topic projects. Still, it has the potential and the leverage to aggressively move to this playground, if so wished. If Nokia was to consider the possibility of offering e.g. a wider-scoped virtual community aimed for broad audiences and to make the offering both attractive and lucrative, an understanding would first have to be attained on what business-to-consumer (B2C) virtual communities are, what aspects comprise them and relate to them, what can be learned from past efforts, and most importantly, what are the key success factors for virtual communities.

This research is conducted as a master's thesis for the Department of Industrial Engineering and Management at Helsinki University of Technology. The research is carried out working in the Customer Engagement Solutions unit at Nokia Oyj and participating in the "Community vision and concepts"-project.

## 1.2 Research Problem and Objectives

Research problem of the study can be stated as follows:

What are the key success factors of B2C virtual communities?

The research problem can further be divided into three sub-questions, which will help in solving the main research problem. The sub-questions are:

1. What are virtual communities and B2C virtual communities?
2. What factors contribute to the success of a B2C virtual community and what kind of model can be constructed from those factors?
3. Is it possible to use this model to analyze existing B2C virtual communities and also thereby further develop it?

---

The main objective of the research is thus to

identify the key success factors of B2C virtual communities

This objective can be reached by first dealing with the research sub-questions. The objectives related to the sub-questions are

1. to obtain knowledge about virtual communities and related previous research
2. to identify the factors that contribute to the success of a B2C virtual community and construct a model from those factors
3. to determine whether it is possible to use this model to analyze existing B2C virtual communities and use the process to further develop it

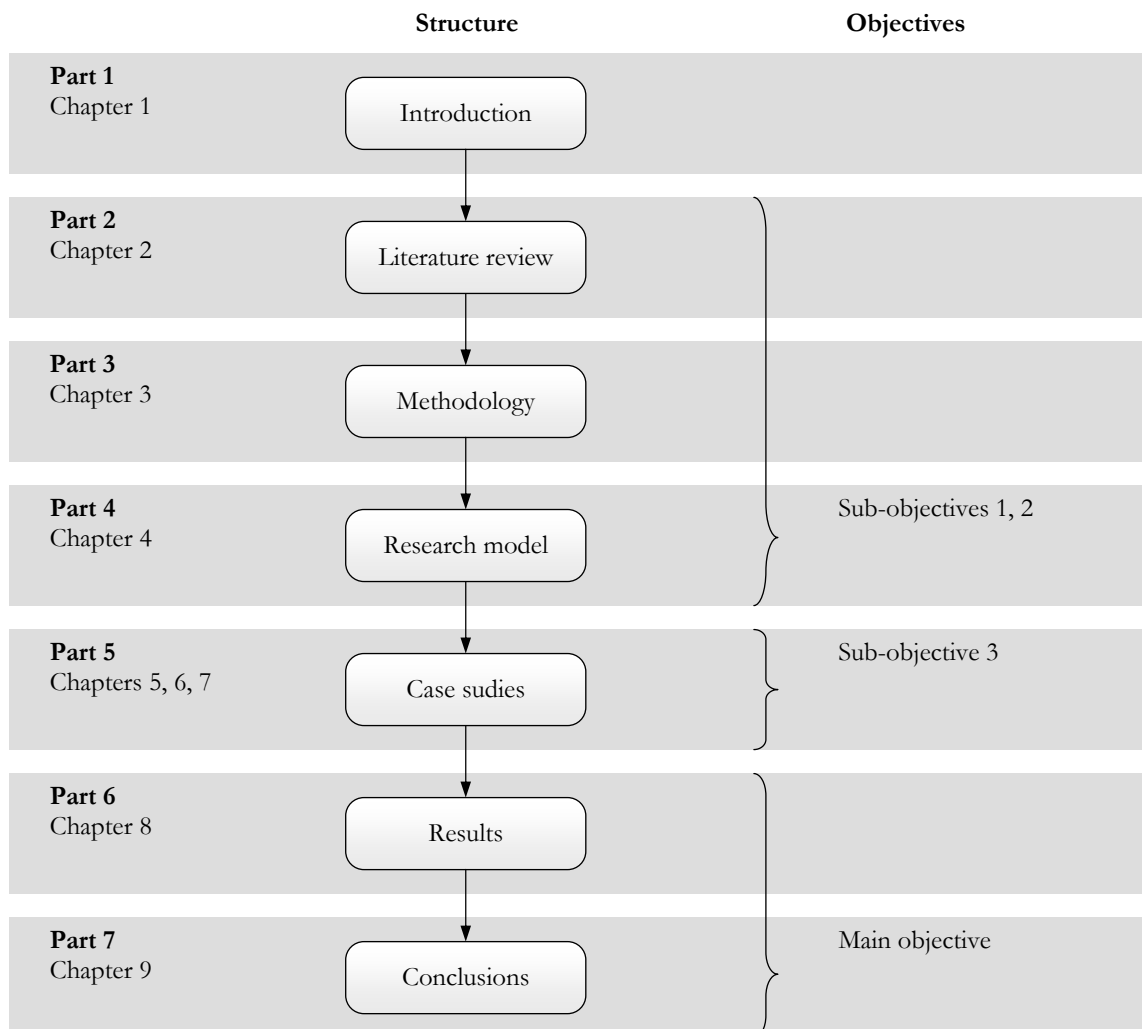
Based on the knowledge gained from answering the sub-questions, the main research question can be answered and the main objective reached. In addition, the objective is to provide information on the key success factors of B2C virtual communities to the client company. This in turn helps the company in improving its existing virtual communities and the possible ones being planned to be offered in the future.

### **1.3 Scope**

The study aims at identifying the key success factors of B2C virtual communities. This rules out a large number of communities and thus concentrates only on those being provided by commercial companies that have motives towards their stakeholders. The case studies and interviews to be conducted concentrate solely on the virtual communities of the client company.

## 1.4 Structure

The structure of the study is presented in Figure 1. The structure links the different parts of the study together with its objectives and the structure of this thesis. Introduction is presented in Chapter 1. Literature review is conducted in Chapter 2. Methodology for the research is presented in Chapter 3 and the derived research model is portrayed in Chapter 4. These three chapters aim to reach sub-objectives 1 and 2. Case studies are represented in Chapters 5, 6 and 7. These in turn help in achieving sub-objective 3. Results are shown in Chapter 8 and conclusions are presented in Chapter 9. These two final chapters will lastly accomplish the main objective of the study and present recommendations for future actions.



**Figure 1.** Structure of the study.

---

## 2. VIRTUAL COMMUNITIES

### 2.1 Background

This chapter presents the conducted literature review on virtual communities. The literature review is done in order to answer the first sub-question: *What are virtual communities and B2C virtual communities?* Also, the purpose is to gain knowledge to help in answering the second sub-question later.

First, the background of virtual communities is explained, drawing from the conventional communities and the rise of the Internet, and emerging as new forms. Various community definitions are examined and a suitable definition for this study is selected. Other characteristics of virtual communities are explored, such as types, benefits and evolution. Success for a virtual community is defined and finally success factors elaborated on.

#### 2.1.1 Conventional Communities

Humans are social beings and as such have always found it necessary to form groups and alliances for protection and pleasure, that is, communities (Klang & Olsson, 1999). However, even sociologists struggle to define community. For years, sociologists have defined and redefined the concept (Preece, 2000). One interpretation is that communities are groups in which individuals come together based on an obligation to one another or as groups in which individuals come together to be one in purpose (Rothaermel & Sugiyama, 2001).

Ferdinand Tönnies was one of the first to study communities. In 1887 he proposed a dichotomous distinction between community and society. He defined *Gemeinschaft* (community) as intimate, private and exclusive living together, whereas the larger *Gesellschaft* (society) was seen as the public life, namely the world itself (Rothaermel & Sugiyama, 2001).

If people consider coming together in itself a goal, and if the people coming together value it as such or take it somehow for granted, communal, i.e. *Gemeinschaft*-relationships are in question. On the other hand, if coming together is only seen as a means to an end and if its

only reason is aiming for something on the outside, resulting relationships are seen as Gesellschaft-relationships (“Ferdinand Tönnies”, n.d.).

Tönnies distinguished three different kinds of Gemeinschaft (communities): 1) community of kinship, 2) community of locality and 3) community of mind. Tönnies stated that the community of mind “implies only co-operation and coordinated action for a common goal. Gemeinschaft of mind expresses the community of mental life. It represents the truly human supreme form of community.” (as cited in Rothaermel & Sugiyama, 2001). Nowadays, the notion of community has also been at the heart of the Internet since its inception (Hagel & Armstrong, 1997a).

### *2.1.2 Emergence of the Internet*

The history of the Internet dates back to the early development of communication networks (Wikipedia, 2006a). The idea of a national computer network was born during the age of the cold war, when a network had to be developed with which the United States government could communicate after a hypothesized nuclear strike. This resulted in a concept of a network that would have no central operating node and that would operate no matter how damaged the network would be. (Klang & Olsson, 1999)

Practical implementations began in 1969, as the first node was installed in UCLA. By December 1969, there were four nodes on the ARPANET. The four computers could transfer data on dedicated transmission lines. In 1971 there were fifteen nodes in ARPANET and by 1972, thirty-seven nodes. (Klang & Olsson, 1999) By the 1980s, technologies we now recognize as the basis of the modern Internet began to spread over the globe. In the 1990s the introduction of the World Wide Web (WWW) saw its use become commonplace. The rise of the Internet included both technological developments and the merging together of existing network infrastructure and telecommunication systems. (Wikipedia, 2006a)

The Web, as it stands today, has allowed global interpersonal exchange on a scale unprecedented in human history. It has allowed its users to interact with more groups of people, dispersed around the planet in time and space, than is possible when limited by physical contact or even when limited by every other existing medium of communication combined. Emotional experiences, political ideas, cultural customs, musical idioms,

business advice, artwork, photographs, literature, can all be shared and disseminated digitally with less individual investment than ever before. (Wikipedia, 2006c) As of January 2006, over 1 billion people use the Internet (Internet World Stats, 2006; ClickZ Stats, 2006).

The Internet also went on to fundamentally alter and affect the economy of the world, including the economic implications of the dot-com bubble. (Wikipedia, 2006a) The emergence of the Internet has created the possibility of a truly global market place characterized by commercial transactions 24 hours a day, 7 days a week (Rothaermel & Sugiyama, 2001).

With each new form of social order the human alliances have adapted and new groupings have been formed. The information revolution has not been an exception. The birth of computer networks and the Internet has brought about new alliances of which some have become known by the metaphor of the virtual community. (Klang & Olsson, 1999) In fact, virtual communities are very similar to communities of mind described by Tönnies, except that virtual communities are formed through an electronic communication medium and are not bounded by space and time like conventional communities (Rothaermel & Sugiyama, 2001).

As noted earlier, communities have been studied in the fields of, for example, sociology and anthropology. For management scholars, however, the study of communities is a relatively new research avenue. (Rothaermel & Sugiyama, 2001) Unfortunately, many researchers studying virtual communities seem unfamiliar with the long history of studying communities by sociologists. Consequently, there is a real danger of wasting time reinventing the wheel (Preece, 2000). Now, let us move forward to define the virtual community.

## 2.2 Defining the Virtual Community

One of the first definitions of virtual communities is given by Howard Rheingold (1995) as “Virtual communities are social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in the cyberspace” (p. 5), representing his early experiences in the WELL community.

However, a virtual community is a multi-disciplinary concept, which is difficult to define, thus resulting in many definitions depending upon the perspective from which it is defined (Preece, 2000). Wang, Yu and Fesenmaier (2002) identify that the definition perspectives range from multi-disciplinary, sociology, technology, business, economic to e-commerce viewpoints.

One of the most popular definitions for a virtual community is stated by Hagel and Armstrong (1997b), which takes the business perspective: “Virtual communities are groups of people with common interests and needs who come together on line. Most are drawn by the opportunity to share a sense of community with like-minded strangers, regardless of where they live. But virtual communities are more than a social phenomenon. What starts off as a group drawn together by common interests ends up as a group with a critical mass of purchasing power, partly thanks to the fact that communities allow members to exchange information on such things as a product’s price and quality” (p. 143).

An economic perspective is offered by Balasubramanian and Mahajan (2001), who define virtual community as any entity that exhibits all of the following characteristics:

1. It is constituted by an aggregation of people.
2. Its constituents are rational utility-maximizers.
3. Its constituents interact with one other without physical collocation, but not every constituent necessarily interacts with every other constituent.
4. Its constituents are engaged in a (broadly defined) social-exchange process that includes mutual production and consumption (e.g. mutual dissemination and perusal of thoughts and opinions). While each of its constituents is engaged in some level of consumption, not all of them are necessarily engaged in production. Such social exchange (as opposed to monetary or material exchange) is a necessary, but not always the only, component of interaction between the constituents of the community.
5. The social interaction between constituents revolves around a well-understood focus that comprises a shared objective (e.g. environmental protection), a shared property/identity (e.g. national culture or lifestyle choice), or a shared interest (e.g. a hobby).

E-commerce entrepreneurs take a very broad and loosely defined view on virtual communities. Any chat or bulletin board or communications software can be regarded as a virtual community. For them, the important issue is what draws people to and holds people in a community, the concept known as *stickiness*, so that they will buy goods or services. E-commerce entrepreneurs believe that communities not only keep people at their sites, but also have an important role in marketing, as people tell each other about their purchases and discuss banner ads, and help and advise each other. (Preece, 2000)

From the sociology perspective Ridings, Gefen and Arinze (2002) define virtual communities as groups of people with common interests and practices that communicate regularly and for some duration in an organized way over the Internet through a common location or mechanism.

At the opposite end of the social-technical spectrum are the technology-oriented definitions. The software that supports virtual communities is a frequently used shorthand way of defining them. From this standpoint they are referred to as chat, bulletin board, listserver, UseNet News or web-based communities. (Lazar, Tsao, & Preece, 1999)

Whittaker, Isaacs and O'Day (1997) were amongst the first to offer a multi-disciplinary perspective on virtual communities:

- Members have some shared goal, interest, need, or activity that provides the primary reason for belonging to the community
- Members engage in repeated active participation and there are often intense interactions, strong emotional ties and shared activities occurring between participants
- Members have access to shared resources and there are policies for determining access to those resources
- Reciprocity of information, support and services between members
- Shared context of social conventions, language, protocols

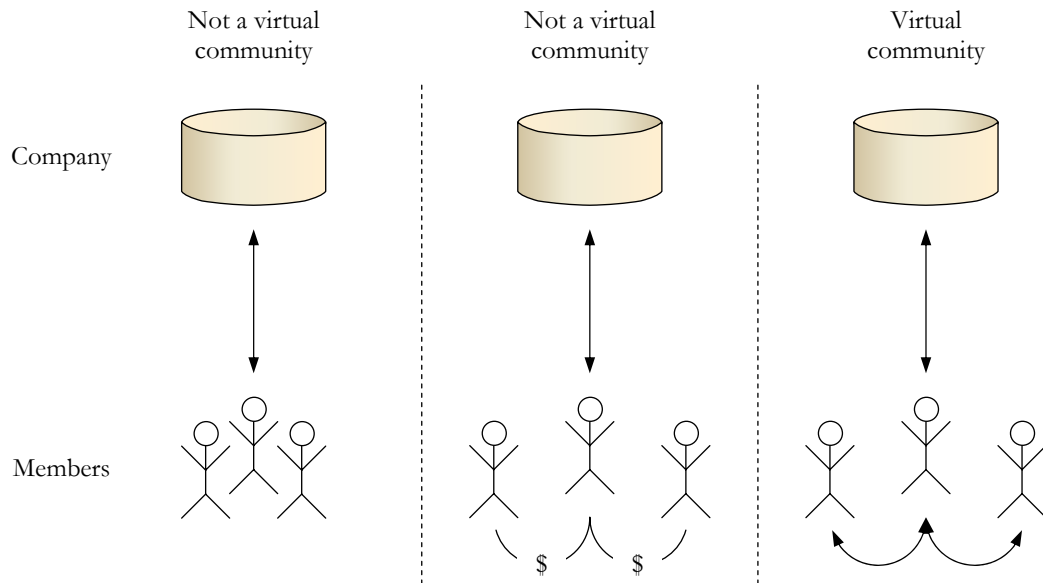
Similarly, from a multi-disciplinary perspective, Preece (2000) defines a virtual community to consist of:

- People, who interact socially as they strive to satisfy their own needs or perform special roles, such as leading or moderating.

- A shared purpose, such as an interest, need, information exchange, or service that provides a reason for the community.
- Policies, in the form of tacit assumptions, rituals, protocols, rules and laws that guide people's interactions.
- Computer systems, to support and mediate social interaction and facilitate a sense of togetherness.

It can be seen that varying definitions exist based on the perspective taken. The working definition for a virtual community for the scope of this thesis is best described by Leimeister and Krcmar (2004). "A virtual community consists of people who interact together socially on a technical platform. The community is built on a common interest, a common problem or a common task of its members that is pursued on the basis of implicit and explicit codes of behavior. The technical platform enables and supports the community's interaction and helps to build trust and shared common feelings among its members" (p. 2717).

This view adopts both technological and sociological perspectives. When interpreting this definition further, it agreeably rules out some cases, which might otherwise be mistakenly thought of as virtual communities. Because a requirement by this definition is people who interact socially, cases where a company solely pushes information to the users, is not regarded as virtual community even though people would also interact with the company. In addition, if there are only monetary transactions occurring between users and not any social interaction, it will not be regarded as virtual community. This is depicted in Figure 2. Thus, e.g. a Finnish used item sales site Keltainen Pörssi (<http://www.keltainenporssi.fi/>) is not a virtual community because it completely lacks the functionalities for social interaction between users, whilst eBay (<http://www.ebay.com/>) is a virtual community because these functionalities are present.



**Figure 2.** Interactions in a virtual community.

Good examples of popular virtual communities that also fit the definition well are, for example, Match.com, LinkedIn and Wikipedia. Match.com (<http://www.match.com/>) is a worldwide online dating service with more than 15.000.000 users in 32 countries claiming they match over 200.000 people each year (Match.com, 2006). LinkedIn (<http://www.linkedin.com/>) is an online professional networking service with more than 5.500.000 registered members representing over 130 industries (LinkedIn, 2006). Wikipedia (<http://www.wikipedia.org/>) is a free, multi-language encyclopedia project editable by anyone, with over 1.527.000 registered users and 900 administrators. The English version alone has over 1.162.000 articles available, and Wikipedia receives over 2.000 page requests per second in total. (Wikipedia, 2006b)

Finally, the discussed definitions for a virtual community can be summarized for comparison such as presented in the following Table 1.

**Table 1.** Summary of virtual community definitions from different perspectives  
(adapted from Gupta & Kim, 2004).

Definition	Aspect of virtual community addressed by definition									
	People	Shared purpose	Policies	Computer systems	Social/economic exchange	Type of software	Members as utility maximizers	Culture	Bonding	Regular interaction
Multidisciplinary										
Whittaker et al., 1997	X	X	X	X	X	X		X	X	
Preece, 2000	X	X	X	X	X			X		X
Leimeister & Krcmar, 2004	X	X		X	X			X	X	X
Sociology										
Ridings et al., 2002	X	X	X	X					X	X
Technology										
Lazar et al., 1999						X				
Business										
Hagel & Armstrong, 1997	X	X			X				X	X
Economic										
Balasubramanian et al., 2001	X	X		X	X		X			
E-commerce										
Preece, 2000					X					

## 2.3 Users

People are the pulse of any community. Without them, there is no community. Initially, people are attracted to a community by what it projects outwardly about itself. Ultimately, though, people join communities to satisfy their needs. (Preece, 2000)

### 2.3.1 Needs

In a traditional society, communities are often seen as something evoked by geographic closeness (village, neighborhood, town, etc.) or organizational belonging (schools, churches, sports, hobbies, etc.) (Klang & Olsson, 1999). The discussion and elaboration of members' needs in virtual communities throughout the literature abounds but remains fragmented, and more work at the conceptual level is needed (Wang, Yu, & Fesenmaier,

2002). Wang et al. (2002) propose a model that relates three fundamental needs of virtual community members in their online activities. These needs are functional needs, social needs and psychological needs.

Hagel and Armstrong (1997a) introduced a distinction in the consumer needs fulfilled by the virtual community. They categorize them into four types:

- Communities fulfilling the need of *transaction* primarily facilitate buying and selling of products and services and deliver information related to those transactions (e.g. wine.com).
- Communities fulfilling the need of *interest* bring together participants who interact extensively with one another on specific topics such as interior design and gardening (e.g. GardenWeb.com).
- Communities fulfilling the need of *fantasy* create new environments, personalities, or stories. People can explore new identities in the imaginary worlds of fantasy (e.g. Red Dragon Inn at AOL).
- Communities fulfilling the need of *relationships* are formed around certain life experiences (such as death or threatening disease) that are often very intense and can lead to the formation of deep personal connections (e.g. a cancer forum at CompuServe).

### 2.3.2 Roles

Awareness of the special roles that people fill is also helpful, because these roles can have strong positive or negative impact on a community (Preece, 2000).

Moderators and mediators help to govern communities. Moderators' roles vary according to the moderation policy of the community, but generally they try to ensure that people behave reasonably and help to direct activity in the community. Mediators, called in to settle disputes, generally take a less active role than moderators; they may even be on call to several groups at once.

Many argumentations pro and con management exist especially in practice. Overall, too little site management may lead to chaos within the virtual community, while too much site management may destroy the intangible benefits of trust, relationship building, and knowledge generation associated with virtual communities (Rothaermel & Sugiyama, 2001).

Some communities invite professionals to lead discussions and answer questions. Many communities seem to develop unwritten rules about professionals declaring themselves as such to the community. The presence of professionals in a community changes the knowledge hierarchy, which can have both positive and negative impacts on interactions within the community.

Lurker is the term used to describe someone who does not participate; he observes what is going on but remains silent. Some people spend many hours lurking, and know the topics of conversation and key players in the community well. Others become so familiar with the community that they feel they belong to it in spite of their bystander behavior. The estimates of lurker to member ratios differ and naturally vary from one community to another, but ratios ranging from 100:1 to 50:1 are usually quoted in literature (Carroll & Rosson, 1996; Nonnecke & Preece, 2000).

### *2.3.3 Critical Mass*

Bieber et al. (2002) define critical mass in the case of virtual communities to be a substantial and relatively consistent user base. No consistent measure of critical mass exists, but it is generally agreed that it reflects the number of participants or activity necessary for a community to function or thrive (Bieber et al., 2002).

Overall, the size of a community can strongly influence its activities. Too few people will generate too little communication, making the community unattractive to newcomers, while too many people will create a sense of being overwhelmed, of not knowing anyone. Thus an upper bound is likely to exist along with a lower bound. (Preece, 2000) Furthermore, communities have different intrinsic characteristics and so the critical mass varies from community to community (Morris & Ogan, 1996).

## **2.4 Virtual Community Types**

Similarly to varying definitions of a virtual community, there exists an abundance of classification schemas for different types of virtual communities.

Hagel and Armstrong (1997a) categorize communities into two basic kinds of commercial communities, which take the form of consumer-focused communities or business-to-

business communities. They state that in a consumer environment, community development may take place in one of three directions: geographic, demographic or topical:

- Geographic communities are formed around a physical location in which all the community's participants have a common interest – generally because they are physically located there.
- Demographic communities focus on gender, life stage or ethnic origin. Examples include communities for teens, single parents, empty-nesters and seniors.
- Topical communities center on topics of interest (excluding geography, gender or life stage) and include communities focused on hobbies and pastimes such as painting, music or gardening and on issues of interests such as politics or spiritual beliefs.

A virtual community can also be classified based on its objective (Gupta & Kim, 2004). Table 2 shows this classification, mapping it with Hagel and Armstrong's (1997a) classification based on consumer needs. This categorization brings out the motivation of the vendor in setting up virtual communities and the way they can obtain value from it. However, this categorization is not exclusive as a virtual community can also be of a mixed type, which addresses two or more needs together.

**Table 2.** Classification based on objective of the virtual community (Gupta & Kim, 2004).

Hagel and Armstrong's classification	Vendor type	Objective of the virtual community
Fantasy	Pure virtual community	Enjoyment
Interest	Pure virtual community	Information / knowledge sharing or enjoyment
Transaction	Commercial vendor, online store	Sales, auction or information / knowledge sharing
Relationship	Direct firms or infomediaries	Relationship building, customer service, relationship marketing, information / knowledge sharing or enjoyment

Also following Hagel and Armstrong's (1997a) definition based on needs, Ridings et al. (2002) classified another four types of virtual communities: listserv, chat rooms, MUDs (multi-user dungeons or domains), bulletin boards or newsgroups, based on the type of technology implemented. Based on time delays, these virtual communities can further be

classified as asynchronous (listserv, bulletin boards, newsgroups) or synchronous (MUDs, chat rooms, and programs such as MSN Messenger, Yahoo Messenger, and ICQ). The classification is not absolute because online forums can have both synchronous and asynchronous functions.

Lazar and Preece (1998) present a classification schema based on

- Attributes of virtual communities (shared goal or interest, shared activities among community members, access to shared resources, support among community members, social conventions, language or protocols and population size)
- Supporting software (listserv, newsgroups, bulletin boards, Internet relay chat (IRC), multi-user dungeons (MUDs) or a combination of above tools)
- Their relationship to physical communities (communities based on physical communities like electronic village, communities somewhat based on physical communities like hobby-based communities including those for sports, teams or collectors, and purely online communities where members prefer anonymity like role-playing communities and support communities)
- Sociological concept of boundedness (tightly bound especially those within the intranet of any company or loosely bound like most Internet communities)

Steinmueller (2002) distinguishes virtual communities on the basis of the characteristics of their conveyors and thereby identifies three different types:

- Brand-name communities, which are usually set up by Internet companies and mainly involve provision of information services and resources. They are not specialized in the production of collective goods and the interaction of their members is not their principal concern, although they may encourage these activities in order to attract subscribers.
- Affinity-based communities, which are usually set up by like-minded individuals and their main goal is voluntary association. The term affinity-based refers to people that have a common interest, be that of environment, politics, computers or gaming. The costs of hosting a community are covered by means of advertising or subscription.
- Purpose-based communities, which aim to create public or club goods. The activities in the community have a common purpose, a reason why the community exists, in the sense that the objective is to produce something tangible or intangible,

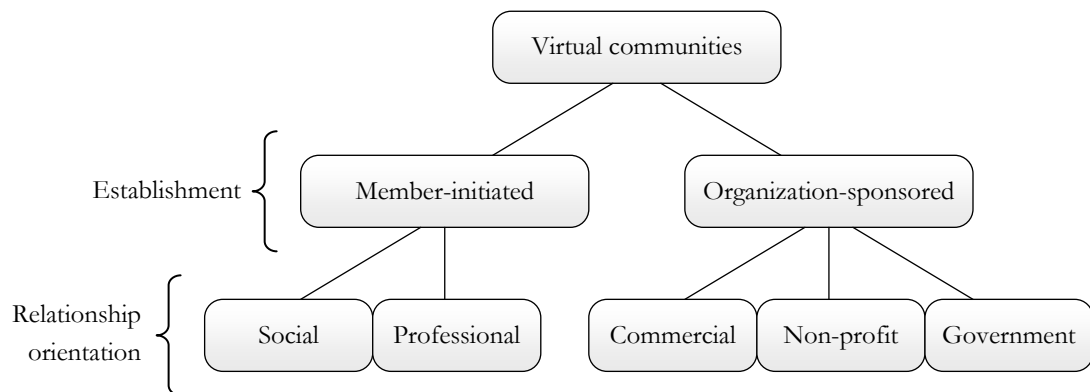
hence the term purpose-based. These communities are mainly funded by governments, universities and foundations or they are self-financed by their conveyors.

An interesting classification is that of Kozinets' (2002), who divides virtual communities into two dimensions: primary group focus and social structure. The lower end of group focus is social interaction, while the higher end is information exchange. The two ends of social structure are loose and high. Figure 3 illustrates Kozinets' schema.

		<b>Social structure</b>	
		Loose	High
<b>Group focus</b>	Information exchange	Boards	Rings and Lists
	Social interaction	Rooms	Dungeons

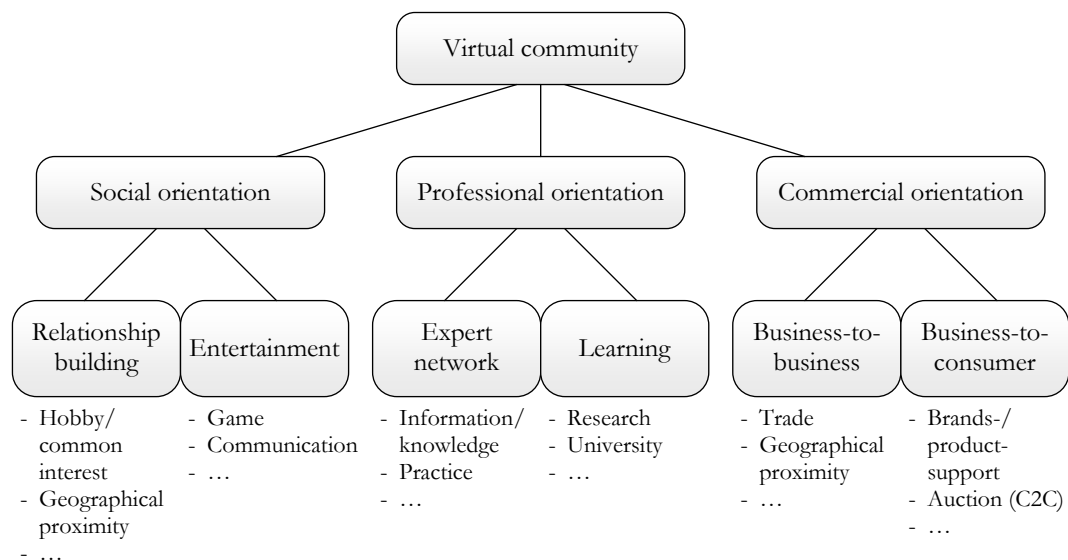
**Figure 3.** Types of virtual communities (Kozinets, 2002).

Porter (2004) presents the following typology for virtual communities, shown in Figure 4.



**Figure 4.** A typology of virtual communities (Porter, 2004).

Following the outline of the previous typology, Markus (2002) proposes a typology that fits the purpose of this research. Markus suggests three main types of virtual communities based on their orientation – social, professional and commercial – and further divides them according to the following Figure 5.

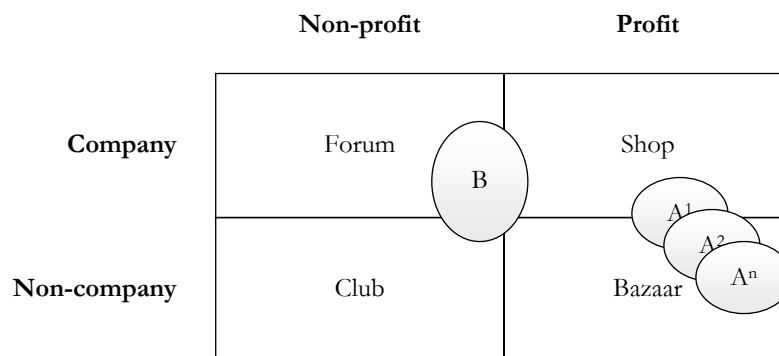


**Figure 5.** Characterizing the virtual community (Markus, 2002).

The first-level division is based on orientation, such as commercial orientation, rather than being for example just strictly commercial. It thus leaves room for interpretation for borderline-case communities by not absolutely categorizing a community to one area of division. The focus of this study is on business-to-consumer (B2C) virtual communities that are of the commercial orientation.

## 2.5 Formation and Evolution of Virtual Communities

In their article, Klang and Olsson (1999) introduce yet another classification schema for virtual communities, which will not be further considered, but more importantly their model describes the realization that virtual communities are dynamic. They have the ability to adapt or change over time. For example, it is possible for a virtual community to launch as half a shop, half a bazaar and over time develop to being solely a bazaar. This is portrayed in Figure 6 by community A, moving from  $A^1$  to  $A^n$ .



**Figure 6.** Virtual community shifts (Klang & Olsson, 1999).

In addition, virtual community classifications may not be watertight or strict. In practice, a virtual community might experience several classification aspects, such as described by community B in Figure 6, as well as community A in the previous example. This interpretation relates back to the selected orientation typology model of virtual communities, discussed in the previous chapter.

Furthermore, in virtual communities, the language, practices, customs and resources develop over time (Gupta & Kim, 2004). As members begin to interact in the virtual community, the community passes through various stages of evolution. Malhotra, Gosain and Hars (1997) conducted two-year long participative longitudinal study to delineate the evolution of a typical virtual community. The stages of evolution based on this study are summarized in Table 3 below. It is essential to understand that virtual communities evolve over time and might change even drastically considering all their aspects.

**Table 3.** Stages of evolution of a typical virtual community (Gupta & Kim, 2004).

Stage	What is happening in the virtual community?
Inception	Initiation of a virtual community out of need or merely out of chance.
Beginning of user involvement	Formal interaction among users/members (usually information sharing) begins.
Toward interactivity	Participants begin to influence the information content of the community and thereby initiate exchanges and drawing in other contacts, thus leading to growth of the community.
Growth and experimentation	The mechanisms of interaction are further refined and experimentation with additional features and evaluation of the interest generated from the users is carried on. Comments from the members are useful in modifying the design of the community according to their needs, thus enhancing and growing the community.
Evidence of community: User needs and socialization	Until this point of time the interaction among the members is cognitive or formal. At this point, when interaction is deep enough the members develop a shared understanding of the real world. They develop a sense of belongingness to the community.
Critical episodes	After a period of interaction, the virtual community members begin to reach common understanding, form communal bonds and construct collective identities through communication action.
From communication to action	At this stage the virtual community transforms itself from a largely self-centered entity to an entity that actively exerts influence on its environment. The affective ties are formed among the group members.
Defending community boundaries	Besides mobilizing the political network capital of the community, members also come together to defend the boundaries of their community.
Perception of control	The members begin to feel a sense of control over the activities of the community.

Preece (2000) also presents an evolution schema, where a community's life cycle can be thought of in four stages: prebirth, early life, maturity and death. Prebirth involves most of the development; during this stage, software is designed or selected, and initial social policies are planned. During the early life of the community, the developers' involvement diminishes, but their attention and nurturing are still needed to ensure that the community

is successfully populated. In maturity, many communities function independently, unless developers see a need for oversight as in some business communities. Death of a community is brought on when members leave and the discussion slows down or ceases, because it has served its purpose, the number of participants has dropped below the critical mass necessary for it to function, or it has become dysfunctional. Naturally, these stages and the development vary depending on the community.

## 2.6 Benefits of Virtual Communities

Since virtual communities are a multi-disciplinary concept, their benefits can also be viewed from various perspectives, which are not mutually exclusive (Gupta & Kim, 2004). The benefits from the various perspectives are as follows.

**Technology perspective:** Virtual communities enhance communication by providing ubiquitous cheap (mostly free) and fast communication. Virtual communities provide file sharing, public access services, voice chat facilities, audio/video conferencing and virtual reality experiences (e.g. Activeworlds' chat).

**Business perspective:** Virtual community can help establish a leading brand, increase barriers to entry by developing critical mass, raise interest among customers for available products and services, help business benefit from word-of-mouth experiences and become advertising, sales & distribution vehicle thus allowing the organizations to develop a more responsive CRM strategy.

**E-commerce perspective:** Trust is an important factor for e-commerce to take place. Virtual communities have trust building capabilities and hence can be a good tool for e-commerce. Members engender trust through ongoing interactions in the virtual community.

**Marketing perspective:** Virtual communities offer member-customers reduced search costs, access to a broad range of information from fellow customers, economic benefits like special price, customized offers and better services. A sponsor benefits from reduced search costs, access to target group with known preferences and a global reach. Marketers can understand each member-customer as an individual in addressing promotional messages, provide all related services at a single point and make virtual community a new

marketing channel for the consumers. Consumer-goods companies can enhance their brand through virtual communities. Virtual communities can extend customer relationships, support a virtual workforce, aid information management and act as an engine for thought leadership.

Sociological perspective: Knowledge exchange is an important benefit of a virtual community. Individuals can either give information (by posting conversations) or get information (browsing or soliciting information by posting questions or comments). As members interact in the virtual community, over time the virtual community emerges as the most authoritative and influential source of knowledge (e.g. SeniorNet.org).

Economic perspective: Virtual communities can create value by charging usage fees, content fees, transactions and advertising fees and can create synergy with other parts of the business.

Learning perspective: Virtual communities can contribute to learning by stimulating continued learning and nurturing a sense of fellowship and identity, thereby distinguishing themselves from the temporary spaces of a virtual classroom. Virtual communities provide educational institutions the ability to enhance the learning process by improving access to special simulations and demonstrations, to a variety of knowledge databases and experts, to continuous contact with those who can contribute to the learning process, and to moments for better exploration and utilization of learned material.

## **2.7 Virtual Community Business Model**

According to Armstrong and Hagel (1997a) virtual community is regarded as one of the most effective business models in the information age and the rise of virtual communities in online networks has provided great opportunities for both business organizations and their customers.

The term business model has been used in research and practice in various ways. Generally speaking, on the one hand one can identify various concepts, which enlighten one or more aspects of a business model more or less in-depth. On the other hand, there are concepts, which are mainly dedicated to the macro view on business models. A frequently quoted article from Timmers (1998) defines a business model as: 1) an architecture for the

product, service and information flows, including a description of the various business actors and their roles, 2) a description of the potential benefits for the various business actors and 3) a description of the sources of revenues. This definition does not include external factors such as legal or technological issues nor does it consider competition explicitly. These last two aspects have, in general, been considered to be crucial elements of business strategies and are often components of business models developed by organization scientists (Leimeister & Krcmar, 2004). E.g. Porter (2001) emphasizes that these issues are still valid in the context of Internet-related businesses.

Schubert and Hampe (2005) state a definition of business model which consists of four main components: 1) value proposition, 2) product or service, 3) value architecture and 4) revenue model.

1. Value proposition: The description of the value a customer or a partner (e.g. a supplier) receives from the business. The corresponding question is: What value does the business create for its stakeholders?
2. Product or service: A business model contains a description of the product or services with which the company is present on the market. The question is: What does the company sell?
3. Value architecture: The description of the architecture of value creation. The value architecture describes the value chain, the economic agents (players) that participate in the value creation and their respective roles. The value architecture answers the question: What is the value and how is it being created?
4. Revenue model: After what and how, the basis and the sources of income have to be defined. Value and sustainability of the business are determined by its revenue model. The revenue model answers the question: Where and how do profits accrue?

When considering virtual community as a business model, it is seen prominent as it can combine reach and selectivity based on user needs. Besides filling strategic niches it also tends to have a stronger operational performance than other B2C business models in its early stage of development. (Bughin & Hagel, 2000)

## 2.8 Successful Virtual Community

### 2.8.1 Success

Although there is no real consensus on the definition of success, literature usually identifies two forms of success. First, effectiveness refers to the community's actual impact and encompasses: 1) the meeting of the community's initial objectives, 2) the value provided to the organization and 3) the benefits to its members. The second dimension of success, health, corresponds to the process by which the results were obtained and includes: 1) member satisfaction and 2) level of activity, i.e. level of interactions among members. (Bourhis, Dubé, & Jacob, 2005). For example, for their study, Leimeister and Krcmar (2004) considered financial success, lifetime (existence on the market) and growth of members and user-generated content to be indicators for successful commercially oriented virtual communities.

On a more detailed level, different stakeholders in a virtual community may have different definitions of what success means. Some of these stakeholders include community members, developers, moderators, managers and financial sponsors, of which each can define success in a different way. Therefore, evaluation of success also depends on the perspective taken. (Andrews, 2000)

Success in the case of B2C virtual communities can be observed from two obvious perspectives. These perspectives are of the two different actors in this construct, one of the company's and one of the users'. From the company's perspective, it can be defined that in a broad manner of speaking the community is successful when it has reached its objectives set by some governing body. These objectives can contain various targets, such as financial targets, amounts of members acquired, amounts of online purchases made, degrees of member activity and so on. Moreover, if these objectives are not properly determined, it will be extremely difficult to make objective judgment on whether the community has been successful or not, and the judgment will mostly be based on subjective "gut-feelings".

The other view of success involves the users of the virtual community. They have their own objectives, which might include attaining feeling of social belonging, getting premium content, fulfilling the need communication, and so on. These needs relate to the needs explained earlier, defined by Hagel & Armstrong (1997a), and also to the selected definition of a virtual community.

For clarity, first, success is mostly considered here from the company perspective, as it is in a major role in B2C virtual communities. This can be emphasized with an example that even though a virtual community would be highly successful from the users' point of view, if it lacks proper degree of success from the company's perspective it might be abruptly closed down nevertheless. Second, this study was conducted for a company providing virtual communities, so catering for this perspective makes sense in that way as well.

### 2.8.2 *Success Factors*

It has been noted that there has been little attention on understanding what makes a virtual community successful (Chan, Bhandar, Oh, & Chan, 2004). Research on success factors generally focuses on the search for methods and models that explain success (of companies) and how to maximize it. Studies attempt to give recommendations – as detailed as possible – on how to provide and use resources in an ideal way. The recommendations are often insufficient as the number of influencing variables is high and the correlation between the variables is extremely diverse. Rather, research on success factors aims at formulating guidelines that can be influenced by the operators and that result in a strategy which is expected to be successful. Such orientation principles do not claim to fully explain all correlations, but try to give new ideas for the conception of approaches that might be more effective. (Leimeister, Sidiras, & Krčmar, 2004)

For screening the existing literature on virtual community success factors, the methods described later in Chapter 3.4.1 were used. In short, several databases were searched for scientific papers, publications and articles with appropriate keywords. In addition, used references and quotations were searched, Internet searches were used and books browsed. Below, some typical examples and interesting findings on the subject are presented.

In their study, Hernandez and Fresneda (2003) presented critical success factors that included: 1) reliable technological platform, 2) recognition of the participation of the members, 3) enthusiasm with the community's main topic and 4) clear statement of the benefits found in participating in the community. They also proposed the following topic amongst others as indications for future research: research on new critical success factors. According to their study (including new factors suggested by the respondents), there are probably other critical success factors that could be investigated in new research.

One of the most interesting researches is that conducted by Leimeister et al. in 2002. They made an online questionnaire and posted it on many popular virtual community sites. In the questionnaire, they asked whether the respondent agrees or disagrees that a statement is a success factor or not. The used success factor list was defined from literature in a previous study. They received 644 answers from users (434 male and 210 female) and 73 answers from virtual community operators (34 commercial and 39 non-commercial). Their results are presented in the following Table 4, where the gray rows are factors presented only to operators.

**Table 4.** List of virtual community success factors from literature identified by Leimeister et al. (2004) and ordered according to their results.

Success factors	Order
Handling member data sensitively.	1
Stability of the website.	2
Fast reaction time of the website.	3
Offering up-to-date content.	4
Establishing codes of behavior (netiquette/guidelines) to contain conflict potential.	5
Evolution of the community according to the ideas of its members.	6
Continuous community controlling with regard to member satisfaction.	7
Assistance for new members by experienced members.	8
Encouraging interaction between members.	9
Intuitive user guidance.	10
Offering high-quality content.	11
Building trust among the members.	12
Sustaining neutrality when presenting and selecting offers to community members.	13
Continuous community controlling with regard to member growth.	14
Continuous community controlling with regard to the frequency of visits.	15
Constant extension of offerings.	16
Building a strong trademark.	17
Price efficiency of offered products and services.	18
Personalized product and service offers for members.	19
Reaching a high number of members within a short period of time.	20
Arranging regular events.	21
Supporting the community by regular real-world meetings.	22
Focusing on one target group.	23
Appreciation of contributions of members by the operator.	24

Offering privileges or bonus programs to members.	25
Integration of the members into the administration of the community.	26
Special treatment of loyal members.	27
Defining sources of revenue as a starting condition for building a virtual community.	28
Personalized page design of the community-site according to the preferences of its members.	29
Establishing and supporting sub-groups within the community.	30
Increase of market transparency for community members.	31
Existence of an off-line customer club as a starting advantage.	32

Remarkable in these results is that the factors commonly considered critical ended up to the bottom of the list, such as “arranging regular events”, whereas more uncommon populated the top, especially the top three. Notable also of the top three is that they are all technical aspects.

In her comprehensive book, Preece (2000) suggests a long list of guidelines that would facilitate a virtual community’s success. She declares that the guidelines cannot guarantee a successful community, but without the guidelines the community will almost certainly fail. These guidelines are categorized in two main categories, sociability and usability. Sociability then again contains the high level categories purpose, people and policies, and usability contains web usability and communications software. The category web usability could nowadays be understood better as interface usability, as the category involves issues relating to all available interfaces, including a web and e.g. a mobile interface. As an example, the lower-level category purpose in usability contains guidelines such as “Give the community a clear, meaningful name” and “Write a concise, clear statement of purpose” (p. 270).

All in all, it can be said that the research on virtual communities appears to be very fragmented. Furthermore, the research on virtual community success factors concentrate often on one specific stakeholder, usually the members, or on some specific time in the community’s evolution, usually the initiation phase. Consequently, research for a holistic view on all the success factors of a B2C virtual community environment seems lacking. Hence, the contribution of this study can be considered relevant.

## 2.9 Literature Summary

From the literature review, it was seen that there exists an abundance of definitions for a virtual community and its various characteristics. These differences in definitions arise from the fact that a virtual community is a multi-disciplinary subject and can hence be examined from differing perspectives. By looking into the definitions for a virtual community through these perspectives, a fitting definition was selected to suit this study. Moreover, inspecting the various classification schemas and typologies for virtual communities, an understanding was gained about the meaning and classification of B2C virtual communities. Discussing other characteristics of virtual communities also led us to reaching the first sub-objective and answering successfully to the first sub-question: *What are virtual communities and B2C virtual communities?*

Lastly, definition of success for virtual communities was described and factors constituting to the success discussed in preparation for answering the second sub-question: *What factors contribute to the success of a B2C virtual community and what kind of model can be constructed from those factors?* Next, the methodology for the research is introduced.

### 3. METHODOLOGY

#### 3.1 Research Methodology

Leedy (1989) formally defines research methodology as an operational framework within which the facts are placed so that their meaning may be seen more clearly. Research methodologies can also be viewed as ways of thinking about and studying social reality (Strauss & Corbin, 1998). That is, they can be viewed as stands towards the question of how can researchers find out what they believe can be known of social reality. Moreover, methodologies can be considered as overlapping viewpoints on the study of social reality (Mäkelä & Turcan, 2006).

Selection of research methodology depends on the research questions and objectives (Remenyi, Williams, Money, & Swartz, 1998). The selection is affected by the following factors:

- topic to be researched and the specific research question
- methodologies which have been applied to similar type of research questions in previous research projects
- strengths and weaknesses of the methodologies
- researcher's own preferences
- interests of stakeholders such as sponsors, companies/institutes under research, university and supervisor
- time and money restraints

A pluralistic approach can also be adopted. In a pluralistic approach, several methodologies are used and the choice of methodology can change during the course of the research project (Remenyi et al., 1998).

In the literature review, the established theoretical framework was found to be weak for a holistic view on success factors of B2C virtual communities. Therefore, a grounded theory methodology is chosen to develop a suitable theoretical model for analyzing these factors. Other motivations for selecting the methodology are the newness of the research subject, lack of present empirical validation and the willingness to make a scientific contribution to the research area.

In addition, to evaluate and specify the developed theory and to analyze a set of desired virtual communities of the client company, a multiple case study methodology is used. Choosing this methodology also therefore enables the provision of valuable insight of the analyzed communities to the client company. This research therefore adopts a pluralistic approach to answer the research questions.

### 3.1.1 Grounded Theory

Grounded theory methodology was first developed by Barney G. Glaser and Anselm L. Strauss (Strauss & Corbin, 1990). They presented the first account of how to build grounded theory in their book “The discovery of grounded theory” in 1967 (Mäkelä & Turcan, 2006).

Grounded theory is defined as theory derived inductively from the studied phenomenon. The theory is thereby discovered, developed and preliminarily verified by systematically gathering and analyzing information concerning the phenomenon. Therefore, data collection, analysis and theory are in a reciprocal relationship. (Strauss & Corbin, 1990)

Strauss and Corbin (1990) state that a well-developed grounded theory fulfills four central criteria when the relationship of the theory and the phenomenon it describes are assessed. These criteria are: 1) fit, 2) understanding, 3) generality and 4) control.

If theory is believable in relation to the day-to-day reality of the substantive area and is carefully derived from diverse raw data, then the theory should *fit* that substantive area. Because theory represents that reality, it should have a wide scope and feel sensible, thus supporting *understanding* for the persons studied and who practice in that area. If the raw data upon which the grounded theory is based is wide, and the interpretations conceptual and diverse, the theory should be abstract enough and include enough *generality* to be applicable to contexts similar to the phenomenon. Finally, the theory should offer the possibility of actions to *control* the phenomenon. (Järvinen & Järvinen, 2004)

Theoretical sensitivity, then again, refers to the awareness of the researcher to the subtleties of meaning of data. It means the ability to give meaning to data, the capacity to understand, and capability to separate the pertinent from that which is not. Theoretical sensitivity arises from knowledge in literature, professional experience, personal experience and the analytic

process itself. (Strauss & Corbin 1990) Theoretical sensitivity can be increased by: 1) periodically stepping back and asking what is really going on, 2) maintaining an attitude of skepticism and 3) following the research procedures (Järvinen & Järvinen, 2004).

### *3.1.2 Case Study*

Case study is defined as an empirical research method, which studies the phenomena of today in their real context, when the interface of the context and the phenomena are not clear, and in which several sources of evidence are used (Yin, 1994).

Multiple case study can be used when the results attained from one case are wanted to be confirmed with other cases, i.e. same type of results are predicted or when opposite results are wanted to be created but for predicted reasons (Yin, 1994).

In this research, similar results that fit the tentative model are expected, and thus multiple cases are used. This should confirm the results and raise validity. In addition, the company will benefit from recommendations concerning multiple of their communities.

Eisenhardt (1989) describes building theories from case studies and bases her beliefs for example on the grounded theory approach and Yin's views on case studies. The method is said to fit well to a situation in which little is known about the subject area of the study. This suits virtual communities well as they are a relatively new subject for research and a holistic view of the success factors of B2C virtual communities even more fragmented and unknown.

## **3.2 Research Approach**

### *3.2.1 Research Paradigm*

Paradigms can be defined as the worldviews or belief systems that guide researchers (Tashakkori & Teddlie, 1998). Several paradigms exist, such as positivism, postpositivism, pragmatism, constructivism, critical theory, phenomenology, and so on. These paradigms differ in the ways they define views on the axioms of epistemology, ontology, axiology, generalizations and causal linkages (Tashakkori & Teddlie, 1998). Ontology deals with the nature of reality and what can be known about it, epistemology considers the relationship

of the researcher and the subject of research and what can be known, while axiology discusses the role of values in inquiry (Metsämuuronen, 2005).

Tashakkori and Teddlie (1998) present a comparison of four important paradigms used in the social and behavioral sciences, which points out their main differences. The comparison includes positivism, postpositivism, pragmatism and constructivism paradigms. They leave out the critical theory paradigm, because its emphasis is on historical methods. The comparison is presented in Table 5.

**Table 5.** Comparison of four research paradigms (Tashakkori & Teddlie, 1998).

	<b>Positivism</b>	<b>Postpositivism</b>	<b>Pragmatism</b>	<b>Constructivism</b>
<b>Methods</b>	Quantitative	Primarily quantitative	Quantitative + qualitative	Qualitative
<b>Logic</b>	Deductive	Primarily deductive	Deductive + inductive	Inductive
<b>Epistemology</b>	Objective point of view. Knower and known are dualism.	Modified dualism. Findings probably objectively “true”.	Both objective and subjective points of view.	Subjective point of view. Knower and known are inseparable.
<b>Axiology</b>	Inquiry is value-free.	Inquiry involves values, but they may be controlled.	Values play a large role in interpreting results.	Inquiry is value-bound.
<b>Ontology</b>	Naïve realism	Critical or transcendental realism	Accepted external reality. Choose explanations that best produce desired outcomes.	Relativism
<b>Causal linkages</b>	Real causes temporally precedent to or simultaneous with effects.	There are some lawful, reasonably stable relationships among social phenomena. These may be known imperfectly. Causes are identifiable in a probabilistic sense that changes over time.	There may be causal relationships, but we will never be able to pin them down.	All entities simultaneously shaping each other. It is impossible to distinguish causes from effects.

Positivism is the oldest of the paradigms, and has namely been in use for over 400 years in natural and social sciences. Due to given criticisms towards that paradigm, the postpositivist paradigm emerged in the late 1950s addressing many of the aspects of positivism. The discrediting of positivism also saw the rise of several paradigms more radical than postpositivism, such as constructivism, interpretivism and naturalism. Debates

between the superiority of these seemingly dichotomous paradigm groups have been ongoing during the past three decades. As the positivist paradigm underlies quantitative methods and the constructivist paradigm underlies qualitative methods, the debate between these two paradigms has also been called the qualitative-quantitative debate. However, pragmatism paradigm has emerged stating that the qualitative and quantitative methods are in fact compatible, thus e.g. mixed methods can be employed. Hence, pragmatists believe in the possible in-between of these two dichotomized paradigm groups. (Tashakkori & Teddlie, 1998; Metsämuuronen, 2005)

Mäkelä & Turcan (2006) describe the grounded theory methodology to have originally followed the positivistic paradigm, while later Strauss and Corbin (1998) have changed to postpositivistic approach and even shifted towards constructivist paradigm. According to Remenyi et al. (1998), because of their flexible nature, case studies can be almost entirely positivistic or almost entirely phenomenological, or anything between these two extremes.

This research falls somewhere in between the paradigms of postpositivism and pragmatism, thereby also representing the views and beliefs of the researcher.

### *3.2.2 Quantitative and Qualitative Research*

Both methodologies used in this study can be classified as qualitative. Mäkelä & Turcan (2006) address grounded theory methods as a part of the family of qualitative research methods and Yin (1994) similarly for case studies. There are plentiful of definitions for qualitative research in the literature. Qualitative research has no theory or paradigm that is distinctly its own. Mäkelä & Turcan (2006) define qualitative research as involving interpretive and naturalistic approaches to data collection and analysis and being multi-method in focus, with the goal of outlining a set of essential qualities of complex social phenomena. As was seen from the literature review, virtual communities consist of people who are complexly involved in social relationships. Thus, this research being qualitative research fits the subject of study well.

Sometimes, qualitative research is defined as research with the absence of employing quantitative data or statistical analyses (Strauss & Corbin, 1990). However, this definition can be misleading, as qualitative research can contain quantitative methods, such as

collecting data using surveys, even though the research would otherwise be chiefly qualitative (Mäkelä & Turcan, 2006).

### *3.2.3 Theoretical and Empirical Research*

Various approaches to research can be classified under different taxonomies. One of the most commonly used differentiates research into empirical or theoretical studies (Tuomi & Sarajärvi, 2002). Empirical is defined as “based on, or guided by, the results of observation or experiment only”, while theoretical is defined as “contemplative, of the mind or intellectual faculties” (Remenyi et al., 1998, p. 31). These aspects can, however, be considered intertwined, and both aspects are usually present in research, as is here.

### *3.2.4 Longitudinal and Cross-sectional Research*

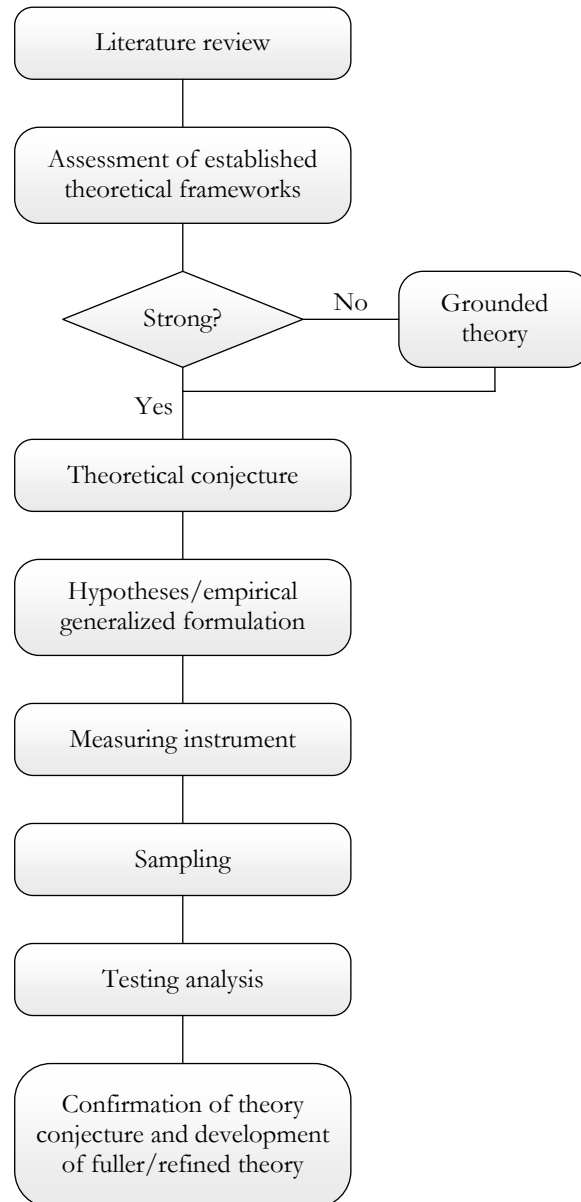
One thing to consider is also whether a research will be longitudinal or cross-sectional. Longitudinal research is used to describe a study that extends over a substantial period of time and involves studying changes over time. Cross-sectional research refers to studies, which take a snapshot of a situation in time (Remenyi et al., 1998). Clearly, this study is cross-sectional, which also is one of its major limitations as discussed later in Chapter 8.8.1.

## **3.3 Research Process**

There are several ways in which observations can be made of the world around us, including passive observations, observations of the consequences of uncontrolled interventions, or observation of the results of deliberate interventions. These three types are not mutually exclusive and a single research project can include any or all of these approaches (Remenyi et al., 1998).

In this study, the passive observation approach to research process is used. It is an approach often used in business and management research. In that approach the researcher is unable to conduct experiments and has to rely on evidence that already exists. The researcher collects evidence in the form of interviews, written reports, questionnaires, artifacts, and so on (Remenyi et al., 1998). This conforms to the data sources of grounded theory and case study research generally and in this specific study, as discussed in the next chapters.

The generally conducted steps in methodology in the passive observations research process approach can be illustrated by a flowchart. This is presented in the following Figure 7.



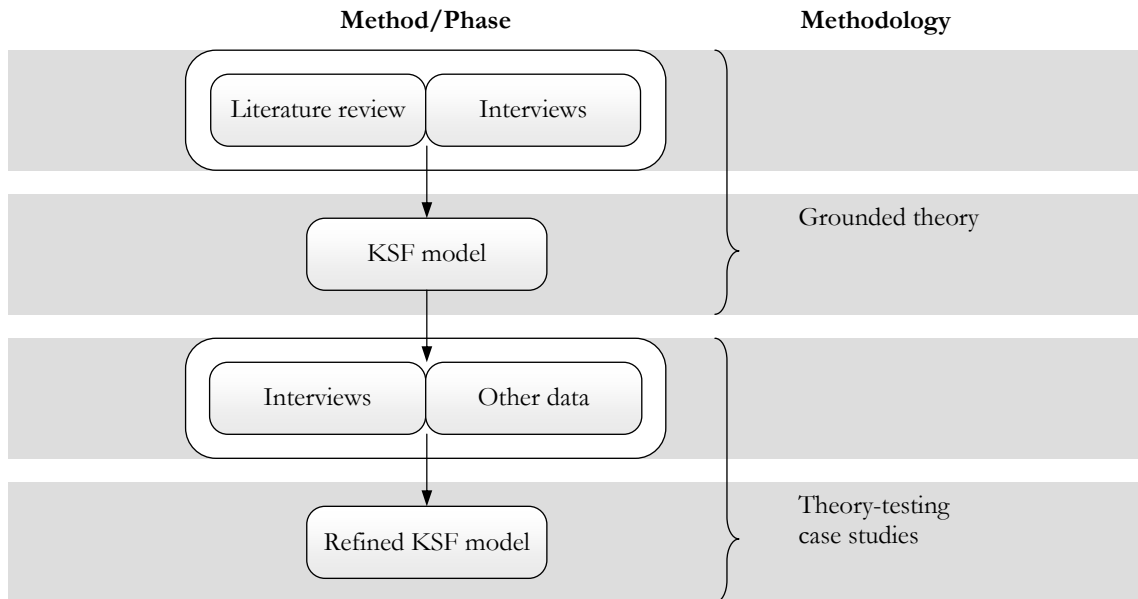
**Figure 7.** Steps in passive observation approach to research process (Remenyi et al., 1998).

The steps of the passive observation approach to research process can be related to this research in the following way. First of all, as the theoretical framework regarding the studied phenomenon was found to be weak, a grounded theory methodology is selected. Applying the grounded theory methodology, a theoretical conjecture is reached, which comprises of constructing the key success factor model. Whereas in the physical sciences

the theoretical conjecture will frequently be expressed as a formula or as a series of propositions, in business and management research the theory will often be reduced to a diagram for the purpose of clarification (Remenyi et al., 1998). This is what will be done in this research also.

Next, the empirical generalizations will be made. When the grounded theory approach has been employed, the term empirical generalizations is usually more appropriate than hypotheses (Remenyi et al., 1998). The empirical generalizations can be thought to be the relationships described in the model, the existence and composition of its categories and factors, and absence of factors not included. The measuring instruments are then defined, which refer to the formulation of data collection methods. Here, the inquiry themes for the case study interviews are made. Sampling refers to selecting a sample of the overall population on which to conduct the test, as it is rarely possible to test the empirical generalizations against all the members of the target population. Here, the sampling signifies the selection of cases and the selection of interviewees for the cases. In this research the sampling is highly biased as discussed later in Chapter 8.8.1. Testing and analysis indicates conducting the case studies. This will finally lead to the confirmation of the theory conjecture and development of a fuller or refined theory.

From a more practical point of view, the research process is portrayed otherwise in Figure 8, by grouping the phases according to the methodologies used.



**Figure 8.** Research process of the study.

The structure of this thesis, then again, was described in the beginning in Chapter 1.4.

### 3.4 Research Methods

Research methods are a set of procedures and techniques for collecting and analyzing data (Strauss & Corbin, 1998). These are for example interviewing, collecting documents, observational techniques, personal experience methods, various visual methods and coding and iteration procedures (Mäkelä & Turcan, 2006).

#### 3.4.1 Grounded Theory Methods

In grounded theory, Strauss & Corbin (1990) consider technical literature to include research reports and theoretical or philosophical discussions that have been made professionally and according to scientific rules. These serve as background material to which the researcher compares the results of his own empirical study. Other, non-technical literature is considered to include biographies, diaries, documents, manuscripts, records, reports, catalogues and other material that can be used as source material or to complement interviews and field observations. The empirical data material is gathered using various data collection methods, usually interviews and observations (Järvinen & Järvinen, 2005).

The literature and existing theory was searched using journal databases (EBSCOHost, ScienceDirect, etc.), books and finally Internet searches for proper coverage. The searches were made using keywords such as virtual community, online community, and so on. Searches were expanded as significant quotations and references were found. In addition, company internal researches and similar documentation were thoroughly searched. Similar approach to screening literature has been implemented widely, by such as Li (2004) and Mäkeä & Turcan (2006).

For the empirical data, nine expert interviews will be made. The interviews will be semi-structured in-depth interviews, approximately an hour in length. The persons selected for the interviews will be company internal professionals or virtual community experts. Their selection will be based on the recommendations given by the client company and on the experts' knowledge and experience relating to virtual communities.

Individual in-depth interviews are interviews that are conducted face to face with the respondent, and in which the subject matter of the interview is explored in detail (Aaker, Kumar, & Day, 2001). A semi-structured interview is an individual in-depth interview, in which the interviewer attempts to cover a specific list of topics or themes. The timing, exact wording and time allocated to each question area are left to the interviewer's discretion (Aaker et al., 2001). A semi-structured interview is a very common way to collect data in grounded theory research (Mäkelä & Turcan, 2006).

The analysis of grounded theory is constructed of three coding steps. These are: 1) open coding, 2) axial coding and 3) selective coding (i.a. Strauss & Corbin, 1990; Metsämuuronen 2005; Järvinen & Järvinen, 2004).

Open coding means the analysis process of the data material. Concepts are conceptual assignments, which are attached to separate events and other representations of the phenomenon. Properties are characteristics, which relate to a category. A category then again is a classification of concepts, which has been found by comparing concepts and by stating that some concepts relate to similar kind of phenomena. Concepts are grouped under a more abstract concept of a higher degree, which is called a category. (Järvinen & Järvinen, 2004)

Second phase of the analysis process is called axial coding. It means a group of procedures with which the categories are linked together by examining conditions, contexts, interrelationships and causality regarding the phenomenon. Axial coding includes constant change between inductive and deductive thinking. When the data material is studied, relationships or possible properties are deductively suggested, which are then related to the whole material and checked expression by expression. Suggesting and checking are constantly made. That way it is assured that the emerging theory is based (grounded) on the material. (Strauss & Corbin, 1990)

Finally, selective coding means the search process for finding a core category, and in which other categories are related to the core category, relations are validated and categories are specified if necessary. Core category is a category that centrally relates to the phenomenon and integrates other categories around it. Throughout the analysis and proposition formulation stages of the process, intensive rotation between data, the emerging theory and earlier literature has to be sought. (Strauss & Corbin, 1990)

On the whole, analysis – the interaction between researches and data – can be viewed as both a science and an art so that the former refers to requirements for rigor, analytic orientation, systematic work and quest for validity that are placed on grounded theory research and that the latter refers to a requirement of researchers to be open to new interpretations and fresh perspectives (Mäkelä & Turcan, 2006).

#### *3.4.2 Case Study Methods*

For the case studies, three virtual communities provided by Nokia will be studied. These are Lifeblog, a personal experience sharing community, N-Gage Arena, a gaming community and “Alpha Community” (name changed), an initiative for a wide-scope consumer community. The Alpha Community is still at a concept stage, and therefore relating data will be gathered and analyzed to the extent that is possible. The selection of cases was mainly based on the hopes and needs of the client company. In addition, they fit the selected definition of virtual community for this study well, and the number of other choices overall inside the company was limited.

According to Yin (1994) six sources can be used to gather data and evidence in case study research. These are: documents, archives, interviews, free observations, participatory

observations and physical artifacts. In this research, all but physical artifacts will be used as data and evidence sources in all cases. The absence of using physical artifacts seems natural, as virtual communities are in question. Nevertheless, physical objects are handled when accessing virtual communities. On one hand, their actual influencing possibilities on one another are fairly weak, but on the other hand, integrated devices could be a powerful solution especially for Nokia. These considerations, however, are out of the scope of this research.

Semi-structured interviews will be held with two executives of each case community. The themes used will mainly be the success factor categories conceptualized in the success factor model. Similar interviews will be conducted with two end-users of the case communities, where applicable. A user perspective will naturally be adopted for the interview themes, though. In addition to this, secondary data sources such as internal research, marketing material, reviews, articles, etc. will be utilized. The communities themselves will be observed without participation, but they will also be used and participated in to ensure a rich experience and a holistic view for the researcher.

As central analysis methods in case-study research, Yin (1994) considers to be pattern-matching, explanation-building and time-series-analysis. In pattern-matching, empirically attained model is compared to the theoretical model. This is usually applied in theory-testing case study research, and is thus also applicable and used here as the tentative model is being evaluated and specified through the case studies. Pattern-matching can also be used if there are multiple cases to consider, where the model can be strengthened through consecutive cases. This also gives support to the analysis method, as three cases are studied. In addition, explanation-building is used as the causal relations are explained in textual form and the causal explanations are strengthened through multiple cases. Time series analysis means measuring variables at consecutive points in time. This analysis method was unavailable for this cross-sectional study, as is discussed in limitations in Chapter 8.8.1.

### *3.4.3 Triangulation*

Triangulation is an important issue and tool generally in qualitative research. The concept of triangulation was developed by Norman K. Denzin in 1970. It involves combining e.g. data sources to study the same sociological phenomenon. The usage of triangulation may raise credibility and give a wider perspective to the studied subject. Denzin discussed four

---

basic types of triangulation: (Denzin, 1975; Brennan, 1992; Hirsjärvi & Hurme, 2001; Tashakkori & Teddlie, 1998)

1. data triangulation (the use of a variety of data sources in a study)
2. investigator triangulation (the use of several different researchers)
3. theory triangulation (the use of multiple perspectives to interpret the results of a study)
4. methodological triangulation (the use of multiple methods to study a research problem)

In methodological triangulation, also within methods triangulation (such as multiple quantitative or multiple qualitative approaches) and across methods triangulation (involving both quantitative and qualitative approaches) are used (Tashakkori & Teddlie, 1998).

In grounded theory, researchers may benefit from triangulation of data collection methods, data types or investigators. For instance, triangulation of data types can result from using different data types in the quantitative-qualitative dimension. (Mäkelä & Turcan, 2006) The convergence of findings enhances the confidence in the quality of the study, adding to the empirical grounding of the results, whereas conflicting findings help prevent premature closure of data collection or analysis.

In this research, triangulation of data sources is used in both grounded theory and case study methods, as was described above. In addition, methodological triangulation is used in the research as a whole, as the pluralistic approach to solving the research problem was selected.

---

## 4. RESEARCH MODEL

### 4.1 Conducted Grounded Theory Inquiry

In the literature review, the established theoretical framework was found to be weak for a holistic view on success factors of B2C virtual communities. Therefore, a grounded theory methodology was chosen to develop a suitable theoretical model for analyzing these factors.

For the grounded theory, data sources were utilized as expressed in Chapter 3.4.1. An extensive literature review was conducted and it was elaborated on in Chapter 2. In addition to the literature review, company internal researches and other documentation was utilized, such as a benchmarking report on virtual communities. The benchmark included several of the most successful virtual communities in existence.

To gather empirical data for the grounded theory, nine expert interviews were conducted. They were done as semi-structured in-depth interviews, lasting approximately for an hour. The persons selected for the interviews were company internal professionals or community experts. The list of interviewed people and the themes covered are included in Appendix I.

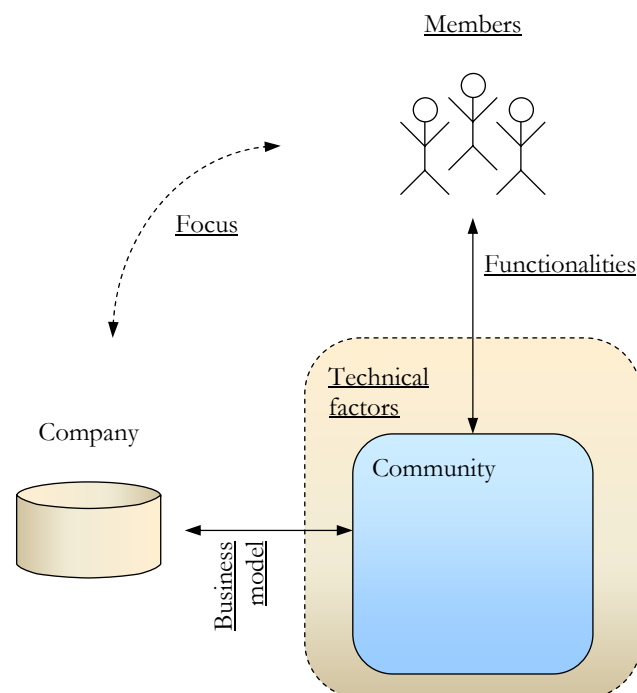
The categories of the model, their content and relationships were arrived to through the steps of the grounded theory data analysis methods that were described in Chapter 3.4.1. Thereby, the data from interviews and non-technical literature were broken down, coded, compared, conceptualized and categorized in open coding stage. Categories were related to each other through inductive and deductive thinking in axial coding stage. Last, the core category was selected as community, systematically related to other categories and categories were refined in selective coding stage.

Constructing the model, determining the success factor categories and identifying the success factors that comprise these categories thereby also successfully answered to the second sub-question of this research: *What factors contribute to the success of a B2C virtual community and what kind of model can be constructed from those factors?* Next, the resulting model from the grounded theory inquiry will be presented.

## 4.2 The Success Factor Model

Resulting from the previously discussed literature review, interviews and other material, and data analysis, the following depiction of a B2C virtual community key success factor model was derived. It is presented in Figure 9 with the factor categories.

First, the model will be described as a whole, and in the following sub-chapters each category will be further explained. The category descriptions and the explained factors strongly and directly indicate the subjects and notions expressed by the interviewees. Example quotations from the interviews are listed before the categories' factor summary tables to illustrate points that led to the formation or strengthening of a category or to the addition of a factor into that category. Possible literature evidence examples are also listed beside factors in the summary tables, but as Strauss & Corbin (1990) have stated “What you *don't* want to do is constantly run back to the published literature to find validation for everything you are seeing. This would hinder progress and stifle creativity” (p. 53).



**Figure 9.** Success factor model for B2C virtual communities with underlined factor categories.

The model includes the company, which provides the virtual community. It imposes a business model on the community, which is described as the horizontal two-way arrow. The arrow is two-way because the community feeds back varying information about the

community to the company, which in turn can, based on that information, make the needed adjustments to the business model. On top of the community are its members, indicating their importance in the B2C point of view. They use the virtual community through its functionalities, described by the vertical two-way arrow. The arrow is two-way because the company can also interact with the members through several functionalities, if so wished. Surrounding the community are technical factors related to the community, which are computerized, aesthetical, etc. Technical factors are indicated with a dashed line, as their bounds are not strictly defined and can vary on a case-by-case basis. Remaining element is the company-members relationship, which realizes in the form of focus. This is also indicated by a two-way arrow because the focus and intention works both ways, from company to member and member to company. The arrow is dashed because this relationship is not extremely evident in this virtual community point of view. The main interaction from this perspective takes place through the community, but the focus relationship should not be overlooked, nevertheless.

These five explained elements of the model are the general success factor categories, underlined in the success factor model. It can be said that each of these categories as a whole are critical factors to the success of the community, and without one it would fail almost certainly, at least as long as B2C virtual communities are the ones in question. Because these categories can be divided further into smaller components, it results with logical thinking that at least one of these (if not all) smaller components must be critical in making the community successful. It thus also results that at least five critical factors must exist. However, this deduction is only preliminary at this stage, as it assumes that any one factor may be a critical component of success. On the other hand, this might not be the case. Rather, the divided factors or even the factor categories might only act as constituents to success together, not separately.

Constructing the model this way and inspecting the enablers of success residing outside of the community itself fits well to the used definition of a virtual community, described in Chapter 2.2. The definition explained the virtual community to actually be the social interaction taking place on the technical platform. It also stresses that the community is what results in the end. One cannot decide to provide a virtual community as such, but rather one must provide the resources and optimal settings for the virtual community to form. Neither can the exact form, shape and structure of the community be predicted beforehand. When success will be facilitated, the adjustments start from putting the

surrounding factors in order and then hoping it will lead to a successful community. The resulting community can then again be measured and compared against set objectives to determine whether it is successful or not.

Let us now further divide the categories into their constituting factors. Each category's factors will be discussed and then summarized into a table. Finally, all category summaries will be presented together in a compact form and portrayed with the success factor model.

#### 4.2.1 Focus

Focus describes the intentions of the company providing the virtual community towards the users. It states also the purpose to provide it in the first place. No company would provide something out of sole whim, rather than having at least some very distant ulterior motive. Correspondingly, it also describes the intentions of the users to have anything to do with the company providing the virtual community. Intentions of the company reflect back to the users and vice versa, thus being a constantly evolving relationship. This relationship may be direct or indirect. The intentions of these parties cannot be contradictory or otherwise this intricate relationship would be consequently terminated because of the lack of meeting interests. A novel idea is also needed in the background to justify and motivate the provision of the virtual community.

Focus is working behind the whole scene and does not involve the community at all as such. Also, it can and likely will be present before, at the same time, and after the existence of the whole virtual community.

Examples from expert interviews:

*"There has to be a clear reason."*

*"You have to start out focused and then expand slowly."*

*"A great idea is needed."*

**Table 6.** Success factor summary for Focus category.

Success factor	Possible evidence from literature
Purpose	(Preece, 2000)
Intentions	
Novel idea	

#### 4.2.2 *Members*

Member category consists of factors concerning the users of the community. The view involving the users can be of the community provider's or of the users'. Factors involving the users from the provider's point of view include first of all member acquisition. Member acquisition deals with how the users are attracted to view or use the community for the first time. When this has been achieved, the second factor, member conversion, becomes important. This factor comprises of actions taken to get the attracted first time users to convert into registered members of the community. After this has been accomplished, third factor, member retention, steps into play. This factor has to do with measures taken to keep the attained members as active users of the community, i.e. not making them quit usage or switch communities. All these three factors can easily be measured from usage statistics, if the appropriate systems are in place.

The previously described member-related factors contribute to getting and having a critical mass of members in the community. Having the critical mass in place is important in enabling the possibility of lively interaction and user content generation, to name a few.

Factors that involve the users from their own point of view include benefits for members. These are either the tangible, clear benefits that are gained or that are offered when being a member of the community, or the intangible benefits from being active in the community. Tangible benefits could include subscriber gifts, discounts on company products, whereas intangible benefits can include, for example, the sense of recognition.

Separate from the benefits to members are the motivations for joining the community. First of these motivations is social belonging. It refers to satisfying the need to belong to a social group that shares the same interests such as collecting stamps or interaction such as dating. Second motivation is past experience. Past experience appeals to the needs to share past events including school alumni, sports teams, etc. Third motivations are the intellectual/professional ones. These refer to the needs to share insights and collaborate around a specific topic, get information and inform decision-making. Examples include e-learning and research communities. Fourth and final motivation for joining is status. It relates to belonging to a position, membership or social class identification such as a Ferrari community.

Examples from expert interviews:

*“What makes people participate? That needs to be figured out.”*

*“The community must get active.”*

*“It is very important that the members stay in the virtual community.”*

*“Benefits for the members need to be clear and visible.”*

**Table 7.** Success factor summary for Members category.

Success factor	Possible evidence from literature
Motivation for joining	
Member acquisition	
Member conversion	(Bughin & Zeisser, 2001)
Attaining critical mass	(Bieber et al., 2002)
Member retention	
Benefits for members	(Hernendas & Fresneda, 2003)
- Tangible	
- Intangible	(Hagel & Armstrong, 1997a)
- Social belonging	
- Past experience	
- Intellectual/professional	
- Status	

#### 4.2.3 Functionalities

Functionalities are the possible actions that the users can perform via the community. The functionalities are defined by the company providing the virtual community. First functionalities relate to content. Simply providing content to be available and to be downloaded by members is considered an important functionality. The content can be provided by the community provider or generated by members. This content can take the form of text, graphics or sound, for example.

Important functionality that directly relates to available content is the possibility for members to create content themselves. The tools to generate content can be provided in the community or it may simply be an upload function that allows content generated elsewhere by the members, such as photographs, to be included with other related functions in the community.

These related functions in general are the next functionality category, and on the whole form the sense of what one can do in the virtual community. These related functions very commonly include discussions, comments to discussions or content, ratings of discussion or content and networking functions. The networking functions define how one can for example manage lists of other member friends, publicly or privately message these friends, manage lists of favorite content and affiliate other sites.

Finally, functionalities include various options on how to make purchases via the community. The options remain relatively similar although the purchases might be tangible (such as books) or intangible (such as a membership fee). These purchasing options include, for example, credit card purchases, wire transfers and donations.

Examples from expert interviews:

*“Compelling content is the key to success.”*

*“People are very eager to share content.”*

*“It cannot be a mere forum.”*

*“Comments and ratings make the virtual community alive.”*

**Table 8.** Success factor summary for Functionalities category.

Success factor	Possible evidence from literature
Content available	
- Member generated	
- Admin generated	
Content generation options	
Functions/services	(Preece, 2001)
- Discussion	
- Comments	
- Ratings	(Pavel, Trossen, & Antoniou, 2005)
- Networking	
- Friends, affiliates, private messaging, favorites	
Purchasing options	

#### 4.2.4 *Business Model*

Business model acts as the implementing link between the company and the virtual community. It can be broken down into several factors. Business case drivers describe the business rationale behind offering the virtual community in the first place. Offering and processes means the company has to be ready to offer the community, acknowledge how it will do it and make sure the underlying processes are in place. Value proposition describes the value that will be created. Important factors are also the sources of revenue, as the community is provided by a commercial company seeking profit for its stakeholders. The sources of revenue can be divided into direct revenue, indirect revenue and cost savings.

Direct revenue means actual money flowing in from different sources. These sources include fees paid by the users, which are subscription fees, usage fees and member fees. Subscription fees are monthly payments that authorize the user to exercise some right for that fee, for example the user can get access to a monthly online journal. Usage fees, then again, are one-time payments that allow the user to get a one-time access to the journal. Member fees can be divided into content delivery fees and to service fees. Direct revenue also includes revenue from third parties. These take the form of advertising and sponsorship. Advertising can be, for example, an electronic banner campaign on the community site, and sponsorship a more holistic funding and cooperation deal.

Indirect revenue means the sources of revenue that do not directly result in capital flows, and that cannot be directly linked to the community, but arise from the community's existence and operation. The community might inspire users to buy more of the providing company's products. The community can promote cross-selling of products by making e.g. additional components to a company's product seem more useful and attractive. Indirect revenue may occur through the increase in brand value and increase in customer satisfaction. Word-of-mouth about the community can increase attained indirect revenue significantly.

Cost savings are savings that the company can be experiencing in other areas of operation because of the community's existence. Support costs for the company might significantly decrease because the customers are helping themselves by communicating in the community. Savings might arise from decreased spending in advertising, as the positive

word-of-mouth is leveraged also here. In addition, the company might have to spend less for customer retention practices because of the community's own effect.

Naturally, in practice all the revenue sources must be compared against the costs that the community's building and operating imposes to see if the community is in fact experiencing the wanted results regarding the revenues. It must also be kept in mind that some of these factors might actually have strong negative values if things are done improperly, such as with the effect to brand value and especially with the case of word-of-mouth.

Examples from expert interviews:

*"Support costs are reduced if consumers help each other."*

*"Marketing could be efficiently made through a community."*

*"One important factor is the word-of-mouth."*

*"Brand value could be increased."*

**Table 9.** Success factor summary for Business Model category.

Success factor	Possible evidence from literature
Business case drivers	
Offering and processes	(Leimeister & Krcmar, 2004)
Value proposition	
Revenue model	
- Direct revenue	(Hagel & Armstrong, 1997a)
- Subscription fee	
- Usage fee	
- Member fee	
- Content delivery fee	
- Service fee	
- Advertising	
- Sponsorship	
- Indirect revenue	
- Sell more products	
- Cross-sell products	
- Word-of-mouth	
- Increase brand value	
- Customer satisfaction	

- Cost savings	
- Support costs	
- Advertising (leveraging word-of-mouth)	(Ahonen & Moore, 2005)
- Retention spending	

#### 4.2.5 Technical Factors

Technical factors describe the surrounding elements that constitute the community, the “bedrock” on which the community lays on. Several issues relate to the technical factors. Security is an important factor for members. If the security has been taken care of, members can feel safe in providing their personal information, storing personal data and making personal conversations. Security can refer to password policies, data encryption and data backups, for example. Speed issues related to the virtual community are also important. These can refer to refresh times of the web interface, response time of the system, content upload times and update speed of member actions. For example, if a discussion forum of a community has amassed so many posts that the load times get out of hand, it will surely have a negative impact on the user experience and eventually people might even leave the community if it has become painful to use.

Technical platform is an important issue that determines many of the characteristics of a virtual community. It has an impact on the community as a whole and affects at least indirectly many other technical factors as well. The effect is influenced by how customizable the platform is. If it is very flexible, it is easy to mold it to suit the provider’s needs. The biggest choices concerning the technical platform are whether the platform is developed in-house or whether a ready platform is chosen. If a ready platform is chosen it must also be decided whether it will be bought, to what extent, or will an open-source platform be used.

User interfaces represent the range of interfaces available to use the virtual community. These interfaces can be for example web, WAP and SMS. Graphical design refers to the “look and feel” of the community. Issues related to graphical design are the graphical user interface, its colors, architecture, layout and ease of use. Also, simple-sounding but important factors are the domain name and community name. They must be catchy,

appealing to the target audience, not raise any negative associations and, especially regarding the domain name, must be easy to remember and write.

Examples from expert interviews:

*“Ease of use is extremely important.”*

*“A decision must be made whether the technical platform is made in-house or outsourced.”*

*“If there is a lot of digital content, serious bandwidth issues might occur.”*

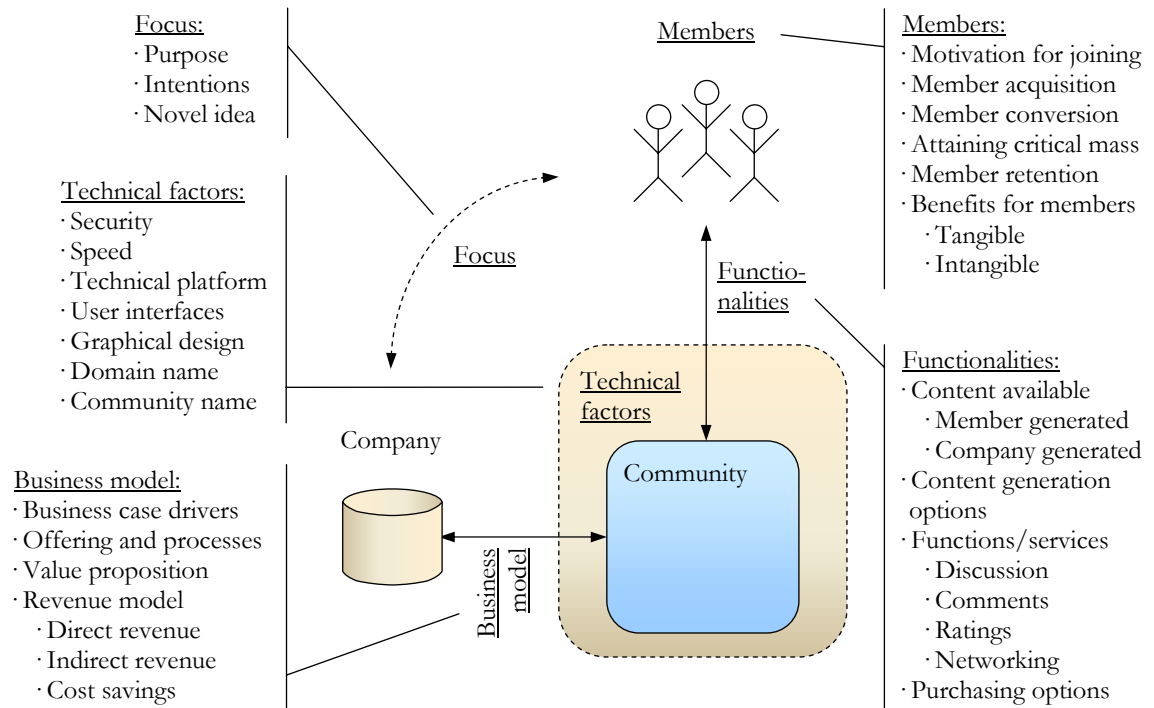
*“Privacy of the members must be handled.”*

**Table 10.** Success factor summary for Technical Factors category.

Success factor	Possible evidence from literature
Security	(Leimeister et al., 2004)
Speed	
Technical platform	
User interfaces	
Graphical design	(Preece, 2001)
Domain name	(Lazar & Preece, 2002)
Community name	

#### 4.2.6 Factor Summary with the Model

The factors are summarized in a compact form and presented along with the model in Figure 10.



**Figure 10.** Success factor model with individual factors.

### 4.3 Next Steps to Evaluate the Model

The next chapter begins the second part of this research, a series of three case studies. The case studies are conducted in order to evaluate and specify the success factor model developed earlier, and to provide insight on these specific virtual communities for the client company. Doing the case studies thereby aims at answering the third sub-question of the research: *Is it possible to use this model to analyze existing B2C virtual communities and also thereby further develop it?*

The cases are three Nokia provided virtual communities: Lifeblog, N-Gage Arena and the so called Alpha Community. These case descriptions and later interpretations are made based on the data collected for each case. Data sources were utilized and data was collected for these cases as described in research methods, in Chapter 3.4.2. The list of interviewed experts for each case and the themes covered are included in Appendix I.

## 5. LIFE BLOG

### 5.1 Introduction

#### 5.1.1 Overview

Lifeblog is a PC and mobile phone software combination that automatically keeps a diary of the multimedia items that are collected with one's phone, such as images, videos, text messages, and multimedia messages. These items are automatically organized into a chronology one can easily browse, search and share. The application is free with a limited number of storable items for all Nokia phone owners. For unlimited storage capacity, an electronic license key must be purchased. An example representation of the PC software in use is shown in Figure 11.

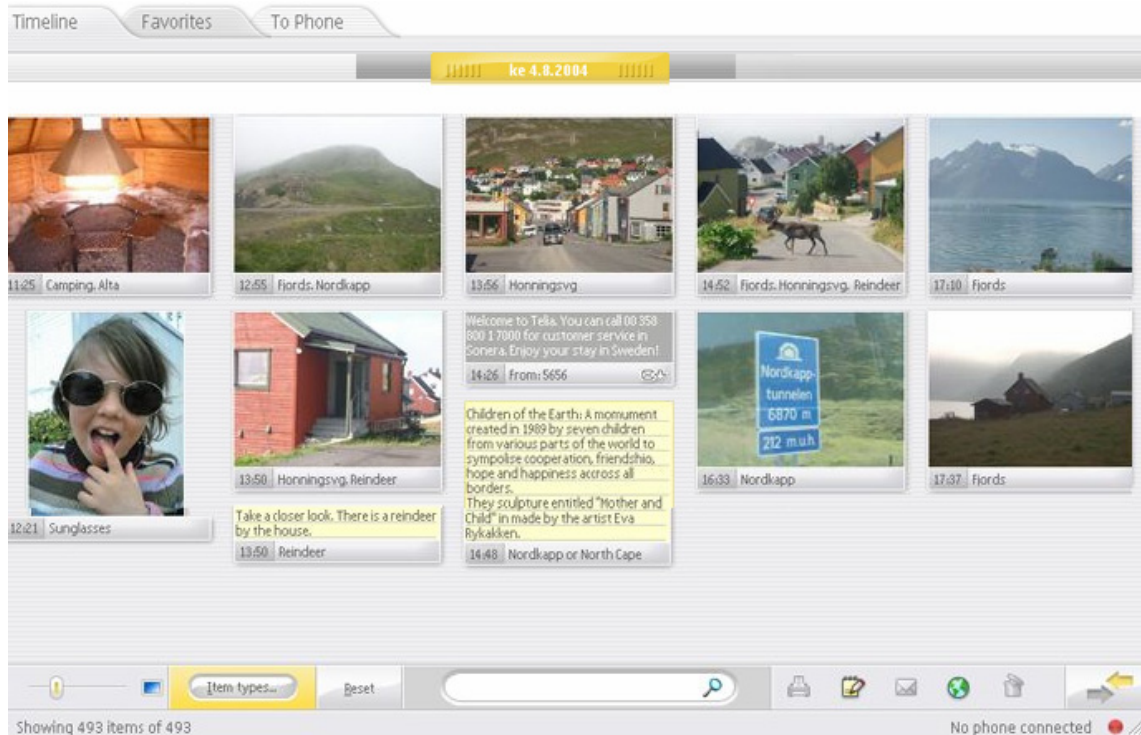


Figure 11. Lifeblog PC interface example.

Furthermore, Lifeblog employs a mobile interface, which is depicted in Figure 12.



Figure 12. Lifeblog mobile interface example.

It must be noted that Lifeblog is actually either a piece of software on the PC or a Symbian application on a Series 60 mobile phone. Therefore, Lifeblog in itself is not a virtual community. However, it can be used as an interface to access a third party blogging service, and will thus be regarded here a virtual community as a whole.

### 5.1.2 Background

The early roots of Lifeblog date back to 1998 when the project was started with the name Memory Processes. In 1999 the project continued with the name Media Diary and in 2000 it moved to Nokia Ventures Organization (NVO). Lifeblog 1.0 was launched September 29<sup>th</sup> 2004 and shortly after that, version 1.5 on November 3<sup>rd</sup> 2004 with the blogging feature included. In 2005 Lifeblog was moved to the Multimedia business unit. The latest news from Lifeblog is from April 2006 when version 2.0 was launched. The new version now supports e.g. audio and video files.

The name Lifeblog originates from the trinity “life”, “b” (blog) and “log”. Life represents the mobile device with which life is recorded, log represents the PC in which the records are logged and b represents the blog to which life can be posted.

## 5.2 Functionalities

Lifeblog mobile application keeps track of a mobile phone's digital contents, such as SMSs, pictures that are taken with the phone's camera, video clips, multimedia messages (MMS), and so on. These contents are tagged with accurate time data, which is used to order them chronologically. Therefore, the application automatically forms a "life-line" of those content items. The mobile and the PC software can be used independently. Items customized as favorites are also left stored on the phone when items are uploaded to the PC. With the PC software it is also possible to store and chronologically order older data such as digital images from the PC. Along with the newest version of Lifeblog, the synchronization functions have become simpler and more robust.

The main feature alongside storing and ordering one's data though, is the ability to post a defined selection of items to the web, to an existing blog. However, this blog must first be created using a third party blogging service provider, such as TypePad by Six Apart, LiveJournal, or other Atom-powered blogs. Photos can also be sent to a Flickr account. When a blog has been set up, selected content can be posted to it either from the mobile or the PC application, or both.

In addition to a time stamp given to the content items, other metadata is also attached. Today the Lifeblog application supports country data along with the time stamp, but in the future more will be available. This is attractive, as for example, storing a simple text message could be next to worthless in itself, but linking a place and time to that message can make it very significant. In addition, Lifeblog is integrated with one's calendar so that if e.g. a picture has been taken at the same time with a calendar appointment, that picture will automatically be tagged to belong to that appointment. All the metadata is searchable from within the application. All media editing functions have been left out from Lifeblog on purpose.

## 5.3 Focus

Motivation for providing this solution by Nokia arises from the fact that the mobile devices are capable of quite many new functions, for example regarding multimedia. These functions are also becoming of a very high quality. The intention therefore is to give users

---

new experiences from their multimedia devices. This also helps in establishing a direct contact between the company and its customers.

Users are still not using these capabilities of their phones readily. Reason behind this is that they do not know that these capabilities exist in their phones. This would require raising the users' awareness. Also, their usage is still not convenient enough. This on the other hand requires providing a better user experience.

#### **5.4 Members**

The motivation for users to start using Lifeblog is to conveniently store the contents of their phones and to be able to visually browse them and easily post them on the web. Using the application makes users keep track of their lives more easily and serves as a sort of memory management extension. The real user benefits of the application realize only over some time of usage. The challenge therefore is to make the users keep using the application to see those benefits.

If that is achieved, using the application and seeing the benefits creates desirable lock-in effects. The user is also compelled to continue using the software as all the past content items reside in the application. Also the convenience of storing one's contents has been gotten used to. There has been growing interest towards moblogging, as blogs in general become more and more popular, mobile phones get better and they include these capabilities, so being able to do that from one's phone is an important benefit. Nevertheless, the main driver overall is storing and sharing one's memories; the media is unimportant.

#### **5.5 Business Model**

Lifeblog used to have a feature that it would only support 200 newest content items from the user, after which the oldest ones would be replaced by newest ones. This limit could be removed by purchasing a license key for \$20. Now, with a new version of Lifeblog, this limit has been raised to 500. Sales of the license keys are the only source of direct revenue for Lifeblog. The license key must be purchased from a German third party provider Element5 through a multitude of steps. Maintaining a third party blog often costs

something too. For example, TypePad offers a 30-day free trial blog and several pricing options, of which the simplest one is \$5/month for one blog.

Most of the revenue for Nokia resulting from Lifeblog is indirect. It supports selling high-end Series 60 phones and it creates customer loyalty and stickiness. In addition, cost reductions in marketing might arise from the risen consumer awareness of Nokia and the application through texts in search engines and seeing other people use it to blog. In fact, Lifeblog has been given free to some active individuals (such as <http://lifeblog.anina.net/>) to promote its use and applicability. Actual evidence on all these effects is very vague, nevertheless.

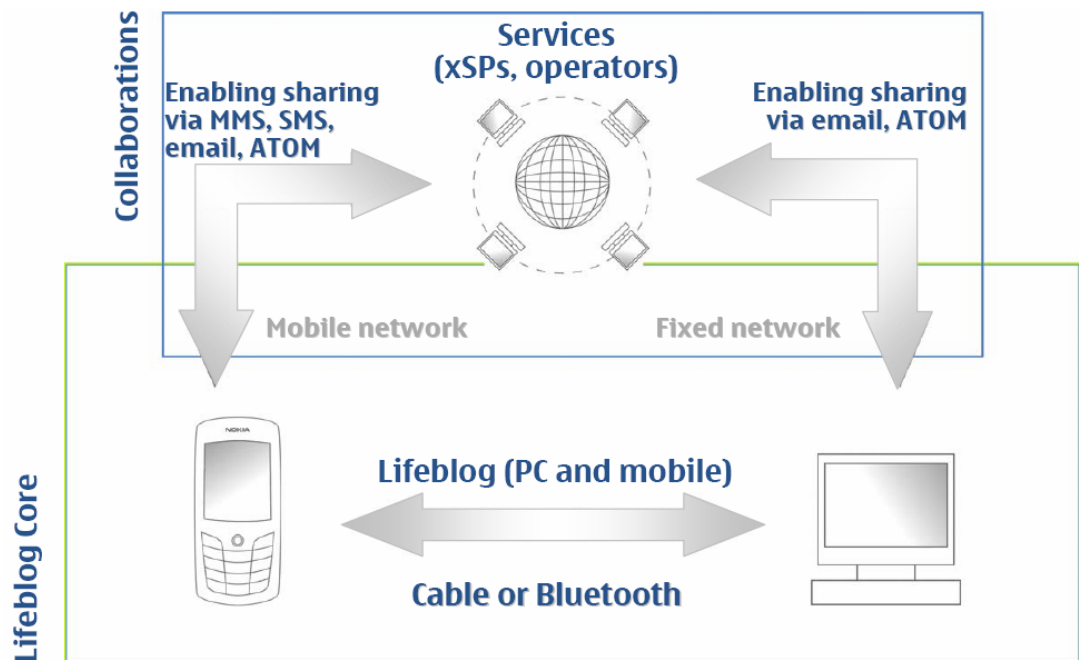
## 5.6 Technical Factors

Thousands of mobile Lifeblog applications have been downloaded, and they come pre-installed in the new Series 60 mobile phones. However, there are not that many PC applications in use. This is most likely because the application itself is not easy to use, and it requires a lot of other things to be installed on the PC for it to work. These include Nokia PC Suite 6.7 application, ActiveX 9.0, a good display card, etc. This system is quite complicated and setting up the service might be troublesome.

The graphical user interfaces of Lifeblog PC and mobile applications look smooth and welcoming, and conform to Nokia's current web presences and the look and feel of other applications. The interface is also usable, and it has received good end-user feedback. The appearance and usability of the blogging features depend on the third party blogging service provider that has been chosen. Overall, Lifeblog does not strive to be a high-tech application, but rather a common sense, intuitive software more convenient to use than for example Adobe Photoshop Album. However, the user experience as a whole requires future improvements.

Synchronization between the mobile phone and PC can be done via a data cable or Bluetooth connection. Posting from PC to blog is done via an Internet connection with email or with the Lifeblog application where Atom API is used. Lifeblog introduces an open extension to Atom, where posting multiple files inside one post and less resource intensive binary upload for mobile phones are utilized. Posting from the mobile phone to

blog then again uses MMS, SMS, email or Atom API (over GPRS) to post the information. These data transfer alternatives are portrayed in Figure 13.



**Figure 13.** Lifeblog data transfer alternatives.

As far as security goes, the content is first stored in one's mobile phone and then optionally on PC, so the data is as secure as the mobile phone or PC of the user are. When the contents are optionally posted on a blogging site on the Internet, the data is as secure as the service provider of the blog enables.

## 6. N-GAGE ARENA

### 6.1 Introduction

#### 6.1.1 Overview

N-Gage Arena is an online gaming and mobile multi-playing community relating to Nokia's gaming phone N-Gage. There are many functionalities available in N-Gage Arena itself, and it greatly augments to the functionalities of the N-Gage games as well. N-Gage Arena members can for example interact with other members on the discussion boards or by live chatting, manage their own profiles, get exclusive information on existing and upcoming games and get support conveniently. However, most importantly, the N-Gage Arena members playing N-Gage games can by connecting to the N-Gage Arena play against each other, compete in challenges, participate in tournaments, join other events and gain rewards. N-Gage Arena membership is free of charge, and anyone can register. The N-Gage Arena website front page is shown in Figure 14.



Figure 14. N-Gage Arena website.

### *6.1.2 Background*

Nokia announced the N-Gage device - a mobile phone and a handheld game console - in February 2003. Doing so Nokia took the first step in the convergence of mobile phones and gaming devices. The device was also to support mobile connected gaming through the N-Gage Arena service and virtual community. N-Gage was heavily marketed before its launch in October 2003 and it was predicted that it would sell over 10 million units in its first year.

However, soon after its launch it became evident that this sales figure would not be reached. In its first year N-Gage sold only 1 million units. This was mostly due to the harsh critique it was receiving for its various design flaws, lack of good games and high price. Nokia responded by quickly introducing N-Gage QD, an improved version of the original device that corrected many of the predecessor's flaws. In addition, Nokia published a range of high quality games at the end of 2004, and going into 2005 it lowered the price of the device and the games.

Over the years N-Gage Arena has loyally served N-Gage gamers worldwide, accumulating a hefty, gradually growing member base. The community core is active with lively discussions, regularly hosted gaming events, and so on. This liveliness has in part been fueled by the publication of N-Gage QD Silver Edition, an N-Gage QD with silver-colored casing in September 2005.

Since the September 2005 launch of N-Gage QD silver edition, however, there has been a break in updating the device or launching new ones. The N-Gage Arena is hoped to carry over this gap. In fact, in November 2005 it was announced that no new N-Gage devices would be launched at least before 2007. In May 2006, in the E3 expo, it was declared that all N-Gage games could be used in the future smartphones, facilitated by the so called N-Gage inside concept.

### *6.1.3 N-Gage Devices*

The N-Gage device was released in October 2003. It was the first device to combine a gaming device and a mobile phone. Moreover, instead of using cables, multiplayer gaming was supported via Bluetooth or via an Internet connection to the N-Gage Arena gaming community service. It also included a 176x208 pixel color display, 4/8 way directional

controller, MP3 player with a dedicated hardware chip decoder, FM radio, stereo output and an USB connection to PC without any additional software. N-Gage is also a Series 60 phone, making numerous installable games and applications available.

However, the original N-Gage was widely criticized for its design: to insert a game, users had to remove the phone's plastic cover and remove the battery compartment as the game slot was behind it. In addition, the speaker of the phone was on its side edge to avoid the screen from getting smudged against one's cheek, thus resulting in talking to the phone sideways, a.k.a. "sidetalking" to it. In the gaming realm, the N-Gage was also criticized for its vertical screen and the narrow selection of games.

To correct these flaws, Nokia introduced N-Gage QD six months after the initial launch of N-Gage. It revised the device's physical design, being smaller and rounder, having a more convenient game card slot on the bottom of the device and the speaker and microphone on the flat side of the device so that calls could be made like in a traditional mobile phone. MP3 playback, FM radio reception and USB connectivity options were removed however, to cut size and cost. The rest of the N-Gage QD hardware specifications were otherwise similar to the original N-Gage. The new version of the device introduced also the Launcher application, which could be used to easily access N-Gage Arena.

In August 2005, Nokia announced the release of N-Gage QD Silver Edition. Apart from cosmetic changes, there were no differences to the regular N-Gage QD. N-Gage QD Silver Edition was made available in the European, Middle Eastern and African markets from the beginning of September 2005. The different N-Gage phones are shown in the following Figure 15.



**Figure 15.** N-Gage, N-Gage QD and N-Gage QD Silver Edition.

### 6.1.4 Games

The games for N-Gage device are sold on copy protected MultiMediaCards (MMC), which are then inserted into the device when played. When another game is played, the cards need to be switched. The game cards work for all N-Gage versions. An MMC game card with the game Sega Rally Championship is displayed in Figure 16.



**Figure 16.** An MMC game card for N-Gage.

The selection of games includes titles published by Nokia itself and by other parties such as Sega, Electronic Arts and THQ Wireless. There are titles unique to N-Gage, such as Pathway to Glory and Pocket Kingdoms, and cross-platform titles, such as Rayman 3 and Sims. By May 2006, there were 56 games available and 3 games upcoming for the N-Gage. As N-Gage is also a Series 60 device, all “normal” Java-games can also be downloaded and played on the device.

## 6.2 Functionalities

The following features are available in the N-Gage Arena, for example:

- Multiplayer network gameplay: True online, head-to-head multiplayer gaming over the network in real time.
- Tournaments: A competition with a defined start and end date in which a winner is designated at the end of the tournament.
- Player challenges: A system that allows a player to challenge another specific player to an online game.

- Friends list: A user-configurable list of friends with indicators showing whether each friend is currently online/offline or playing a particular game. Also provides an easy way to send messages to friends.
- Lobby: An in-game space that often functions as a general “meeting area” for players to interact before hooking up to play online. Lobbies often include chat functionality.
- Leader board: Displays the top players from a particular ranking board. Leader boards can be Top 5, Top 10 or Top 25.
- Matchmaking: A backend system process that matches players (randomly, by region or ability, etc.) in order for them to play against each other online.

The N-Gage Arena also enables the following features, amongst others, in games:

- Games extras: Downloadable game content, such as a new power up, weapon, health or object that a player can download and use to enhance their abilities in the game. It can also refer to downloadable characters, maps, levels, etc.
- Player clips: A user-recorded gameplay sequence that a player can then upload to the network for others to download and view. The player can adjust the camera angle while recording for professional-looking results.
- Rankings: A list of scores for a game ranked in a particular order or position (highest to lowest, lowest to highest, etc.).
- Shadow racing: A form of one-on-one competition in which a player performs a pre-defined gameplay sequence (race) while competing against a “shadow image” of another player’s character.
- Strategy guides: An extensive guide that provides details and advanced strategy advice regarding the various attributes of a game, such as levels, characters and special moves.
- Tips & hints: Either text-based or game recordings that help players advance through certain tricky areas of a game. Tips & hints are created by the game developer.

Arena members can also download exclusive demos of existing and upcoming games and other restricted game content such as trailers and wallpapers. In the N-Gage Arena, competitions and tournaments are held, where winning or even participating awards the members trophies, which are then shown in the members’ profiles. Campaigns are

occasionally held, where those new who register to N-Gage Arena, get a free game. The challenge in these campaigns is then to retain the new customers. Also, even more communication functionalities are hoped for, so that members can interact with each other even more, without leaving the N-Gage Arena.

### **6.3 Focus**

N-Gage Arena's mission is to bring a key differentiator and customer loyalty to the N-Gage platform by providing the world's foremost connected mobile gaming service and an active mobile gaming community. Its objectives are to support device and game sales, support operator game strategies, build the Arena brand and community value, increase community size and activity, generate revenue from premium service elements and finally enable the creation of real connected mobile games.

N-Gage Arena thus makes Nokia's games offering its unique self. It also utilizes effective experience based marketing instead of product based marketing. The N-Gage Arena should be the main reason why customers want to play N-Gage games.

### **6.4 Members**

N-Gage Arena has over 500.000 registered members with new members continually joining. Thereby, N-Gage Arena is Nokia's biggest virtual community judging by the amount of members. N-Gage Arena members can straightforwardly be classified into N-Gage device owners and non-N-Gage owners. Active members appear in both categories.

Members are attracted to the community because of its compelling functionalities, content and social aspects. Constituting to the things that make people join are, for example, bragging rights, when you beat a friend in a game. It can also be used as a personification tool, where people can get their own wallpapers to the phone, own avatars, etc. The key benefits are hence recognition, rewards and personalization. If someone wishes to become a true advocate in some aspects, that too is possible in N-Gage Arena. As an example, it is possible to download detailed maps, weaponry specifications and rank pictures in the game Pathway to Glory.

It is intended that the whole community presence (nickname, avatar, other info) of a user is stored and preserved, enabling easy device switching. The nicknames are also permanent and same in all games. When the users register to the service, they choose whether they want to receive any direct marketing. Arena members can be the first ones to get information on new games, for example, and can even be offered exclusive free demos of the new games.

In the discussion forums, user moderation exists from the part of administrators. There are also filters implemented for curse words. Some pirate links or badmouthing comments might be posted on the boards, but the ranking system organically “disposes” of these messages to the depths of the boards due to low ratings given by the majority of other members. In addition, forum writers have been hired to write to the community and some have been doing that for several years. Automatic alerts are in place to inform administrators of any anomalies in the Arena. Also compact newsletters are regularly sent to the administrators of important issues regarding the Arena.

The members are regularly rewarded from their activity in the discussion forums. The rewards can be N-Gage devices, accessories, games or even resources to launch their own sites. There have also been real-life events, where people meet and challenge each other. For example, and a campaign was held where 10 people were required to meet and play an N-Gage game together and the winner of that group would get a Nokia sponsored reward.

The purpose on the whole is to have a dialogue going on between the consumer and N-Gage (Nokia) in the user’s own terms. Without that, credibility in the eyes of the consumers will not be achieved. Even though the N-Gage brand is under Nokia, its brand image is a bit different and can be more uninhibited than Nokia’s.

## **6.5 Business Model**

N-Gage Arena does not have any direct revenue sources as registering, the Launcher application, etc. are all free for everyone. No outside advertising campaigns are used either. The revenue from N-Gage Arena is mainly indirect from increased device and accessory sales, game sales, brand building, word-of-mouth and so on.

A challenge considering the members is operator billing. Playing the games in N-Gage Arena uses a GPRS Internet connection, and GPRS costs for consumers can be very high especially in certain countries. This problem might get alleviated in the future as operators are offering more and more flat-fee data transfer packages. Naturally, Arena members are highly esteemed amongst operators as they generate masses of GPRS traffic.

Business-wise, localization is also a challenge. Decisions need to be constantly made on what is localized and what is not, as a global community is in question and global reach is wished for. N-Gage games are nowadays localized to 5 languages.

## 6.6 Technical Factors

There are three ways to connect to N-Gage Arena: via the Launcher application, an N-Gage game or a web browser. Launcher is a Symbian application which comes pre-installed with N-Gage QD and the Silver Edition, and it can be updated by downloading a new version from the N-Gage Arena website. The user is automatically connected to N-Gage Arena and its services after starting the Launcher and logging in or registering. Naturally also the phone's Internet settings have to have been configured. The Launcher is shown in Figure 17.

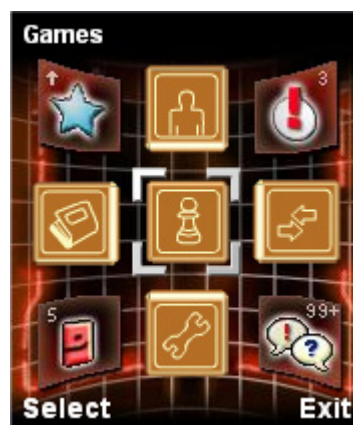


Figure 17. N-Gage Arena Launcher application.

N-Gage Arena can also be accessed from within an N-Gage game using an Arena menu button. The graphical user interface within a game can be customized so that accessing the Arena's features does not feel like the user is leaving the game, thus creating a seamless

experience. Finally, N-Gage Arena can be accessed using a web browser on one's computer or mobile phone.

Appearance for the N-Gage Arena community has not been determined specifically, but rather follows the guidelines of the N-Gage device. Arena appearance forms a continuum to N-Gage device appearance, but with a slightly redder tint. The technical platform on which N-Gage Arena operates is called Lithium. The platform was formerly owned by Sega Mobile in San Francisco, but is nowadays owned by Nokia as Nokia acquired the company.

Regarding security, there is not much information that could be compromised besides a member's login information. Not much harm could be done with this information either. If someone would hack or phish a member's password, it could easily be changed by the administrators.

## 7. ALPHA COMMUNITY

### 7.1 Introduction

#### 7.1.1 *Overview*

[ Confidential ]

### *7.1.2 Background*

[ Confidential ]

## **7.2 Functionalities**

[ Confidential ]

### **7.3 Focus**

[ Confidential ]

## 7.4 Members

[ Confidential ]

## **7.5 Business Model**

[ Confidential ]

## 7.6 Technical Factors

[ Confidential ]





## 7.7 Current Status

[ Confidential ]

## 8. RESULTS

### 8.1 General

The case studies aimed at answering the third sub-question of the research: *Is it possible to use this model to analyze existing B2C virtual communities and also thereby further develop it?* Conducting the case studies indicated that, in fact, it is possible to use the success factor model to analyze existing B2C virtual communities. Hence, the research question is answered half-way thus far. As well as giving valuable insight and revealing important issues, carrying out the case studies yielded significant data which will help in answering the latter part of the third sub-question.

In the following chapters, results are discussed for each case and then cross-case considerations are made. Results from a roundtable workshop are also described, implications for the success factor model are discussed and finally evaluations of the research are made.

Besides examining the cases categorically and considering each factor qualitatively, a simple evaluation table was constructed to grade each case factor-wise. There, each evaluated success factor was given a grade from 1 to 10 to give a rough estimate on the factor's thoroughness and applicability. This method is naturally highly subjective and hardly very scientific, but it gives a tangible, understandable real-life impression on the well-being of the communities in question. Success factors are graded individually and average grades are then calculated for each category. It must be noted that in calculating category averages this way, this simple evaluation makes the assumption that all factors in a category would have the same relative weights of importance, which might not be the case. The evaluation tables for each case company are included in Appendix II.

### 8.2 Lifeblog

Lifeblog in itself is a good idea and addresses tangible needs of the consumers such as easily transferring and emptying one's phone contents, storing and ordering the content for convenient browsing and posting selected content to a blog. Lifeblog's functionalities seem to be comprehensive and it is the category it is doing well in. Some minor impracticalities occur, such as every text message gets forcibly transferred to the Lifeblog application when synchronizing, and the synchronization fails every now and then for some content items.

The technical factors also seem to be in some order. Using the application is simple and intuitive and the graphical user interface is appealing. The combination of user interfaces and their operation is sensible and naming policy works. The hardware requirements and dependency to other software such as the recent version of Nokia PC Suite seem a bit harsh for the Lifeblog PC application.

However, in rest of the categories, many factors need attention and improvements. Even though there are many benefits for members to join and start using the service, not much attention has been given to attracting members. The good thing is that the application comes pre-installed in the newest Nokia phones, but still its use is not promoted at least enough when comparing to the effort put in and its actual possible benefits for the users. It is also very inconvenient for the user to have to set up a blogging service with a third party provider. It diminishes control and options also from Nokia's side even if fruitful collaborations could be established.

The business model category is doing worst. Even though the free trial version with a content item limit is a relatively good idea, the implementation is inadequate. The license key has to be purchased from yet another third party, and the link from Nokia's Lifeblog download Flash to Element5-site for making the purchase does not seem to be leading to the right place. Moreover, the business rationale behind offering Lifeblog has not been clearly indicated and communicated. The business case drivers seem vague and there is no recorded evidence on their actual effects. Indirect revenue sources are used for justification but they are not measured and the process for utilizing or gathering usage data seems to be deficient. Therefore, its intentions and rationale for existence are loose, even though the idea in itself is very good.

### **8.3 N-Gage Arena**

N-Gage Arena on the other hand is doing better overall than Lifeblog. It seems to venture into a new area of connected mobile multi-playing and greatly create added value for the games offered. It also seems to cater well for the needs of gamers and gaming advocates. Its focus and objectives are clearly stated. There is a wide range of appealing functionalities, extra content for interested members and satisfying amount of personalization options available. Only purchasing or other similar options seem to be missing from within the N-

Gage Arena itself. They exist in the website as a whole but could be tightly knit into the Arena experience.

Technical factors of N-Gage Arena seem to be doing fine and the platform is versatile enough and generally applicable. The graphical looks and naming seem to properly fit the theme. The three interfaces to connect to N-Gage Arena – game, Launcher and web browser – are in order. However, starting the Launcher application immediately connects to the Internet, which of course requires that the Internet settings are configured. Also the user does not know where it will go the first time and how much data is going to be transferred. This might scare some people away from trying the service.

There have been a lot of events, campaigns and advertising, and the Arena has gathered a wide member base. However, most of the members are inactive. Rather than accumulating a huge member base, it is important to the members who the other members are. For example, it is much more rewarding to beat a friend in a game rather than a complete stranger. It is therefore important to get packs of close friends to join rather than just grow in sheer size. Achieving this would activate the member base and also drive retention so that when using the service the user would have a high chance of having a friend online. There also seems to be indication that the consumers do not completely understand what added value they are getting from the service. This could be promoted better and thus gain discussed retention.

Again, the business model seems to be the category with most need for improvements. The value proposition of the Arena is adequately communicated and its offering and related process are in place, as there are community managers, campaign managers, etc. However, the user data is not properly utilized to provide and especially to exploit consumer insight. Additionally, similarly here, the existence of the service is justified by only the indirect revenue sources such as increased device and game sales. There is no actual measured evidence on these effects caused by the Arena, though. Albeit some things are measured, they are not linked to determined success, i.e. there are no set goals or action plans resulting from various outcome scenarios.

It would seem that the other areas that connect to the N-Gage Arena are hindering tapping into its full potential. The past bad reputation of the N-Gage device and meager games seem to still be casting their shadow. It is interesting to see in the future when Nokia

smartphones can run N-Gage games and connect to the N-Gage Arena, that how the development will impact the N-Gage Arena community.

#### **8.4 Alpha Community**

[ Confidential ]

## 8.5 Cross-case Considerations

Comparing the results from each of the individual case evaluations included in Appendix II results in the following Table 11. There, grade averages are calculated for each case based on the averages received from each category. It must be noted again that calculating the total averages per case from the categories in this way assumes that the relative weights of importance of each category is the same. This might, however, not be the case. One must also keep in mind that the evaluation was done on a 1 to 10 scale, so the figures on the table and in Appendix II do not correspond to often-used Finnish elementary school grades, which range from 4 to 10. In addition to case averages, category averages for each category across the three cases are calculated.

**Table 11.** Cross-case comparison of case evaluations.

Case	Focus	Members	Function- nalities	Business model	Tech. factors	Total (per case)
Lifeblog	6,3	5,8	7,5	3,8	7,8	<b>6,3</b>
N-Gage Arena	8,0	6,8	7,8	5,0	8,0	<b>7,1</b>
Alpha Community	7,7	7,3	8,0	5,3	8,3	<b>7,3</b>
<b>Total (per category)</b>	<b>7,3</b>	<b>6,7</b>	<b>7,8</b>	<b>4,7</b>	<b>8,1</b>	

This cross-case comparison with the total category averages clearly proves right the former presumptions that the business model categories were generally not well thought of. Business case drivers as well as the stated revenue sources lacked appropriate justification, and goals and measuring were missing. Consequently, no actions resulting from measuring and determining the statuses were defined.

All communities depended on given budget and relied on generating mostly indirect revenues. Even Lifeblog was thinking of letting direct revenue go, and cost savings were only in a minor role in Alpha Community. Especially concerning virtual communities, it is easy to forget to consider all the business model aspects. As B2C communities are in question, though, there has to be a valid business case, justifications, goals and measures to substantiate the existence of the community business-wise also.

Functionalities and technical factors were generally well thought out and taken care of. This might suggest conventional business mentality where functionalities are greatly developed

and technical solutions innovated, but the consumers are accidentally forgotten. However, this might also reflect the overall impression of the client company as being a renowned innovator and technical forerunner.

Generally, the cross-case comparison indicates that Alpha Community is the most comprehensive, while Lifeblog seems to be in the need of most improvement. This result is reflected from the impressions gotten during the research, and the case results of these communities. In addition, the total case averages compare well with the actual success of these communities, even though as success was not accurately defined for them, it is impossible to make exact objective judgments on the matter. It is still safe to say that the general level of the virtual communities is not excellent, and all would need a lot more work to be thriving and successful. It might thus be argued that using the success factor model can give a fairly good impression of the current state of success of a B2C virtual community. Further longitudinal research would be needed to make deductions about the model's ability to forecast success based on a set of conditions at a given time, though.

## 8.6 Roundtable Workshop

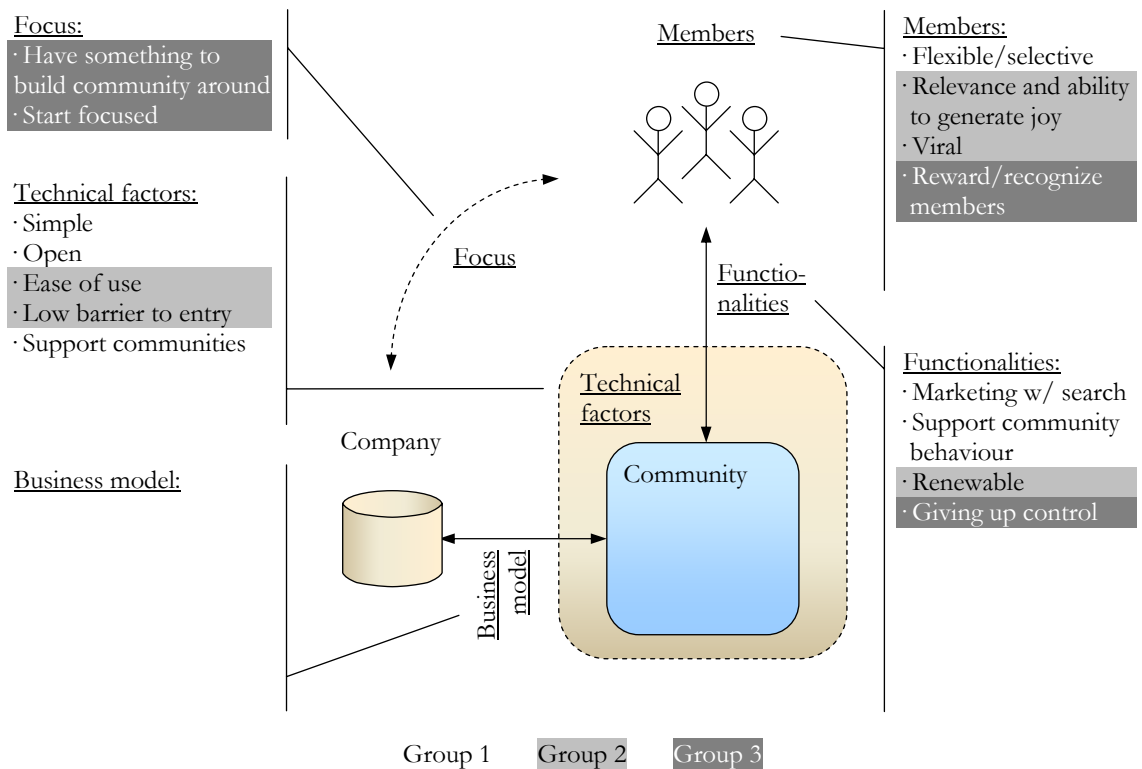
In addition, relating to other company internal activities, a roundtable workshop was organized – a mixture of a workshop and a roundtable discussion. The roundtable workshop brought together 25 company internal and external virtual community experts, each of which had currently or in the past been working closely with community related activities. The participants are listed in Appendix I. In addition to other activities, the roundtable workshop participants were divided into three groups, each of which were asked to define a “top 5” of key success factors for virtual communities. The results of the three groups are presented in the following Table 12.

**Table 12.** Top 5 virtual community success factors defined by the three groups in roundtable workshop.

Number	Factor
Group 1:	
1.	Simple interface
2.	Open for everyone
3.	Technically flexible, enabling a selective audience
4.	Marketing through web searches

5.	Support community behavior
Group 2:	
1.	Ease of use (seamless connectivity between device and service)
2.	Relevance and ability to generate joy (enable expressing passionate and emotive content)
3.	Low barrier to entry (easy to find, service discovery, people discovery)
4.	Viral (compels new users to join and invite, not just share)
5.	Renewable (living content, constant innovation)
Group 3:	
1.	Have something to build a community around
2.	Company gives up control
3.	Reward and recognize members
4.	Support the communities (technically, etc.)
5.	Start focused, expand if growth requires

These factors can be summarized and mapped on the success factor model for closer inspection, as show by Figure 18.



**Figure 18.** Roundtable workshop results mapped on the success factor model.

As can be seen, all other categories got accounted for, except for the business model category. This is in line with results from the case studies, and reflects the general mentality (or forgetfulness) towards these aspects, at least when considered in-company. Still, this result was rather surprising in the sense that not a single one of the 25 experts did come to think of any factors relating to this category.

On the whole, the roundtable workshop was a very exiting exercise regarding this thesis. Its results further validated some of the factors of the model and confirmed certain key success factors for virtual communities. The results can also be considered valuable in regards to being able to tap into the mindsets of such an innovative and expert group of community-experienced individuals.

## **8.7 Success Factor Model**

### *8.7.1 Feedback from the Experts*

The developed model was shown to all interviewed experts in the case study phase and a few other company community experts as well. All in all, the feedback received was highly positive and the model was considered well developed, comprehensive and innovative. Lively discussions emerged between the interviewed persons and the researcher as critical, yet constructive comments and defending reasoning were presented.

One thing that often came up was a question that why do the users of the community reside outside of the community in the model? Is it not the users that make up the community? The answer to this is twofold. First, in the beginning of the study, a virtual community was defined as the occurring social interaction. Surely, the users are the ones who interact and are (one of) the constituents in a B2C virtual community. Nevertheless, it makes sense that the users are separated from the community in light of the definition. Second, even though it would seem that the users are communicating with only each other and between themselves, it is a fact that they are doing it through the community's functionalities and by the community's terms. This is clearly shown in the model. The functionality arrow thus represents the aggregation of all the singular interaction flows of individual users. Whether the users are actually interacting with each other outside the community is another question, unrelated to this subject.

The aggregation of interaction flows and grouping the users together makes also sense because in virtual communities, these interactions and the members are devoid of physical restrictions. Drawing the members inside the community with lines going randomly between them might give a false sense of physical location. It might describe well the interaction between the members, but researching and visualizing this is the subject of other studies and irrelevant to this one. The fact still remains that these interactions are realized through the virtual community's functionalities.

In addition, the images of the users in the model represent the users' physical selves. Placing them inside the community would surely be in violation of "virtual". One might say, though, that there actually are virtual representations, or avatars, of these people that interact. This would be viable, but would not bring any value to the model, as the avatars themselves are inanimate and as such, cannot affect success. All the wants and needs of the avatars can be reflected through the actual users behind them and other aspects of the avatars can safely be considered as functionalities.

It might also be asked where a commonly quoted success factor "policy" is in the model? Or for that matter, "moderation"? The policies of a virtual community can be implemented by the provider, but oftentimes they are formed through an evolution within the community. Policy can therefore be regarded as generated content, which is initially implemented through offering and processes and reflected eventually in attracting, converting and retaining the members. Communicating the policy is also important, which is manifested in the general dialogue of the company with the members via the business model and functionalities. Moderation, then again, is an integral part of the policy and one way of implementing the policy through offering and processes.

Positive feedback was also received from the fact that the success factor categories do not include the virtual community itself. This emphasizes that factors in the categories are the only things one can affect and adjust; the virtual community is then a (possible) result that might be short-living, long-living, successful, unsuccessful, and so on. Circumstances are also always unique, and even though one would do their best in adjusting the factors to facilitate success, the process can only be used to improve the chances for a successful virtual community, not guarantee it.

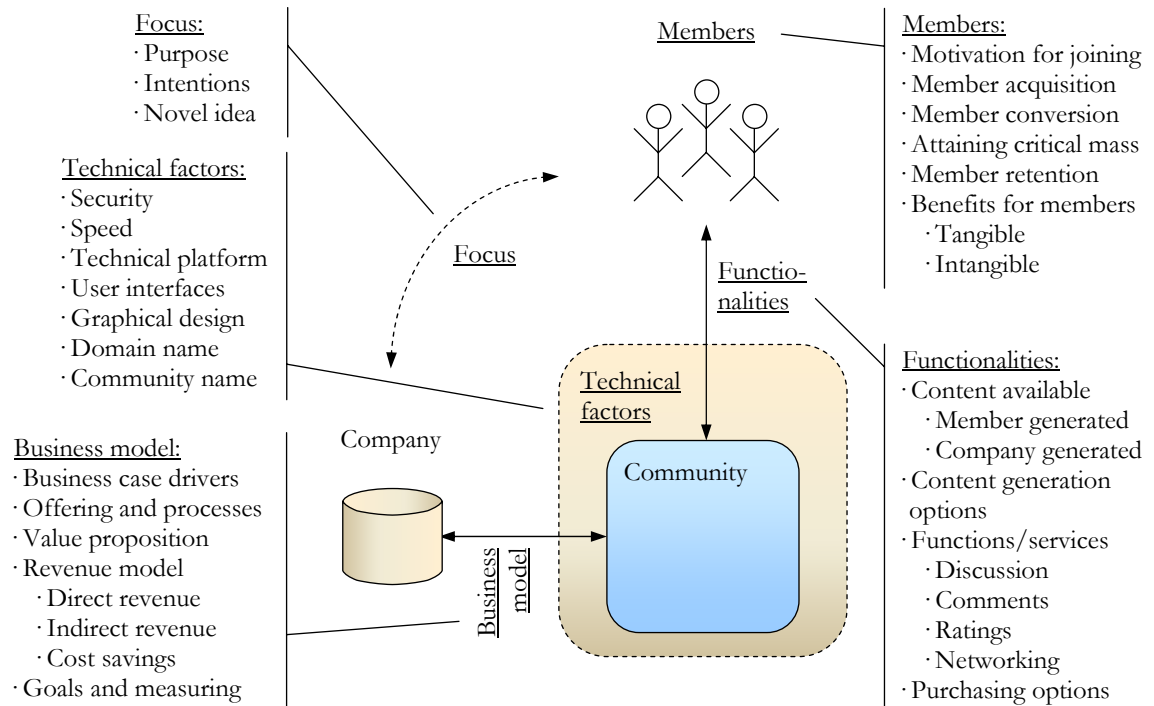
### 8.7.2 Revising the Model

Conducting the case studies and observing the results, there is strong evidence that a factor of great importance must be added to the model. The practical evidence – or lack thereof – in each case study substantiates the addition. This added factor is “Goals and measuring” to the business model category. One might think that these could be interwoven to the business case drivers, processes and so on. However, this has not been done in practice, and they were lacking in all cases. Therefore, it makes sense to add this important factor to the model. The addition also stresses the mandatory importance of *defining* the success for the virtual community.

Doing the research also revealed a possible need for adding a whole new success factor category that resides on the background, Environment. This does not indicate environment in the nature sense, but rather in the abstract, socioeconomic sense. The category would consist most importantly of market, i.e. what sort of competition there is, what other providers are doing; and society, i.e. societal trends, whether some topics or functionalities seem attractive. This category and its factors tend to have a strong temporal dimension, nevertheless, and tend to not be in *direct* contact with the virtual community. Considering this, the model can further be emphasized and scoped to consist of a snap-shot of time (cross-sectional) that considers only factors closely related and in direct contact to the virtual community. Adjusting the scope of the model on the virtual community itself hence eliminates the need for adding the category.

Interesting is that this category or its aspects never came up in any of the interviews, in the roundtable workshop and only remotely even during the whole community vision and concepts -project. Neither was it mentioned or emphasized in the literature. Logically thinking, it is very important what the current status of the market is and what others are doing. For example, it might not be very sensible to start a new virtual community selling books as there already is one Amazon.com (unless it would be segmented to some well-defined niche market or otherwise very cleverly differentiated). In addition, societal trends are important, such as providing some functionality might hit the trend spot perfectly while other functionalities could be seen as yesterday's news.

The revised, final key success factor model for B2C virtual communities is thus presented in Figure 19.



**Figure 19.** Revised, final key success factor model for B2C virtual communities.

Presenting this final model successfully answers the third sub-question of the research: *Is it possible to use this model to analyze existing B2C virtual communities and also thereby further develop it?*

The revised model now also presents the key factors for success for B2C virtual communities. Therefore, the main research objective is reached and main research question – *What are the key success factors of B2C virtual communities?* – is successfully answered with the model.

## 8.8 Evaluation of the Research

### 8.8.1 Limitations

The limitations of this research are obvious. Most of the limitations were mainly caused by limitations in resources, meaning time and money. For the grounded theory, screening of literature was made using selected databases. The used search phrases likely did not cover all of the relevant literature on the subject. This is likely for the book and Internet searches also. Moreover, subjective selections of the found literature were made. On the other hand,

most of the literature was frequently quoted elsewhere, thus giving a somewhat positive impression on their quality. The interviewees for the grounded theory were all from inside the company, their selection was based on recommendations and their number was limited.

For the case studies, the three virtual communities were selected from inside Nokia. Normally, cases are sampled for analysis in a theoretical manner, meaning that instead of looking for representativeness, researchers will seek to find variation in key underlying variables and other theoretically interesting characteristics of the units of analysis (Eisenhardt, 1989). Selecting the cases inside Nokia is therefore a major limitation as neither hugely successful nor total disaster (bipolar) communities could be selected. However, this approach served the needs of the client company well, as valuable insight could be provided about the analyzed communities.

The interviewed persons for the cases were also selected by recommendations or by browsing the organization phonebook and were limited in quantity. The other data sources were sought after from the company intranet, asking around and browsing the Internet. The user interviews consisted of users the researcher knew to be using the communities in question. Nevertheless, as Yin (1994) stresses as one of the principles in data collection the usage of several sources, this was nicely handled in this research, also creating triangulation of data. In addition to data triangulation, methodological triangulation was utilized by using the grounded theory and case study approaches. Theory and investigator triangulation were not employed.

In gathering data and evidence for the cases Yin (1994) emphasizes practicing, data collection planning and using practice cases. He states that data collection in case study research is not routinely, but a lot more difficult than for example in controlled experiments and survey research. A lot is also required of the researcher, such as being able to be a good listener, ask good questions, be adaptive and flexible, have a firm grasp of the issues being studied and be unbiased by preconceived notions (Yin, 1994). Due to limited resources, no practicing was made, and it can be seen that the abilities required from the researched were not probably completely actualized in a relatively inexperienced researcher such as the one conducting this study.

One limitation of this research is that it was cross-sectional and used the passive observation approach to research process. If more time would have been usable, and

another approach such as the deliberate intervention could have been used, conditions could have been adjusted in the case communities according to the found success factors and then observed over time.

### 8.8.2 *Quality of the Research*

Because research design is supposed to represent a logical set of statements, the quality of any given design can also be judged according to certain logical tests and criteria (Yin, 1994). However, there is no clear consensus on these criteria (Tynjälä, 1991). This is mainly caused by the qualitative-quantitative debate, mentioned earlier in Chapter 3.2.1. As qualitative and quantitative research are seen different, different estimation methods and concepts are also used. Yin (1994) mentions four tests that have been commonly used to establish the quality of any empirical social research. These are:

- Construct validity: establishing correct operational measures for the concepts being studied
- Internal validity: establishing a causal relationship, whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships
- External validity: establishing the domain to which a study's findings can be generalized
- Reliability: demonstrating that the operations of a study, such as the data collection procedures, can be repeated, with the same results

Yin (1994) also suggests tactics by which the performance in these criteria can be increased. They are intended mainly for case studies, but can also be applied to this research as a whole.

Regarding construct validity, the concern is that subjective judgments are made in data collection. The suggested tactics for improvement include using multiple sources of evidence, establishing a chain of evidence and having key informants review a draft report. In this research a multitude of data sources were used as has been described earlier, both in grounded theory and especially in the case studies. The chain of evidence is presented throughout this report, and the report has been shown to and reviewed with key personnel involved.

Regarding internal validity, the concern is that the causal relations presented do not hold and false deductions are made. This can be improved by pattern-matching, explanation-building and time-series analysis. In the case studies pattern-matching and explanation-building were done as the developed model was evaluated with multiple cases, and similarly for the grounded theory as reasoning for deductions was given and the causal relations were explained. Furthermore, the model was commented by various experts throughout the research project and it was seen as being logical and coherent.

Regarding external validity, the concern is that poor generalization is attainable. Tactic to improve this is by using multiple cases. Multiple cases were successfully used to evaluate the model, and the model's scope and applicability domain were discussed and defined. Thus, the findings could be considered to be generalizable in their defined domain and they might be applicable to other related areas as well.

Regarding reliability, the concern is that errors and bias occur. Suggested tactics to improve reliability include using protocols and maintaining a study database. The research methods and their use were thoroughly discussed in their appropriate chapters. Even though some random or even systematic errors might have occurred in the data collection, their significance can be claimed to be minor, and general objectivity was tried to be continually maintained.

Judging from these considerations, the overall quality of this research can be considered good. It must be acknowledged that there exist several other popular schemas for evaluating researches. For judging a grounded theory research, Strauss and Corbin (1990) suggest that judgments are made about: 1) the validity, reliability and credibility of the data, 2) the adequacy of the research process and 3) the empirical grounding of the research findings. For case study research, Lee (1989) proposes assessing the existence and degree of four criteria: 1) falsifiability, 2) logical consistency, 3) predictive power exceeding that of other theories and 4) survival of the empirical tests aimed at falsifying it. Glancing at these criteria gives an overall impression of being well in order in this research. The criteria are, however, different approaches to the same subject matter, while many are overlapping. Thus, they will only be acknowledged and the evaluations made above using Yin's criteria are considered sufficient.

Lastly, the quality of the research report and the research in part can be evaluated by comparing against common shortcomings discovered by Mäkelä and Turcan (2006). They came across a number of shortcomings in their review of entrepreneurship articles that employed grounded theory methodology. These shortcomings were: failing to present an appropriate justification for using the grounded theory methodology, no commitment to actual theoretical contribution, insufficient description of data analysis, not following the coding procedures, not conducting appropriate theoretical sampling, inexplicit assessment of the quality of the study, not using triangulation methods and not presenting results in a tabular or graphical format. In addition, they complemented the usage of longitudinal research and conducting a literature review.

This research covers many of the observed shortcomings well. The justification for using grounded theory methodology was presented earlier in Chapter 3.1, namely being the weak and fragmented theoretical framework of success factors of virtual communities. One other reason was the willingness and commitment to make a theoretical contribution, and thus also the second observed shortcoming is covered. The analysis was described properly and presented in the thesis to the extent that was seen feasible. In the analysis, coding procedures were followed as described by Strauss and Corbin (1990), where in open coding the categories were formed, in axial coding the category interrelationships were formulated and in selective coding the core category formulated and categories refined. The quality of the study is assessed in this chapter. Triangulation methods were used in the form of multiple data sources throughout the research, and in addition, methodology triangulation was used to solve the main research problem. Extensive literature review was made in the beginning of the research. Finally, the generated theory, the key success factor model for B2C virtual communities, was presented in the form of a clear graphical model as was shown in Figure 19. The two shortcomings that remain are thus inappropriate theoretical sampling and the study being cross-sectional, both of which were discussed in the previous chapter.

### *8.8.3 Assessment of the Developed Theory*

Strauss and Corbin (1990) stated that a well-developed grounded theory should fulfill four central criteria: 1) fit, 2) understanding, 3) generality and 4) control. First, as shown by the empirical case studies, the theory is in believable relation to the day-to-day reality and was derived from reasonably diverse data. It can thus be said to fit the substantive area well. Second, the theory should have a wide scope and feel sensible, supporting understanding for the persons studied and who practice in the area. As noted earlier, the model was shown to all interviewed people and other community experts. It received very positive feedback and made sense to them regardless of their specific community area. It can thus be claimed to be understandable. Third, the theory should be abstract enough and include enough generality to be applicable to contexts similar to the phenomenon. With its defined scope, the theory seems to hold enough generality to apply in similar contexts as shown by the case studies. The model was also applied to other contexts in the company project. If the scope would be defined more broadly, then generality should be further verified. Finally, the theory should offer the possibility of actions to control the phenomenon. This is well taken care of by the model, as almost all factors can be either directly or indirectly controlled. The business model, technical factors and functionalities are, for example, directly controllable by the providing company, and member related factors can be indirectly affected by campaigns or similar activities. The theory thus provides good possibility of control. Considering these justifications, the resulted grounded theory can be claimed to be well-developed.

Often theory generating research formulates propositions (Mäkelä & Turcan, 2006) or hypotheses to be tested by later research. The success factor model, its category structure, category interrelationships and factors comprising the categories can be thought of as a set of propositions or hypotheses which can and should further be validated or even falsified by future research. It is more than likely that the model would get specified further if it would be thoroughly tested on other B2C virtual communities than only those provided by Nokia.

## 9. CONCLUSIONS

### 9.1 Conclusions

The research question of this study was: *What are the key success factors of B2C virtual communities?* The research question was broken down into three sub-questions. In order to answer the first sub-question, *What are virtual communities and B2C virtual communities?*, a comprehensive literature review was conducted. Virtual community is a multi-disciplinary subject, with many definitions and a wide range of characteristics. A fitting definition and a proper classification schema were selected. Views on success were elaborated on based on the literature. Literature also listed a widespread assortment of success factors and some factor examples were presented in preparation for the second sub-question. Thereby, the first sub-objective was reached and the first sub-question was successfully answered.

However, the previous research was found to be fragmented and the theoretical framework regarding success factors weak, and thus a grounded theory approach was selected to be able to successfully answer the second sub-question: *What factors contribute to the success of a B2C virtual community and what kind of model can be constructed from those factors?* Other methodological aspects of this research were also introduced. In the grounded theory, nine semi-structured expert interviews were conducted and company internal data utilized. Grounded theory analysis methods were applied to the gathered data, and a success factor model for B2C virtual communities was formulated. It presented numerous success factors classified into five interconnected categories: focus, members, functionalities, business model and technical factors. Thereby, the second sub-objective was reached and the second sub-question successfully answered.

The study then moved forward to evaluate and specify the constructed success factor model by conducting three case studies on Nokia's virtual communities. A case study approach was selected to be able to answer the third sub-question: *Is it possible to use this model to analyze existing B2C virtual communities and also thereby further develop it?* The case studies included Lifeblog, a personal experience sharing community, N-Gage Arena, a gaming community and "Alpha Community", an initiative for a wide-scope consumer community. The case studies were conducted and analyzed successfully using the success factor model. Thereby, the third sub-question got partly answered.

Results were presented from each case study and from an extra roundtable workshop that dealt also with key success factors of virtual communities. The case studies and their results strongly suggested revising the success factor model slightly. Goals and measuring -factor was added to model, based on and justified by the cases. The revised final model of the key success factors of B2C virtual communities was then presented, hence successfully answering the third sub-question. Presenting the revised model also lead ultimately to reach the study's main objective and successfully answer the main research question.

It can be concluded that the study was successful in developing new grounded theory, which was also further evaluated and specified with the three case studies. Based on the evaluation of the research and of the generated theory, it can be considered relevant, rigorous and well-developed.

Previous research on virtual community success factors have, for example, concentrated on a specific factor category, such as the business model (e.g. Leimeister & Krcmar, 2004), taken solely a user perspective (e.g. Preece, 2000), or failed to present holistic, integrated views (e.g. Leimeister et al., 2004). This research makes new contribution to the virtual community literature by providing a holistic view on the key success factors of B2C virtual communities and by integrating the key success factors into a clear and understandable graphical representation. It specifically acknowledges the requirements for B2C virtual communities, where the providing company is ultimately seeking profit for its stakeholders. Furthermore, it ties in the definition of success for B2C virtual communities, stressing its importance in practice. The resulting model contributes to the scientific body of knowledge as new empirically specified grounded theory. However, the defined scope of the model is narrow and needs further general validation and proof of applicability to other domains.

The general area of the research and the generated theory, virtual communities, is also a very attractive subject nowadays in a societal and business sense. Applying the developed model will provide a fascinating opportunity to make better virtual communities, touch the lives of many people, and make money for the providers in the process.

## 9.2 Recommendations

### 9.2.1 General

A motivation behind this research was also that Nokia would gain valuable insight into their existing communities, and that they would get help in understanding virtual communities better. This would then assist in analyzing new initiatives and in providing better ones in general. A list of recommendations for Nokia are presented next, first generally concerning all virtual community activities and then for each analyzed case. The recommendations for each case relate closely to the results described earlier.

Recommendations concerning the model:

- All case communities should be revised using the key success factor model, and the results and recommendations of this thesis.
- All other company communities should be checked also. This could prove to be enlightening and provide invaluable insight.
- The results from the case communities and other communities should be taken into account in the future when possible new communities are developed.
- New communities should be analyzed using the success factor model to make the possibility of their success as high as possible.

Recommendations concerning all the communities analyzed:

- Distribute information better. For example, make a central repository of all available documentation, concepts, research done, plans and ongoing projects concerning virtual communities in the company (might prove to be challenging). If data is scattered or unavailable because it simply cannot be found properly, unnecessary work will be done to gather the old data over and over again. Conversely, if new data is always gathered, the work done in the past or the new effort will be done in vain. In addition, general awareness raises acceptance to and contentedness towards all the issues at hand.
- From the available information, it could also be seen if some projects could benefit from integration or from working together.
- There should be proper measures in place in the virtual communities to make analyzing easier. Thorough analyses cannot be conducted if no thorough data is available.

- Goals should be set to justify the business cases. If financial implications are proposed, suitable measures should be set in place to evaluate them. Targets should be set to justify whether the project and the community are successful or not (i.e. there should be a clear consensus on success).
- Ultimately, an ideal situation would be that a visionary executive organ would examine all ongoing projects and then decide on a grand virtual community vision and strategy. All the initiatives would then hopefully be aligned and integrated to reach those goals and targets. This might be ideal and too ambitious to begin with, but rightful steps have already been taken towards this direction.

### 9.2.2 *Lifeblog*

- Immediately fix purchasing the license key. At the same time, other purchasing options should be explored and incorporated. A natural place for the license key to be sold would be Nokia's own web shop.
- Make the PC software less dependent on other software, especially Nokia PC Suite.
- Include an option to synchronize only one type of media, such as pictures.
- Make the synchronization more foolproof.
- Put in place clear measures of downloads, license key purchases and third party blogging service users. Obtain the gathered data and promote its use internally.
- Provide clear instructions for users on how to set up and operate the third party blogging service as this is a key functionality and differentiator for Lifeblog.
- In fact, there already exists a moblogging service in Poland by Nokia, moBlog.pl (<http://www.moblog.pl/>). It goes without saying that collaboration possibilities should be immediately explored and these two services integrated into one to not have to use third party blogging providers and to provide a holistic service for the consumer.
- Provide new versions of the software for all available phones, not only the n-series. Lifeblog is not yet in a powerful enough position in the minds of the consumers to make a significant influence on the phone purchase decision.
- Remember to consider extending the metadata functions when developing new versions of the software, as it can be a notable differentiator in the future.

### 9.2.3 *N-Gage Arena*

- Make purchasing options available from within the N-Gage Arena. This could be naturally N-Gage devices and games, Java games, exclusive content or even game objects and power ups.
- The N-Gage device could also be easily used to make purchases, as it has built-in billing mechanisms similar to any other mobile phone.
- Consider interweaving payment methods such as visa or paypal.
- Flat data fees should be agreed upon with the operators and then promoted to the consumers.
- Clearly and tangibly also promote the benefits of the service to the users.
- Concentrate on getting close friends to join the Arena. This would increase the value of the network for the individual and drive retention. This could be achieved e.g. by special discounts on the device or games when multiple purchases are made.
- Make the Launcher application support limited usage without a direct GPRS connection.

### 9.2.4 *Alpha Community*

[ Confidential ]

### 9.3 Future Research

This was a cross-sectional study, which presents a cross-sectional model. The model should be expanded to include a time axis. This could be achieved by conducting longitudinal studies of virtual communities. It is presumable that there are differing factors dominant in various stages of community evolution, described in Chapter 2.5. In this study and in the model, only “mature” virtual communities were considered.

This consequently leads to questions about the relative weights of importance between the identified success factor categories, or even individual factors. It might hold that the relative weight of importance of one category is, say, 5, compared to the relative weight of importance of 1 of other categories. Furthermore, the importance of one factor inside a category might be 5, compared to the importance of 1 of other factors in that category. And as suggested above, these relative weights can be very prone to shifts along the evolutionary arc of the virtual community.

One thing to be considered is that even though the relative weights of even individual factors could be accurately determined, they might contain internal dependencies, which could in turn have positive or negative effects. For example, the combination of provided functionalities as a whole might contain a set of relative importance weights, whereas if one particular or some of the functionalities would be removed or new ones added, the weights could change completely, or even become negative.

This study and the developed model considered only B2C virtual communities. The model could be applied to a more general category, such as all commercial communities. It might also be applied only to another specific category, such as B2B communities or relationship-building communities. The ultimate goal would naturally be a model that would fit all virtual communities. This might be too ambitious, though. It might be presumed that several different models are needed to efficiently describe the very divergent palette of virtual communities.

The success factor model could also be further validated by conducting a larger number of case studies, naturally also outside the client company. Longitudinal studies of the cases should be conducted and bipolar types (Lee, 1989) of communities selected to clearly bring out the factors for success and failure.

These research avenues are natural extensions to the topic of the research here. In addition, other research topics relating to virtual communities have emerged, which do not relate directly to this research. For example, an interesting area would be the valuation of a virtual community in a company's value. This would be especially interesting to companies who plan on setting up a virtual community and perhaps strive for IPO or company sale in the future. Also a relating interesting question is that how the virtual community's value is reflected in a company's share value. Going even further, it would ultimately be intriguing to study how a company could utilize a virtual community to reach its strategic goals or use it as a part of its strategy.

All of the above discussed, it can be seen that very interesting topics emerge for future research.

#### 9.4 Final Words

During the research, the researcher also participated in an ambitious project called "Company community vision and concepts". The project was very intriguing and it proved valuable to get to reflect and especially apply the information attained from literature into practice. It also offered a great opportunity to get diverse feedback on the developed key success factor model for B2C virtual communities, and to utilize, evaluate and specify it.

There are still some issues that are worth mentioning that came up during the research. Because of its buzzword status, people often use the word virtual community wrong, and in wrong places. To make it clear, for example Club Nokia (<http://www.nokia.com/clubnokia/>) is not a virtual community, as it just pushes information to its members and no functionalities are present for social interaction between them.

Moderation was often seen as a concern. Managers are afraid that the community providing company will receive a distorted "police" role in the eyes of the members if moderation is imposed. As the literature (Rothaermel & Sugiyama, 2001) suggests, moderation should definitely exist, to a proper degree. Too little moderation leads to chaos, and too much moderation leads to the speculated police status and eventually members leaving. Then again, what the correct "amount" of moderation and what "tone" is proper in which case is an interesting question that would require more investigating.

During the research, it was also seen that generally it is thought that somehow a virtual community is the next step in a linear evolution line of phone line, mobile phone connection, and so on. Rather, the virtual community can be seen as an extension on another axis – the axis of communities. That axis can be thought to have a temporal dimension, and extend from e.g. a historical cave, to villages, to village shops or post offices, to clubs and societies, and finally to their virtual implementations i.e. virtual communities. Another dimension with another axis exists, which is the one relating to one-to-one communication. While a virtual community can and most likely will contain one-to-one communications, its power lies in the mass communication or their mix.

Similar to the previous analogy is the misinterpretation of the valuation of a network. Generally it is rightfully thought that the value of the network is  $n^2$ , while the amount of connections is  $n(n-1)/2$  where  $n$  represents the number of nodes. This is certainly true in pure mathematics, and might even hold for the network's provider in real life. However, it can be argued that this simplification is not true for the *individual* person that makes up one node of this network. Certainly, some connections are more valuable for that person, and some are utilized more than others. Some might not be even utilized at all. This analogy is known as global network effects versus local network effects, and it was also touched upon in the N-Gage Arena case. This distinction is clearly not known generally in practice.

However, all these issues were only noted by the researcher. They are subjective opinions and interpretations based on incomplete data and should thus be studied further to make valid deductions.

All in all, to conclude, the core competence of Nokia lies in mobile devices and mobility in general. It should therefore, without doubt, utilize that competence in the form of pre-installed software, simple connectivity, innovative mobile graphical user interfaces and converged devices, when considering virtual communities. Nokia is the one with the capability, potential and leverage to do it. Boldly said, this approach reaches also far beyond virtual communities.

---

## 10. REFERENCES

- Aaker, D. A., Kumar, V., & Day, G. S. (2001). *Marketing research* (7<sup>th</sup> ed.). New York, NY: John Wiley & Sons.
- Ahonen, T. T., & Moore, A. (2005). *Communities dominate brands: business and marketing challenges for the 21<sup>st</sup> century*. London: Futuretext.
- Andrews, D. (2000). *Workshop summary on Online communities: supporting sociability, designing usability*. Retrieved May 5, 2006, from <http://triton.towson.edu/~jlazar/hcil2000/details.html>
- Balasubramanian, S., & Mahajan, V. (2001). The economic leverage of the virtual community [Electronic version]. *International Journal of Electronic Commerce*, 5(3), 103-138.
- Bieber, M., Engelbart, D., Furuta, R., Hiltz, S. R., Noll, J., Preece, J., et al. (2002). Toward virtual community knowledge evolution [Electronic version]. *Journal of Management Information Systems*, 18(4), 11-35.
- Bourhis, A., Dubé, L., & Jacob, R., (2005). The success of virtual communities of practice: the leadership factor [Electronic version]. *Electronic Journal of Knowledge Management*, 3(1), 23-34.
- Brannen, J. (1992). Combining qualitative and quantitative approaches: an overview. In J. Brannen (Ed.), *Mixing methods: qualitative and quantitative research*. Bristol: Chedric Chivers.
- Bughin, J., & Hagel, J. III. (2000). The operational performance of virtual communities – towards a successful business model? [Electronic version]. *Electronic Markets*, 10(4), 237-243.
- Bughin, J., & Zeisser, M. (2001). The marketing scale effectiveness of virtual communities [Electronic version]. *Electronic Markets*, 11(4), 258-262.

- Carroll, J. M., & Rosson, M. B. (1996). Developing the Blacksburg electronic village [Electronic version]. *Communications of the ACM*, 33(12), 69-74.
- Chan, C. M. L., Bhandar, M., Oh, L-B., & Chan, H-C. (2004). Recognition and participation in a virtual community: a case study. *Proceedings of the 37th HICSS Conference*. Retrieved May 7, 2006, from <http://e-business.fhbb.ch/eb/publications.nsf/id/282>
- ClickZ Stats. (2006). *Web worldwide*. Retrieved May 9, 2006, from [http://www.clickz.com/stats/web\\_worldwide/](http://www.clickz.com/stats/web_worldwide/)
- Denzin, N. K. (1975). *The research act: a theoretical introduction to sociological methods*. Chicago, IL: Aldine. (Original work published 1970)
- Eisenhardt, K. M. (1989). Building theories from case study research [Electronic version]. *Academy of Management Review*, 14(4), 532-550.
- Ferdinand Tönnies: Gemeinschaft ja Gesellschaft*. (n.d.). Retrieved May 5, 2006, from the University of Tampere, Institute for Extension Studies, The Open University Web site: <http://www.uta.fi/tyt/avoin/verkko-opinnot/sosiaalipsykologia/tonnies.html>
- Gommans, M., Krishnan, K. S., & Scheffold, K. B. (2001). From brand loyalty to e-loyalty: a conceptual framework [Electronic version]. *Journal of Economic and Social Research*, 3(1), 43-58.
- Gupta, S., & Kim, H-W. (2004). Virtual community: concepts, implications, and future research directions [Electronic version]. *Proceedings of the Tenth Americas Conference on Information Systems (AMCIS 2004)* (pp. 2679-2687). New York, NY.
- Hagel, J. III, & Armstrong, A. G. (1997a). *Net gain: expanding markets through virtual communities*. Boston, MA: Harvard Business School Press.
- Hagel, J. III, & Armstrong, A. G. (1997b). Net gain: expanding markets through virtual communities [Electronic version]. *The McKinsey Quarterly*, 1, 140-153.

- Hernandes, C., A., & Fresneda, P. S. (2003). Main critical success factors for the establishment and operation of virtual communities of practice. *3<sup>rd</sup> European Knowledge Management Summer School*. Retrieved May 5, 2006, from [http://www.knowledgeboard.com/download/743/kmss03\\_32.pdf](http://www.knowledgeboard.com/download/743/kmss03_32.pdf)
- Hirsjärvi, S., & Hurme, H. (2001). *Tutkimusbaastattelu: teemabaastattelun teoria ja käytäntö*. Helsinki: Yliopistopaino.
- Internet World Stats. (2006). *Internet usage statistics – the big picture*. Retrieved May 7, 2006, from <http://www.internetworldstats.com/stats.htm>
- Järvenpää, E., & Kosonen, K. (2003). *Jobdatus tutkimusmenetelmiin ja tutkimuksen tekemiseen*. Espoo: Otamedia.
- Järvinen, P., & Järvinen, A. (2004). *Tutkimustyön metodeista*. Tampere: Opinpajan Kirja.
- Klang, M., & Olsson, S. (1999). *Commercializing online communities: from communities to commerce*. Retrieved March 10, 2006, from [http://www.viktoria.se/results/result\\_files/53.pdf](http://www.viktoria.se/results/result_files/53.pdf)
- Kozinets, R. V. (1999). E-tribalized marketing?: the strategic implications of virtual communities of consumption [Electronic version]. *European Management Journal*, 17(3), 252-264.
- Lazar, J., & Preece, J. (1998). Classification schema for online communities [Electronic version]. *Proceedings of the Fourth Americas Conference on Information Systems (AMCIS 1998)* (pp. 84-86). Baltimore, MD.
- Lazar, J., & Preece, J. (2002). Online communities: usability, sociability and users' requirements [Electronic version]. In H. van Oostendorp (Ed.), *Cognition in a Digital World*. Mahwah, NJ: Lawrence Erlbaum Associates.

- Lazar, J., & Tsao, R., & Preece, J. (1999). One foot in cyberspace and the other on the ground: a case study of analysis and design issues in a hybrid virtual and physical community [Electronic version]. *WebNet Journal: Internet Technologies, Applications & Issues*, 1(3), 49-57.
- Lechner, U., & Hummel, J. (2002). Business models and system architectures of virtual communities: from a sociological phenomenon to peer-to-peer architectures [Electronic version]. *International Journal of Electronic Commerce*, 6(3), 41-53.
- Lechner, U., Nonnecke, B., & Schubert, P. (2005). Online communities in the digital economy. *Proceedings of the 38th HICSS Conference*. Retrieved May 16, 2006, from <http://e-business.fhbb.ch/eb/publications.nsf/id/394>
- Lee, A. S. (1989). A scientific methodology for MIS case studies [Electronic version]. *MIS Quarterly*, 13(1), 32-50.
- Leedy, P. D. (1989). *Practical research: planning and design*. New York: Macmillan.
- Leimeister, J. M., & Krcmar, H. (2004). Revisiting the virtual community business model [Electronic version]. *Proceedings of the Tenth Americas Conference on Information Systems (AMCIS 2004)* (pp. 2716-2726). New York, NY.
- Leimeister, J. M., Sidiras, P., & Krcmar, H. (2004). Success factors of virtual communities from the perspective of members and operators: an empirical study. *Proceedings of the 37th HICSS Conference*. Retrieved January 29, 2006, from <http://e-business.fhbb.ch/eb/publications.nsf/id/281>
- Li, H. (2004). Virtual community studies: a literature review, synthesis and research agenda [Electronic version]. *Proceedings of the Tenth Americas Conference on Information Systems (AMCIS 2004)* (pp. 2708-2715). New York, NY.
- LinkedIn. (2006). *About LinkedIn*. Retrieved May 30, 2006, from [http://www.linkedin.com/static?key=company\\_info](http://www.linkedin.com/static?key=company_info)

- Malhotra, A., Gosain, S., & Hars, A. (1997). Evolution of a virtual community: understanding design issues through a longitudinal study [Electronic version]. *Proceedings of the Eighteenth International Conference on Information Systems (ICIS 1997)* (pp. 59-74). Atlanta, GA.
- Markus, U. (2002). Characterizing the virtual community. *SAP Design Guild*, 5. Retrieved February 9, 2006, from <http://www.sapdesignguild.org/editions/edition5/communities.asp>
- Match.com. (2006). *Match.com launches new starter kit to help people discover what millions already know: online dating works*. Retrieved May 30, 2006, from [http://corp.match.com/index/newscenter\\_release\\_detail.asp?auto\\_index=103](http://corp.match.com/index/newscenter_release_detail.asp?auto_index=103)
- Metsämuuronen, J. (2005). *Tutkimuksen tekemisen perusteet ihmistieteissä* (3<sup>rd</sup> ed.). Jyväskylä: Gummerus.
- Morris, M., & Ogan, C. (1996). The Internet as mass medium. *Journal of Computer-Mediated Communication*, 1(4). Retrieved May 5, 2006, from <http://jcmc.indiana.edu/vol1/issue4/morris.html>
- Mäkelä, M. M., & Turcan, R. V. (2006). Building grounded theory in entrepreneurship research. Forthcoming in J. P. Ulhøi & H. Neergaard (Eds.), *Handbook of Qualitative Research Methods in Entrepreneurship in 2006*. Edward Elgar.
- Nonnecke, B., & Preece, J. (2000). Lurker demographics: counting the silent [Electronic version]. *Proceedings of CHI 2000* (pp. 73-80). Hague: ACM.
- Pavel, D., Trossen, D., & Antoniou, Z. (2005). It's a small world when connecting through ad hoc communities [Electronic version]. *Nokia Advance*, 3, 4.
- Porter, M. E. (2001). Strategy and the Internet [Electronic version]. *Harvard Business Review*, 79(3), 63-78.

- Porter, C. E. (2004). A typology of virtual communities: a multi-disciplinary foundation for future research. *Journal of Computer-Mediated Communication*, 10(1). Retrieved February 7, 2006, from <http://jcmc.indiana.edu/vol10/issue1/porter.html>
- Preece, J. (2000). *Online communities: designing usability, supporting sociability*. Chichester: John Wiley & Sons.
- Preece, J. (2001). Sociability and usability in online communities: determining and measuring success [Electronic version]. *Behavior and Information Technology Journal*, 20(5), 347-356.
- Remenyi, D., Williams, B., Money, A., & Swartz, E. (1998). *Doing research in business and management: an introduction to process and method*. London: Sage Publications.
- Rheingold, H. (1995). *The virtual community: finding connection in a computerized world*. London: Minerva.
- Ridings, C. M., Gefen, D., & Arinze, B. (2002). Some antecedents and effects of trust in virtual communities [Electronic version]. *Journal of Strategic Information Systems*, 11(3-4), 271-295.
- Rothaermel, F. T., & Sugiyama, S. (2001). Virtual internet communities and commercial success: individual and community-level theory grounded in the atypical case of TimeZone.com [Electronic version]. *Journal of Management*, 27(3), 297-312.
- Sangwan, S. (2005). Virtual community success: a users and gratifications perspective. *Proceedings of the 38th HICSS Conference*. Retrieved January 29, 2006, from <http://e-business.fhbb.ch/eb/publications.nsf/id/391>
- Schobert, T., & Heinzl, A. (2001). Virtual communities as a communication instrument for infomediaries [Electronic version]. *Proceedings of the Seventh Americas Conference on Information Systems (AMCIS 2001)* (pp. 1552-1558). Boston, MA: Omnipress.

- Schubert, P., & Hampe, J. F. (2005). Business models for mobile communities. *Proceedings of the 38th HICSS Conference*. Retrieved January 29, 2006, from <http://e-business.fhbb.ch/eb/publications.nsf/id/381>
- Steinmueller, W. (2002). Virtual communities and the new economy. In R. Mansell (Ed.), *Inside the communication revolution: evolving patterns of social and technical interaction*. Oxford: Oxford University Press.
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: grounded theory procedures and techniques*. Newbury Park, CA: Sage Publications.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: techniques and procedures for developing grounded theory* (2<sup>nd</sup> ed.). Thousand Oaks, CA: Sage Publications.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: combining qualitative and quantitative approaches*. Thousand Oaks, CA: Sage Publications.
- Timmers, P. (1998). Business models for electronic markets [Electronic version]. *EM – Electronic Markets*, 8(2), 3-8.
- Tuomi, J., & Sarajarvi, A. (2002). *Laadullinen tutkimus ja sisällönanalyysi*. Helsinki: Tammi.
- Tynjälä, P. (2001). Kvalitatiivisten tutkimusmenetelmien luotettavuudesta. *Suomen kasvatustieteellinen aikakauskirja Kasvatus*, 22(5-6), 387-398.
- Wang, Y., Yu, Q., & Fesenmaier, D. R. (2002). Defining the virtual tourist community: implications for tourism marketing [Electronic version]. *Tourism Management*, 23(4), 407-417.
- Whittaker, S., Isaacs, E., & O'Day, V. (1997). Widening the net: workshop report on the theory and practice of physical and network communities. *SIGCHI Bulletin*, 29(3). Retrieved May 7, 2006, from <http://bulletin2.sigchi.org/archive/1997.3/whittaker.html>

- 
- Wikipedia. (2006a). *History of the Internet*. Retrieved May 9, 2006, from [http://en.wikipedia.org/wiki/History\\_of\\_the\\_Internet](http://en.wikipedia.org/wiki/History_of_the_Internet)
- Wikipedia. (2006b). *Statistics*. Retrieved May 30, 2006, from <http://en.wikipedia.org/wiki/Special:Statistics>
- Wikipedia. (2006c). *World Wide Web*. Retrieved May 9, 2006, from [http://en.wikipedia.org/wiki/World\\_Wide\\_Web](http://en.wikipedia.org/wiki/World_Wide_Web)
- Yin, R. K. (1994). *Case study research: design and methods* (2<sup>nd</sup> ed.). Thousand Oaks, CA: Sage Publications.

## APPENDIX I: INTERVIEWS

### Grounded Theory

Expert interviews conducted for the grounded theory with names, titles and dates.

Name	Title	Date
[ Confidential ]		11.12.2005
		12.12.2005
		12.12.2005
		14.12.2005
		14.12.2005
		16.12.2005
		16.12.2005
		19.12.2005
		22.12.2005

Themes covered in the interviews:

- General background
- Virtual communities offered
- Professional/personal experiences with virtual communities
- Plans to provide virtual communities
- Research conducted
- Feelings they conjure
- Challenges/problems that might occur
- Success factors of virtual communities
- Other thoughts

## Case Studies

Expert interviews conducted for the case studies with names, titles and dates.

Name	Title	Date
[ Confidential ]		21.2.2006
		3.3.2006
		1.3.2006
		3.4.2006
		2.3.2006
		4.3.2006

Themes covered in the interviews:

- General background
- Focus
- Members
- Functionalities
- Business model
- Technical factors
- Success factor model
- Other thoughts

## Roundtable Workshop

Roundtable workshop participants with names, titles and business units.

Name	Title	Busi. unit
[ Confidential ]		

## APPENDIX II: EVALUATION TABLES FOR CASE COMMUNITIES

### Lifeblog

Factor	Lifeblog	Focus	Members	Function- nalities	Business model	Tech. factors
Purpose		5				
Intentions		6				
Novel idea		8				
Motivation for joining			8			
Member acquisition			3			
Member conversion			6			
Attaining critical mass			4			
Member retention			6			
Benefits for members			8			
Content available				8		
Content generation options				8		
Functions / services				7		
Purchasing options				7		
Business case drivers					2	
Offering and processes					3	
Value proposition					5	
Revenue model					5	
Security						8
Speed						6
Technical platform						7
User interfaces						9
Graphical design						9
Naming						8
<b>Average</b>		<b>6,3</b>	<b>5,8</b>	<b>7,5</b>	<b>3,8</b>	<b>7,8</b>

## N-Gage Arena

Factor	N-Gage Arena	Focus	Members	Functionalities	Business model	Tech. factors
Purpose		8				
Intentions		7				
Novel idea		9				
Motivation for joining			8			
Member acquisition			7			
Member conversion			6			
Attaining critical mass			6			
Member retention			5			
Benefits for members			9			
Content available				9		
Content generation options				7		
Functions / services				10		
Purchasing options				5		
Business case drivers					4	
Offering and processes					6	
Value proposition					7	
Revenue model					3	
Security						8
Speed						6
Technical platform						9
User interfaces						9
Graphical design						8
Naming						8
<b>Average</b>		<b>8,0</b>	<b>6,8</b>	<b>7,8</b>	<b>5,0</b>	<b>8,0</b>

## Alpha Community

Factor	Alpha Community	Focus	Members	Function- nalities	Business model	Tech. factors
Purpose		7				
Intentions		7				
Novel idea		9				
Motivation for joining			8			
Member acquisition			7			
Member conversion			6			
Attaining critical mass			6			
Member retention			8			
Benefits for members			9			
Content available				9		
Content generation options				8		
Functions / services				10		
Purchasing options				5		
Business case drivers					5	
Offering and processes					6	
Value proposition					6	
Revenue model					4	
Security						8
Speed						6
Technical platform						9
User interfaces						9
Graphical design						10
Naming						8
<b>Average</b>		<b>7,7</b>	<b>7,3</b>	<b>8,0</b>	<b>5,3</b>	<b>8,3</b>