Assessment of Business-to-Business (B2B) e-Marketplaces’ Performance

Anne Engström
Esmail Salehi-Sangari
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Esmail Salehi-Sangari

Luleå University of Technology
Department of Business Administration and Social Sciences
Industrial Marketing & e-Commerce Research Group
2007
ABSTRACT

Electronic marketplaces (e-marketplaces) are new business venues for buying, selling, and supporting customers, products, and services in many industries. The emergence of business-to-business (B2B) e-marketplaces has opened up opportunities for efficient online transactions between firms. While large capital investments were made in numerous B2B e-marketplace initiatives, a significant number of these firms ended up going bankrupt. Today, many e-marketplaces are still struggling to survive and are trying to understand the characteristics of viable business models and strategies for becoming successful. Research within this field is scarce and provides only fragmented insights into the area. Thus, the research problem of this thesis was designed to investigate holistically how the business performance of a B2B e-marketplace can be analyzed. Based on literature review and a pilot study, four research questions were developed and a theoretical framework was then created. A qualitative research approach, investigating six B2B e-marketplaces in Europe and the US, was adopted.

Results from this study indicate that differences exist between B2B e-marketplaces in several aspects of their strategic position; thus, the existing taxonomy of B2B e-marketplaces can be questioned. Findings also indicate that several factors can determine the success and/or the failure of B2B e-marketplaces. Having technological expertise and a critical mass of companies trading through the e-marketplace are crucial to the e-marketplace’s success. Results also suggest that the common challenges facing B2B e-marketplaces are business related, rather than technically oriented. Major challenges e-marketplaces have to address to perform successfully include, for example, creating liquidity and keeping a balance between the diverse interests of stakeholders. Concerning the critical impact business model components have on the success and/or failure of B2B e-marketplaces, it could be concluded that the companies’ internal capabilities and assets, in particular, as well as their cost and revenue model, have an important role to play. Finally, the outcome of the study shows it may be possible to utilize the emerged frame of reference as a foundation to understand B2B e-marketplaces holistically.
ACKNOWLEDGEMENTS

This thesis has benefited from the financial support of the European Union Structural Funds, Innovationsbron Luleå AB, Luleå University of Technology, Långmanska Företagarfonden, Nordbankens Norrlandsstiftelse, Norrbottens forskningsråd and Sparbanksstiftelsen Norrbotten.

Although the two of us conducted the actual study and wrote this thesis, many people have contributed to its completion, and we would like to express our gratitude to all of them. First of all, we thank our supervisor, Professor Leyland Pitt, for his guidance, support and constructive comments. We also thank Professor Deon Nel who ran our final preparation seminar and gave us valuable feedback for the improvement of the thesis, and Professor Tawfik Jelassi for his insightful suggestions during the initial phase of this research.

We are also grateful to all our colleagues at the division for their valuable thoughts and comments.

A very special thanks goes to Peter Lageson, who generously helped us to get in touch with relevant industry people.

Finally, we would like to express our gratitude to all respondents at the investigated B2B e-marketplaces, and to the experts in the field, who made themselves available for interviews and provided us with indispensable information and insights.

Luleå, April 2007
Anne Engström and Esmail Salehi-Sangari

On a personal level, my deepest thanks goes to my family, Eilert, Emelie, Frida, Tomas and Linnea for their support and understanding during the process of writing.

Anne

I would like to thank my family, Sila, Ali and Amir for their support and for not asking why I’m doing this again……

Esmail
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CHAPTER ONE  
INTRODUCTION AND PROBLEM AREA

1.1 Introduction

The Internet has become a regular part of daily life, and its wide proliferation has led to changes in how people communicate, how they work, and how they spend their leisure time. According to Internet World Stats\(^1\) (2007), there were more than 1.1 billion Internet users worldwide in January 2007. One of the most significant changes resulting from Internet use is the way in which business is conducted. This is due to the characteristics of virtual markets (e.g., richness of information and ability to reach a large number of players or products), combined with the greatly reduced costs of information processing (Amit & Zott, 2001). Thus, the Internet has not only the potential to change established ways of conducting business, but also to create new ones and new businesses (Afuah & Tucci, 2001). The impact of the Internet on business is commonly known as electronic commerce (e-commerce). In general, this concept is used to illustrate the process of buying, selling, or exchanging products, services, and information via computer networks, including the Internet. Business-to-business electronic marketplaces (B2B e-marketplaces) are examples of new business practices that have emerged to facilitate various e-commerce processes.

1.1.1 e-Commerce and e-Business

There is no widely accepted definition of e-commerce (Coppel, 2000). Bontis and De Castro (2000, p. 365) summarize e-commerce as “the buying and selling of goods and services via electronic means,” while Kalakota and Whinston (1996) also include buying and selling of information in the concept. Bhatt and Emdad (2001, p. 78) claim that this definition of e-commerce is rather narrow, “as several researchers argue that the Internet offers huge potential in building communities of interests, forging alliances, and transforming public attitudes towards technology.”

A broader and increasingly used concept is e-business, which encompasses all electronically based exchanges, both within an organization and with external stakeholders. E-business goes beyond the customers and includes electronically

\(^1\) Internet World Stats is an international website featuring statistics on internet usage, population and market data for over 233 countries (www.internetworldstats.com, retrieved 2007-02-08)
mediated information exchanges with suppliers, employees, and regulatory authorities as well (Rodgers, Yen & Chou, 2002). Although there are examples in the literature where the concepts of e-commerce and e-business are defined similarly, and used interchangeably (Turban & King, 2003), e-commerce is generally considered to be a subset of e-business (Chaffey, 2002; Rodgers et al., 2002; Smith & Chaffey, 2002). E-commerce is a quite new field of research and concerns many different disciplines, such as Sociology, Computer Science, Management Science, Information Systems, Economics, Marketing, Management, and Finance/Accounting (Laudon & Traver, 2002, pp. 39-42; Turban & King, 2003, p. 8). However, Laudon and Traver (2002) discuss two main approaches to e-commerce: technical and behavioral, and state that none of these dominates research about e-commerce. For this thesis, we have chosen a behavioral approach, since the timeframe allocated for the study did not permit us to have a very comprehensive focus covering both angles. Also, we, as researchers, do not possess sufficient technical experience to carry out research on e-commerce with a mainly technical approach.

E-commerce is classified in different ways, out of which Turban and King (2003) discuss as many as twelve different types of e-commerce that are commonly distinguished by the nature of the market relationship; that is, who is selling to whom. In that manner, Rayport and Jaworski (2001) identified four distinct categories of e-commerce (Figure 1.1): business-to-business (B2B), business-to-consumer (B2C), consumer-to-business (C2B), and consumer-to-consumer (C2C).

![Figure 1.1 Four Categories of e-commerce](source: Rayport and Jaworski (2001, p. 4))

B2B, in which businesses focus on selling to other businesses, is the largest form of e-commerce. Statistics for the year 2004 shows that B2B e-commerce exceeded $1.8 trillion in the USA alone and that B2B e-commerce represented about 93 percent of total e-commerce (U.S. Census Bureau, 2006). Worldwide B2B e-commerce transaction-volume was predicted to reach about $7 trillion for the
same year (Knight, 2000; AC/UNU, 2003), and exceed $8 trillion in 2005 (McTighe, 2002).

Taking into account the fact that the most significant source of growth of business on the Internet is in B2B e-commerce, and the prediction that the ultimate size of B2B e-commerce is enormous (Laudon & Traver, 2002; Stewart & Zhao, 2000), the focus of this thesis is on B2B e-commerce.

1.1.2 B2B e-Commerce

Developments in B2B e-commerce were initially observed within the business world, rather than in academia; however, researchers are now also considering B2B-related issues (Gebauer & Shaw, 2002). But even though many success stories about the application of Internet technologies in B2B e-commerce have been reported over the past several years, Dai and Kauffman (2002b, p. 1) claim that the progress of B2B e-commerce has been hampered by “unanticipated technological, organizational, economic, and legal challenges.” Hence, they conclude that our understanding of the B2B e-commerce phenomenon is still at a very early stage. Similarly, Timmers (2000) argues that knowledge about successful approaches in B2B e-commerce is lacking, and people in the business world, as well as in academia, are therefore seeking a better understanding of the concept.

Due to its major characteristic of automating trading processes, Internet-based B2B e-commerce promises many strategic benefits to participating firms (Laudon & Traver, 2002; Turban & King, 2003). It also has a great impact on the economy “far beyond the (estimated) dollar value of e-commerce activity” (Farhoomand & Lovelock, 2001, p. 193). Laudon and Traver (2002), as well as Turban and King (2003), discuss the advantages of B2B e-commerce and indicate that its major benefits are that it:

- lowers search costs for buyers,
- reduces inventory levels and costs,
- lowers transaction costs and reduces administrative costs by eliminating paperwork and automating parts of the procurement process,
- increases production flexibility by ensuring delivery of parts “just in time”,
- improves the quality of products by increasing cooperation among buyers and sellers and reducing quality issues,
o decreases product cycle time by sharing designs and production schedules with suppliers

o facilitates mass customization,

o increases opportunities for collaborating with suppliers and distributors, and

o creates greater price transparency—the ability to see the actual buy and sell prices in a market.

B2B e-commerce is categorized in various ways by different authors. Laudon and Traver (2002) discuss two generic types of Internet-based B2B e-commerce systems: Net marketplaces (also referred to as exchanges or hubs)\(^2\) and private industrial networks. Net marketplaces potentially bring thousands of buyers and sellers to a single digital marketplace, and support many-to-many, as well as one-to-many relationships. Private industrial networks, on the other hand, bring few strategic business partner companies together, and support many-to-one or many-to-few relationships. Within each of these two general categories are many different subtypes (ibid). Instead of discussing e-commerce systems, Rayport and Jaworski (2002) describe three categories of B2B activities: B2B sell-side solution, which provides buyers with product and service information, as well as the ability to place orders; indirect e-procurement,\(^3\) which facilitates the purchase of non-strategic products and services; and net marketplaces and net exchange activities, which facilitate the interaction and exchange of commerce transactions among buyers, sellers, and other trading partners.

Yet another approach to B2B e-commerce categorization is presented by Turban and King (2003), who discuss four transaction-based B2B types: buy-side B2B (one buyer to many sellers), sell-side B2B (one seller to many buyers), exchanges (many sellers to many buyers), and collaborative commerce (communication and sharing of information, design, and planning among business partners). Trade in most company-centric markets is conducted without intermediaries, and the individual sell-side or buy-side company has complete control over who participates in the selling or buying transaction. In contrast, many-to-many trading exchanges are owned and run by a third party or consortium. Finally, in collaborative commerce, businesses deal with other businesses in order to share

\(^2\) Although these authors use the terms “net marketplace,” “exchange,” and “hub” interchangeably, generally exchanges are defined as a category of e-marketplaces in e-commerce literature (Farhoomand & Lovelock, 2001; Grieger, 2003; Kaplan & Sawhney, 2000). However, the terms “e-hub” and “e-marketplace” are commonly used as synonyms (Dai & Kauffman, 2002; Daniel et al., 2003).

\(^3\) Electronic procurement (e-procurement) is referred to as “electronic acquisition of goods or services” (Turban et al, 2002, p. 880).
activities related to, for instance, design and manufacturing (ibid). Out of the
various categories of B2B e-commerce, trade through electronic marketplaces (e-
marketplaces) largely contributes to the growth of B2B e-commerce (Stockdale
and Standing (2002)).

1.1.3 e-Marketplaces

The emergence of Internet-based business-to-business (B2B) e-marketplaces in
various industries is claimed to have opened up “real opportunities for online
transactions” (Dai & Kauffman, 2002a, p. 41). In sectors such as industrial metals,
chemicals, energy supply, food, construction, and automotive, “e-marketplaces
are becoming the new business venues for buying, selling, and supporting
customers, products, and services” (Raisch, 2001, p. 1).

In the year 2000, the number of B2B e-marketplaces soared, and in the spring of
2001, Forrester Research estimated that there were 2,500 B2B e-marketplaces
worldwide (Turban & King, 2003). According to Stockdale and Standing (2002),
it is not possible to accurately assess the number of e-marketplaces on the
Internet. However, a network of mainly European trade promotion organizations,
eMarket Services,4 provides a directory of e-marketplaces that host a platform for
many-to-many interactions. While this directory covered data on more than 1000
B2B e-marketplaces in 2003, it currently includes data on about 800 B2B e-
marketplaces (eMarket Services, 2006). The proliferation of e-marketplaces
and there is a common belief that e-marketplaces will eventually dominate the
B2B e-commerce landscape (Grieger, 2003). Researchers predicted that
transactions through B2B e-marketplaces would account for more than 50 percent
of all B2B activities by the year 2004 (Knight, 2000; Turban & King, 2003).

There is not yet any commonly accepted definition of what an e-marketplace
actually is. According to Grieger (2003, p. 281), “definitions are varying,
attributes and characteristics seem to be innumerable and used arbitrarily.” E-
marketplaces have been described as inter-organizational information systems
(Bakos, 1991), electronic procurement solutions (Segev, Gebauer, & Faebter,
1999), intermediaries (Dai & Kauffman, 2002a), meeting points (Kaplan &
Sawhney, 2000), or digital marketplaces (Raisch, 2001). However, the common
theme among the various descriptions of the phenomenon concerns the e-
marketplaces’ characteristics of electronically connecting many buyers and

---

4. eMarket Services is a non-profit project funded by the trade promotion organisations of
Australia, Denmark, Holland, Iceland, Italy, New Zealand, Norway, Portugal, Spain, and Sweden
eMarket Services, 2006).
suppliers to a central marketspace in order to facilitate exchanges of, for example, information, goods and services (cf. Bakos, 1991; Bakos, 1998; Dai & Kauffman, 2002a; Grieger, 2003; Kaplan & Sawhney, 2000; Raisch 2001; Segev, Gebauer, & Faebor, 1999; Turban, King, Warkentin, & Chung, 2002). Additionally, in e-commerce literature, terms such as e-marketplace, e-hub, e-market, and exchange seem to overlap, and different people understand these concepts differently (Grieger, 2003). In line with the view presented by Grieger (2003), we consider an e-marketplace to be a central marketspace that possesses the unique feature of “virtually” bringing multiple buyers and sellers together to exchange information, goods and/or services.

Since e-marketplaces bring together many buyers and sellers, and also provide the ability to automate transactions, doing business through the Internet is undoubtedly appealing. While e-marketplaces provide buyers with more choices and give sellers access to new customers, transaction costs could be reduced for all the players through the use of e-marketplaces (Kaplan & Sawhney, 2000). In fact, one of the main functions of e-commerce and e-marketplaces is to reduce costs. As an example, electronic invoicing is estimated to reduce cost for invoice processing with at least 40 percent, as compared to paper-based invoicing (UNECE, 2007).

Bakos (1998, p. 42) discusses the role and function of e-marketplaces, and states that they perform functions that include:

- matching buyers and sellers,
- providing product information to buyers and marketing information to sellers,
- aggregating information goods,
- integrating the components of the consumer process,
- managing physical deliveries and payments, and
- providing relationships of trust and ensuring the integrity of the markets.”

Out of these functions, e-marketplaces create value mainly through matching and aggregation, which are two fundamentally different mechanisms. The aggregation mechanism implies that e-marketplaces aggregate many buyers and sellers “under one virtual roof,” which increases efficiency in procurement and reduces transaction costs. The matching mechanism is required for spot sourcing where prices, contrary to systematic sourcing, are determined at the moment of purchase (Kaplan & Sawhney, 2000, p. 100).
Dai and Kauffman (2002a) also discuss the role and function of e-marketplaces, and state that it is important to identify and characterize them in order to understand the various B2B business models that are emerging within the B2B e-commerce area. In addition to the three basic market functions, i.e., aggregation, matching, and facilitation, Dai and Kauffman state that e-marketplaces are beginning to emphasize other capabilities that aim to satisfy management needs and enable technological adaptation (Table 1.1).

Table 1.1 Summary of B2B Electronic Market Function.

<table>
<thead>
<tr>
<th>B2B e-market roles</th>
<th>B2B e-market functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic market functions</td>
<td>Aggregation Public e-cataloging Private e-cataloging</td>
</tr>
<tr>
<td></td>
<td>Matching Public bidding Private negotiating</td>
</tr>
<tr>
<td></td>
<td>Facilitation Internet-based financial services Delivery and logistics</td>
</tr>
<tr>
<td>Management needs</td>
<td>Procurement expertise and knowledge</td>
</tr>
<tr>
<td></td>
<td>Business process support Workflow management Collaborative project management Supply chain management</td>
</tr>
<tr>
<td>Role of technology adapters</td>
<td>System integrators</td>
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<tr>
<td></td>
<td>Standards providers</td>
</tr>
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<td></td>
<td>Outsourcing services</td>
</tr>
</tbody>
</table>

Source: Adapted from Dai and Kauffman (2002a)

Dai and Kauffman (2002a, p. 69) foresaw that the adoption of e-marketplaces would have strategic implications to all market participants in the digital economy, since “there is no doubt about the value of these virtual markets, and of the efficient, effective transacting mechanisms they provide for buyers, sellers, and intermediaries.”
Evidently, the opportunity to connect businesses via e-marketplaces has generated tremendous interest in the business world in recent years, which has also led to a large number of initiatives and capital investments (Gebauer & Shaw, 2002). However, many B2B e-marketplace operators have rushed online without sufficient knowledge of their customers’ priorities, with no distinctive offerings, and without a clear idea about how to become profitable (Wise & Morrison, 2000). According to Bruun, Jensen, & Skovgaard (2002, p. 287), “Many e-marketplaces built during the past few years have been founded on optimism and hope rather than on attractive value propositions and solid strategies.” Consequently, many e-marketplaces have failed during the few years they have been around (ibid.).

The dramatic changes in the development of B2B e-marketplaces during the past few years has resulted in the evolution of a number of different trading models (Sculley & Woods, 2001), as well as different types of B2B e-marketplaces (Farhoomand & Lovelock, 2001). However, the increased competition among e-marketplace operators seems to be blurring the categories (Stockdale & Standing, 2002). For instance, the difference between vertical and horizontal e-marketplaces is becoming less distinct (Popovic, 2002). In line with this, Kaplan and Sawhney (2000) claim that it is increasingly difficult to make sense of the landscape as new firms with new business models enter the B2B space.

In addition, the rapid development within B2B e-commerce increases the degree of uncertainty, and thus makes business strategy development truly challenging for companies (Rayport & Jaworski, 2002; Timmers, 2000). According to Dai and Kauffman (2002b), Internet technology’s impact on organizational structures, business processes, and industrial structures, forces companies to explore new strategies. Defining the business model is included in the core of companies’ e-commerce business strategy process (Rayport & Jaworski, 2002).

In view of the above-mentioned development, many questions were raised concerning the characteristics of viable B2B e-marketplace models and the factors contributing to their success (Gebauer & Shaw, 2002). Both academic researchers and practitioners are concerned with the question of which B2B business models will lead to long-term success in the digital economy (Dai & Kauffman, 2002a).

5. Vertical e-marketplaces serve one specific industry or industry segment, whereas Horizontal e-marketplaces, also known as functional hubs, do not focus on any particular industry. Instead, they provide the same functions (e.g., human resources, procurement, logistics, and marketing) across different industries (Sawhney, 1999; Grieger, 2003).

6. Essentially, business strategy is about the long-term direction of the company, and deals with its overall plan for resource deployment. The central goal of strategy is to achieve sustainable competitive advantage in order to reach long-term profitability (Jelassi & Enders, 2005, p. 7).
Finding a business model that provides enough value to trading partners to justify the effort and cost of participation is also cited as a substantial challenge associated with the creation of an e-marketplace (Rayport & Jaworski, 2002).

To survive challenges and become successful in the increasingly competitive and dynamic e-marketplace environment, it is critical for B2B e-marketplace operators to understand the B2B landscape and strategies appropriate for adoption (Andrew, Blackburn, & Sirkin, 2000; Raisch, 2001). According to Stockdale and Standing (2002), this is especially true considering the fact that consolidation of e-marketplaces has begun, which bring the question about which are the probable survivors among the market makers and why, to the fore.

Bruun et al. (2002) claim that research within the field of B2B e-marketplaces is scarce and provides only fragmented answers to questions about, for instance, what would be appropriate business models and strategies. The lack of research is attributed to the novelty of the B2B e-marketplace phenomena, the oftentimes chaotic development within this area (Gebauer & Shaw, 2002; Bruun et al., 2002), and the fact that research on e-commerce in general is difficult to confine to specific disciplines (Ngai & Wat, 2002). Consequently, the limited previous research, together with the aforementioned development within the area of B2B e-commerce in general, and B2B e-marketplaces in particular, clearly indicates that this phenomenon needs to be studied in more detail.

Therefore, in view of the rapid growth of B2B e-commerce, the significant contribution of e-marketplaces to this growth, and the fact that research concerning B2B e-commerce and e-marketplaces is scarce, this thesis will focus on assessments of e-marketplaces as they relate to B2B.

1.2 Problem Area

The need for more research into B2B e-marketplaces has been demonstrated in previous sections. As Standing and Stockdale (2001a, p. 1) state, “The Internet has enabled businesses to connect with each other in a way that requires new thinking in every area of commerce. This is particularly true with the development of e-marketplaces.” With respect to different types of B2B e-marketplaces, there is still “a lot of confusion between business practitioners,” as Popovic (2002, p. 1) indicate. This is due to the fact that e-marketplaces have been examined under various names, and by different authors, usually with rather dissimilar views about the structures and functions of e-marketplaces (ibid.).
The assessment of literature indicates that existing research on B2B e-marketplaces can provide only limited support to practitioners. There is, for instance, still a dearth of research aimed at developing models that would make it easier for e-marketplace managers to understand and create necessary business strategies, and existing theories can only provide fragmented answers (Bruun et al., 2002). Similarly, Turban and King (2003) emphasize the need for further research that focuses on the identification of business models and where to use them, and on the analysis of the success or failure of applications. Kauffman and Walden (2001) also stress the importance of understanding exactly how the Internet changes business models and performance, especially considering the rapid changes that are occurring within the area of e-commerce.

Clearly, there is a need for further study of B2B e-marketplace models with respect to different competitive contexts, and the identification of factors crucial to the success of these models. Consequently, the problem area of the thesis can be defined as:

Assessment of the B2B e-marketplace phenomenon

1.3 Outline of the Study

The thesis consists of seven chapters and is outlined as presented in Figure 1.2.

| Chapter One: Introduction and Problem Area |
| Chapter Two: Overview of Literature       |
| Chapter Three: Problem Discussion, Research Problem, Research Question and Conceptual Framework |
| Chapter Four: Methodology                 |
| Chapter Five: Empirical Data Presentation |
| Chapter Six: Analysis                     |
| Chapter Seven: Findings, Conclusions and Contributions |

Figure 1.2 Outline of the Study
Apart from this chapter, remaining part of the thesis builds on this introductory chapter. Chapter Two, the literature review, provides an overview of previous literature relevant to the problem area of this study. Chapter Three contains a problem discussion based on the previous literature review and the results from a pilot study of three B2B e-marketplaces. This discussion leads to the development of a research problem, the formulation of research questions, and ends up with a conceptual framework. Chapter Four outlines the chosen research methodology for this study, Chapter Five presents the empirical data, and Chapter Six contains analysis of this data. Chapter Seven presents the results of this study, as well as theoretical and managerial contributions. Finally, the thesis ends with suggestions for further research.
CHAPTER TWO
OVERVIEW OF LITERATURE

2.1 Introduction

The growth of e-commerce, especially within the area of B2B, was discussed in the previous chapter. It also was pointed out that trade through e-marketplaces contributes largely to this growth, and that the adoption of B2B e-marketplaces has strategic implications for different market actors (i.e., buyers, suppliers, and intermediaries). As indicated in the previous chapter, the B2B e-marketplace phenomenon is relatively new and is undergoing rapid development, which leads to an increased need for e-marketplace operators to understand the field of B2B e-marketplaces. Based on this notion, and the lack of research within the field, we formulated the problem area for this thesis as: “assessment of B2B e-marketplaces.”

Evidence from existing literature on e-marketplaces indicates that all related critical issues have not been researched extensively. With this in mind, we have had to use the available literature within a broader area, especially literature concerning the assessment of issues related to business strategy and business models.

This chapter presents and evaluates an overview of previous research related to the problem area. Based on this overview we will formulate the research problem and relevant research questions for this study in Chapter Three. The literature overview will also be used for the development of the frame of reference.

Research concerning the overall assessments of B2B e-marketplaces (e.g., Bruun et al., 2002; Bakos, 1998; Bloch & Catfalis, 2001; Kaplan & Sawhney, 1999 and 2000) indicates that there are a number of issues and concepts that are crucial for understanding of B2B e-marketplace phenomenon (i.e., e-marketplace characteristics, roles and benefits; value creation; business models and business strategy; challenges; critical success and failure factors). Hence, these issues will be the major focal points in this literature review.

Apart from this introduction, section 2.2 provides a comprehensive background for this study; it comprises various definitions associated with e-marketplaces, a presentation of different ways to classify these, a presentation of their roles, as well as a discussion on how buying and supplying organizations benefit by using
B2B e-marketplaces. Subsequently, section 2.3 deals with values that can be created by B2B e-marketplaces, focusing on market inefficiencies, and how these can be reduced by using B2B e-marketplaces. Since value proposition and value creation can be described in terms of business models, and due to the inevitable relation between the concepts of business models and business strategy, section 2.4 assesses issues related to these two concepts, as well as differences and relationships between them. The section also deals with the issue of business models related to e-marketplaces. Despite the fact that B2B e-marketplaces create undoubted value for buyers, suppliers, and intermediaries, setting up and running an e-marketplace is associated with substantial challenges, which is the focus of section 2.5. To gain a better understanding of why only a few B2B e-marketplaces are managed successfully and adjust competently to these challenges, while others fail, section 2.6 analyzes critical factors influencing success and failure. In section 2.7, the ways in which e-marketplaces are working are presented, along with emerging trends. Section 2.8 provides a short summary of the chapter.

2.2 B2B e-marketplace Characteristics, Roles, and Benefits

As pointed out in the first chapter, terms such as e-market, e-marketplace, exchange, net marketplace, and e-hub are used in the literature with overlapping definitions, and sometimes even interchangeably. The term electronic market, or e-market, is described as an information system through which multiple buyers and suppliers transact and interact (Bakos, 1991; Choudhury, Hartzel & Konsynski 1998; Ivang & Ramanathan, 2003). However, Ivang and Ramanathan (2003) broaden this definition and emphasize that e-markets are not only information systems, but also strategically acting organizational entities.

Strader and Shaw (1997) describe e-marketplace in a way that is similar to the definitions of an e-market by Bakos (1991), Choudhury et al. (1998), and Ivang and Ramanathan (2003). However, there are various definitions of this term. E-marketplaces are, for example, defined as digital marketplaces (Laudon & Traver, 2002; Raisch, 2001), information systems (Strader & Shaw, 1997; Varadarajan & Yadav, 2002), and online markets (Turban & King, 2003). Although definitions vary, the distinctive characteristic of an e-marketplace is that it brings multiple buyers and suppliers together virtually in one central marketspace (Grieger, 2003). The term e-hub is commonly used as a synonym for e-marketplace (Dai & Kauffman, 2002a; Daniel et al., 2003).

Emphasizing the use of the Internet as the technological platform, Laudon and Traver (2002) discuss the term net marketplace, and describe it as an e-marketplace that brings many suppliers into a single Internet-based environment to conduct trade.
While there are similarities in the definitions of e-market, e-marketplace, net marketplace, and e-hub, exchanges are usually defined as a category of e-hubs or e-marketplaces, generally characterized by dynamic pricing and temporary matching of buyers and suppliers (Farhoomand & Lovelock, 2001; Grieger, 2003; Kaplan & Sawhney, 2000). Table 2.1 presents selected definitions of e-market, e-marketplace, net marketplace, exchange, and e-hub.

7. Throughout this thesis, the term e-marketplace will be used to denote the concept of bringing multiple buyers and suppliers together in one central marketspace (Grieger, 2003). The term e-marketplace will be used, unless the terminology of other authors referred to, is used.
<table>
<thead>
<tr>
<th>Author</th>
<th>Concept</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>e-market</strong></td>
<td><strong>e-marketplace</strong></td>
</tr>
<tr>
<td>Bakos (1991); Choudhury, Hartzel, &amp; Konsynski (1998)</td>
<td>Interorganizational information system through which multiple buyers and sellers interact to accomplish market-making activities</td>
</tr>
<tr>
<td>Strader &amp; Shaw (1997)</td>
<td>Interorganizational information system that allows participating buyers and sellers to exchange information about prices and product offerings.</td>
</tr>
<tr>
<td>Kaplan &amp; Sawhney (1999)</td>
<td>Neutral Internet-based intermediaries that focus on specific industry verticals or specific business processes, host electronic marketplaces and use various market-making mechanisms to mediate any-to-any transactions among businesses.</td>
</tr>
<tr>
<td>Applegate (2001)</td>
<td>A business model where the operator normally does not take control over inventory, and price is not set online.</td>
</tr>
</tbody>
</table>
**Table 2.1, cont.: Definitions of e-Market, e-Marketplace, Net marketplace, Exchange and e-Hub**

<table>
<thead>
<tr>
<th>Author</th>
<th>e-market</th>
<th>e-marketplace</th>
<th>net marketplace</th>
<th>exchange</th>
<th>e-hub</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farhoomand &amp; Lovelock (2001)</td>
<td></td>
<td></td>
<td></td>
<td>One category of hubs that creates value through temporal matching of supply and demand.</td>
<td>B2B intermediaries that aggregate multiple buyers and sellers in a single space in which they can interact, negotiating prices and quantities.</td>
</tr>
<tr>
<td>Scullley &amp; Woods (2001)</td>
<td></td>
<td></td>
<td></td>
<td>Internet-based net markets. Centralized marketplace that brings multiple buyers and sellers together in a central virtual market space and enables them to buy and sell from each other at dynamic prices.</td>
<td></td>
</tr>
<tr>
<td>Braun, Jensen, &amp; Skovgaard (2002)</td>
<td></td>
<td></td>
<td></td>
<td>Interactive business communities providing a central marketplace, where multiple companies can engage in B2B e-commerce and/or other e-business activities.</td>
<td></td>
</tr>
<tr>
<td>Author</td>
<td>e-market</td>
<td>e-marketplace</td>
<td>net marketplace</td>
<td>exchange</td>
<td>e-hub</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------</td>
<td>------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>Dai &amp; Kauffman (2002a)</td>
<td>Bring together a large number of buyers and sellers and automate business transactions</td>
<td></td>
<td></td>
<td></td>
<td>Synonym for e-marketplace</td>
</tr>
<tr>
<td>Laudon &amp; Traver (2002)</td>
<td>A digital electronic marketplace where suppliers and commercial purchasers can conduct transactions.</td>
<td>A digital electronic marketplace where suppliers can conduct transactions</td>
<td>Brings numerous suppliers into a single Internet-based environment to conduct trade.</td>
<td>Independently owned online marketplaces that connect hundreds of suppliers to potentially thousands of buyers in a dynamic, real-time environment.</td>
<td>Synonym for e-marketplace</td>
</tr>
<tr>
<td>Varadarajan &amp; Yadav (2002)</td>
<td>A networked information system that serves as an enabling infrastructure for buyers and sellers to exchange information, transact, and perform other transaction-related activities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daniel, White, Harrison, &amp; Ward (2003)</td>
<td>Web-based systems that link multiple businesses together for the purposes of trading or collaboration.</td>
<td></td>
<td></td>
<td></td>
<td>Synonym for e-marketplace</td>
</tr>
</tbody>
</table>
Table 2.1, cont.: Definitions of e-Market, e-Marketplace, Net marketplace, Exchange and e-Hub

<table>
<thead>
<tr>
<th>Author</th>
<th>e-market</th>
<th>e-marketplace</th>
<th>net marketplace</th>
<th>exchange</th>
<th>e-hub</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grieger (2003)</td>
<td>Brings multiple buyers and sellers together virtually in one central marketspace.</td>
<td></td>
<td></td>
<td>E-marketplace that enables buyers and sellers to buy and sell from each other at dynamic prices.</td>
<td></td>
</tr>
<tr>
<td>Ivang &amp; Ramanathan (2003)</td>
<td>Information infrastructure that facilitates interaction between engaging parties. Information system and an organizational entity that acts strategically.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turban &amp; King (2003)</td>
<td>An online market, usually B2B, in which buyers and sellers negotiate.</td>
<td></td>
<td></td>
<td>Many-to-many e-marketplaces, usually owned and run by a third party or consortium.</td>
<td></td>
</tr>
</tbody>
</table>
With respect to the classification of e-marketplaces, the Internet has enabled a number of different trading models for B2B e-marketplaces (Sculley & Woods, 2001), and different types of e-marketplaces have evolved as a result of the underlying information economy dynamics (Farhoomand & Lovelock, 2001). One broad way to classify e-marketplaces is to recognize their differences with respect to direction of trade, and categorize them as either vertical or horizontal (Turban & King, 2003; Grieger, 2003). **Vertical e-marketplaces** generally focus on trade of strategic goods and services (i.e., materials that are used in the manufacture or production of finished goods), typically within one specific industry, which therefore require deep industry knowledge (Sawhney, 1999; Grieger, 2003). Exostar (aerospace and defense industry) and ChemConnect (chemical industry) are some examples of vertical e-marketplaces (eMarket Services, 2003).

**Horizontal e-marketplaces**, also known as functional hubs, do not focus on any particular industry. Instead, they typically focus on trade of non-strategic business inputs (e.g., office supplies, travel services) across a range of industries (ibid.). Horizontal e-marketplaces usually have deep knowledge about specific business processes such as procurement (Sawhney, 1999). Endorsia and cc-Hubwoo are examples of horizontal e-marketplaces, both trading non-strategic goods and services across various industries (eMarket Services, 2003). However, the distinction between vertical and horizontal e-marketplaces is expected to blur with time as e-marketplaces evolve to offer a range of services to participants (Popovic, 2002). The e-marketplace model developed by Kaplan and Sawhney (2000) focuses instead on the procurement aspects of e-marketplaces, and they classify e-marketplaces in four categories, depending on inputs (manufacturing or operating inputs), as well as type of sourcing (systematic or spot sourcing). See Figure 2.1.

<table>
<thead>
<tr>
<th>How business buy</th>
<th>What businesses buy</th>
<th>Operating inputs</th>
<th>Manufacturing inputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systematic sourcing</td>
<td><strong>MRO Hubs</strong></td>
<td>Horizontal markets that enable systematic sourcing of operating inputs</td>
<td><strong>Catalog Hubs</strong></td>
</tr>
<tr>
<td>Spot sourcing</td>
<td><strong>Yield Managers</strong></td>
<td>Horizontal markets that enable spot sourcing of operating inputs</td>
<td><strong>Exchanges</strong></td>
</tr>
</tbody>
</table>

**Figure 2.1** The B2B Matrix  
**Source:** Kaplan and Sawhney (2000, p. 99)
Although Kaplan and Sawhney’s taxonomy is widely recognized, it has been criticized by Stockdale and Standing (2002), who claim that today’s e-marketplaces can offer trading mechanisms to support more than one of the categories in the model. Furthermore, the market makers’ striving to survive in an increasingly competitive environment has led to a blurring of these categories (ibid). Similarly, Rayport, and Jaworski (2001) claim that while Kaplan and Sawhney’s model captures important aspects of B2B e-marketplaces, it fails to describe the broad landscape of the various business models that have emerged. As an alternative, Rayport, Jaworski, and Siegal present a model (Figure 2.2) that categorizes businesses based on focus of strategy and sources of content origination. Given these two axes, four distinctive approaches arise: Forward-Integrated Producers, Supply-Side Aggregators, Backward-Integrated Users, and Demand-Side Aggregators.

<table>
<thead>
<tr>
<th>Sources of Content Origination</th>
<th>Single Brand</th>
<th>Multiple Brands</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supply-Side</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward-Integrated Producer</td>
<td>Supply-Side</td>
<td></td>
</tr>
<tr>
<td>Backward-Integrated User</td>
<td>Demand-Side</td>
<td></td>
</tr>
<tr>
<td><strong>Demand-Side</strong></td>
<td>Hybrid Integrator</td>
<td>Hybrid Aggregator</td>
</tr>
</tbody>
</table>

*Figure 2.2 RJS Model Summary*

*Source: Rayport and Jaworski (2001, p. 101)*

However, these different approaches are not mutually exclusive and the model, therefore, also accommodates hybrid approaches (i.e., Hybrid Integrator and Hybrid Aggregator). Rayport and Jaworski (2001) state that many companies practice hybrid approaches. A company can, for example, choose to combine supply-side aggregation and demand-side aggregation by aggregating both many sources of supply and many sources of demand. Grieger (2003) indicates that e-marketplaces can be categorized in several ways, and can be distinguished by their focus with respect to different stakeholders, direction of trade, price mechanisms, purchasing processes, transaction phases, and market mechanisms. Table 2.2 presents examples of B2B e-marketplace classifications.
<table>
<thead>
<tr>
<th>Source</th>
<th>Classification base</th>
<th>Type of e-marketplace²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>– Sell-side marketplace</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Neutral, third-party marketplace</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Consortia e-markets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Private exchanges</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Horizontal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Marketplace focusing on functions</td>
</tr>
<tr>
<td>Kaplan &amp; Sawhney (2000); Lennstrand, Frey, &amp; Johansen (2001)</td>
<td>Type of procurement</td>
<td>– MRO hubs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Yield managers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Exchanges</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Catalogue hubs</td>
</tr>
<tr>
<td>Turban, King, Lee, Warkentin, &amp; Chung (2002)</td>
<td>Type of procurement</td>
<td>– Vertical Distributors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Horizontal Distributors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Vertical Exchanges</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Functional Exchanges</td>
</tr>
<tr>
<td>Piccinelli, Di Vitantonio, &amp; Mokrushin (2001)</td>
<td>Automation transaction and impact of pricing and sales models</td>
<td>– Commerce Hub</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Channel Enabler</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Dynamic Marketplace</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Content/Community Portal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Private (closed) marketplace</td>
</tr>
<tr>
<td>Source</td>
<td>Classification base</td>
<td>Type of e-marketplace³</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-----------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Exchanges</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Catalogues</td>
</tr>
<tr>
<td>Sawy (2001)</td>
<td>Reach (no of potential partners)</td>
<td>– Many-to-Many (Public Exchanges)</td>
</tr>
<tr>
<td></td>
<td>Range (availability of products)</td>
<td>– Few-to-Few (Private Exchanges)</td>
</tr>
<tr>
<td></td>
<td>Reciprocity (nature of buyer-supplier relationships)</td>
<td>– Few-to-Many (Monopoly)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Many-to-Few (Monopsony)</td>
</tr>
</tbody>
</table>

8. This column should be read with the notion that there are some overlaps between the authors’ views with respect to classifications. For example, “Private exchange,” as classified based on ownership structure, could encompass both “Buy-side marketplace” and “Sell-side marketplace.” However, our intention is to present examples of e-marketplace types, rather than analyzing their classification.
Whether markets are electronic or not, their central functions are the same: matching buyers and sellers, facilitating transactions, and providing institutional infrastructure (Bakos, 1998). The matching function involves three main sub-functions: determination of product offerings, search (of buyers for suppliers and suppliers for buyers), and price discovery. To facilitate the closing of interfirm transactions, markets perform sub-functions, such as logistics, settlement of transactions, and the establishment of trust. Institutional infrastructure comprises laws, rules, and regulations that govern market transactions, as well as mechanisms for their enforcement (Bakos, 1998; Giaglis, Klein, & O’Keefe, 2002). While governments generally manage the infrastructure, intermediaries, such as e-marketplaces, typically provide the matching and facilitating functions (Bakos, 1998).

According to Bakos (1998, p. 42), Internet-based e-marketplaces are having a major impact on the roles of markets, and create “opportunities for intermediaries to compete by adding value for buyers and sellers rather than by exploiting information asymmetries.” Countering arguments that the use of IT will reduce or even eliminate the role of intermediaries, Bakos (1998, p. 42) anticipates that such disintermediation will be “more than compensated” by the emergence of new types of electronic intermediaries that will perform functions such as:

- Matching buyers and sellers.
- Providing buyers with product information and sellers with marketing information.
- Aggregating information goods.
- Integrating the components of consumer processes.
- Managing physical deliveries and payments.
- Providing trust relationships and ensuring the integrity of the market.

Similar to Bakos (1998), Giaglis et al. (2002) state that intermediaries also will continue to be important players within e-commerce. They argue that many value-adding functions performed by middlemen are difficult to move to the direct supplier-buyer channel. Tumolo (2001) discusses the role and function of B2B exchanges with regard to the three basic market functions: matching, facilitation, and institutional infrastructure. In Figure 2.3 he outlines how these exchanges work.

---

9 Elimination of intermediaries between sellers and buyers (Turban & King, 2003). Disintermediation describes the move toward shorter value chains in e-marketplaces (Giaglis et al., 2002)
Matching Buyers and Suppliers
- Establishing product offerings
- Aggregating and posting different products for sale
- Providing price and product information, including recommendations
- Organizing bids and bartering
- Matching supplier offerings with buyer preferences
- Enabling price and product comparisons

Facilitating Transactions
- Logistics, delivery of information, goods or services to buyers, identification of company administrator to:
  - Provide billing and payment information, including addresses
  - Define terms and other transaction values
  - Input searchable information
  - Grant exchange access to users and identify company users eligible to use exchange
- Settlement of transaction payments to suppliers, collecting transaction fees
- Establishing credibility in registering and qualifying buyers and suppliers, communicating exchange transactions and other fees, maintaining appropriate security over information and transactions

Maintaining Institutional Infrastructure
- Ascertaining compliance with commercial code, contract law, export and import law, intellectual property law, and rules and regulations of appropriate agencies
- Maintaining technological infrastructure to support volume and complexity of transactions
- Providing interface capability to standard systems of buyers and suppliers
- Obtaining appropriate site advertisers and collecting advertising and other fees

Figure 2.3 How Exchanges Work
Source: Tumolo (2001)

In their frequently cited work on e-Hubs, Kaplan and Sawhney (2000) discuss two basic functions through which e-marketplaces add value: aggregation and matching. The aggregation mechanism involves bringing many buyers and sellers together under one roof, which facilitates “one-stop shopping” and thus reduces transaction costs. This mechanism is static due to pre-negotiated prices. In addition, the fixed positions of buyer and seller imply that adding another buyer to the e-marketplace benefits only the sellers. Similarly, adding another seller benefits only the buyers. According to Kaplan and Sawhney (2000), the aggregation mechanisms work best in the following setting:

10 Defined as “neutral Internet-based intermediaries that focus on specific verticals or specific business processes, host electronic marketplaces, and use various market-making mechanisms to mediate any-to-any transactions among businesses” (Kaplan & Sawhney, 1999).
The cost of processing a purchase order is high relative to the cost of items procured.

Products are specialized, not commodities.

The number of individual products, or stock-keeping units (SKUs), is extremely large.

The supplier universe is highly fragmented.

Buyers are not sophisticated enough to understand dynamic pricing mechanisms.

Purchasing is done through pre-negotiated contracts.

A meta catalog of products carried by a large number of suppliers can be created.

Contrary to the aggregation model, the matching mechanism brings buyers and sellers together to dynamically negotiate prices on a real-time basis. Another difference between aggregation and matching is that the position of buyer and seller is not fixed in the matching model; i.e., buyers can be sellers, and vice versa. Adding any new member to the e-marketplace will therefore benefit both buyers and sellers. According to Kaplan and Sawhney (2000, p. 102), the matching mechanism works best in the following settings:

- Products are commodities or near-commodities and can be traded sight unseen.
- Trading volumes are massive relative to transaction costs.
- Buyers and sellers are sophisticated enough to deal with dynamic pricing.
- Companies use spot purchasing to smooth the peaks and valleys of supply and demand.
- Logistics and fulfillment can be conducted by third parties, often without revealing the identity of the buyer or seller.
- Demand and prices are volatile.

In their “B2B eMarket Analyzing Framework,” Lennstrand, Frey, and Johansen (2001) analyze value creation in B2B e-markets along two dimensions: 1) Competition versus Collaboration, and 2) Disabler versus Enabler. With respect to the first dimension, B2B e-Markets can create value either by supporting increased competition, or by enabling enhanced collaboration. According to Lennstrand et al. (2001), these value-creation activities are carried out by two distinct categories of e-markets: open and privatized B2B e-markets. An open trading environment connects many buyers and many sellers in a central hub,
which leads to increased transparency. This, in turn, encourages open sourcing and increases competition among the suppliers, as well as the buyers (ibid.). Contrary to open e-markets, privatized trading environments connect only each buyer with that particular company’s preferred and selected suppliers. Since the aim of privatized e-markets is to streamline buying or selling processes with existing partners, rather than enabling companies to find new trading partners, privatized e-markets facilitate collaboration (Lennstrand et al., 2001).

The second dimension of B2B e-markets’ value creation concerns their two essential roles as either channel disablers or channel enablers. The role of channel disabler is associated with the idea of facilitating direct trade between producers and retailers, and thus involves disintermediation of traditional middlemen, such as agents and wholesalers (Lennstrand et al., 2001). Contrary to the role of disabling, a channel enabler aims to facilitate trade between participants in an existing trading network by reducing inefficiencies in the supply chain (ibid.).

In a conceptual paper on business models for Internet-based B2B e-markets, Dai and Kauffman (2002a) recognize that such markets function as digital intermediaries and innovative interorganizational systems built on open network technologies. Therefore, these authors identify the roles and functions of B2B e-markets by synthesizing previous research on electronic markets, interorganizational information systems, and the adoption of network technologies. With their investigation based on the perspective of adopting companies, Dai and Kauffman (2002a) reveal that in addition to the basic functions of “aggregation,” “matching,” and “facilitation,” e-markets are beginning to emphasize functions related to management needs and the role of technology adapters as well. The reason for this is that interactions between companies in general involve not only buying and selling, but also other dimensions that may affect companies’ long-term performance. As illustrated in Figure 2.4, functions that address management needs involve procurement expertise and knowledge that support managements’ strategic sourcing activities. Furthermore, e-markets support business processes by offering mechanisms that enable companies to maintain preferred business relationships, and by providing platforms for collaboration and for making workflows more efficient. The coordination of demand forecast and production schedule in real time is yet another e-market function that supports business processes. According to Dai and Kauffman (2002a), the role of technology adapters covers functions such as system integrators, standards providers, and outsourcing services. E-marketplaces commonly provide solutions that integrate companies’ back-end enterprise systems with the marketplace, as well as solutions for the integration of third-party business service providers. Such integration possibilities make it more attractive for companies to participate in the e-marketplace. By providing technical standards such as Extensible Markup
Language (XML), e-markets improve connectivity and support system integration. Finally, e-markets can also provide IT outsourcing services, such as systems analysis and implementation, to make it easier for companies to adopt the concept of trading through an e-marketplace (Dai & Kauffman, 2002a).

<table>
<thead>
<tr>
<th>Basic Market Functions:</th>
<th>Management Needs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Aggregation</td>
<td>- Procurement expertise and knowledge</td>
</tr>
<tr>
<td>- Matching</td>
<td>- Business relationships</td>
</tr>
<tr>
<td>- Facilitation</td>
<td>- Business processes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technology Adapters:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- System integrators</td>
</tr>
<tr>
<td>- Standards providers</td>
</tr>
<tr>
<td>- Outsourcing vendors</td>
</tr>
</tbody>
</table>

**Figure 2.4 Analysis Framework**  
**Source:** Dai & Kauffman (2002a)

Several authors emphasize the importance of e-marketplaces for adding value by providing services additional to the basic market functions, such as financial services, advertising, aggregated buying, marketplace benchmarks and performance indicators, transportation and logistics support, supply chain planning, and collaborative design (Bygdeson & Gunnarsson, 2001; Choudhury et al., 1998; Kathawala, Abdou, & von Franck, 2002; Raisch, 2001). Additional services that provide in-depth cooperation between participating buyers and suppliers are becoming more and more important as a way for e-marketplaces to differentiate themselves from their competitors (eMarketservices, 2002) and thus achieve long-term sustainability (Raisch, 2001).

Table 2.3 summarizes the role and function of e-marketplaces as discussed in this section.
Table 2.3 Literature on Role and Function of e-Marketplaces

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Matching</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Determination of product offerings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>Searching</td>
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<tr>
<td>Price discovery</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilitation of transactions</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logistics</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
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<td></td>
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</tr>
<tr>
<td>Settlement</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Trust</td>
<td>X</td>
<td>X</td>
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<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aggregation</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Providing information</td>
<td>X</td>
<td>X</td>
<td></td>
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</tr>
<tr>
<td>Supporting management needs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology adapters</td>
<td>X</td>
<td>X</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integration</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintaining institutional infrastructure</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Channel disabler</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel enabler</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market intermediation activities</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Providing value added services</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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</tbody>
</table>
In recent years, several published articles and reports, both academic and non-academic, have discussed how trading organizations could benefit through e-marketplaces. Literature concerning B2B e-marketplaces indicates that the benefits which accrue to companies trading through e-marketplaces are compelling, and that the cost savings are considerable (Standing & Stockdale, 2001b). For example, Lucking-Reiley and Spulber (2001, p. 57) report that online transactions “might easily reduce costs by a factor of five or ten or more.”

In their comprehensive study on e-marketplace benefits, Standing and Stockdale (2001b) analyze a body of available business literature and present a list of benefits compiled from approximately 150 articles. These authors conclude that the full impact of e-marketplaces will fall within organizational benefits (Table 2.4).

Table 2.4 Organizational Benefits of Electronic Marketplaces

<table>
<thead>
<tr>
<th>Organizational impact</th>
<th>Benefits</th>
</tr>
</thead>
</table>
| Operating cost reductions              | - Reduced transactions costs  
- Controlled spending  
- Lower prices  
- Savings on logistics  
- Savings on collaboration  
- Savings on design  
- Reduced marketing costs  
- Lower inventory carrying costs for smaller companies by aggregation |
| Overall productivity gains             | - Overall time savings  
- Process efficiencies  
- Better inventory management  
- Shortens product time to market |
| Service effectiveness                  | - Customer relationship management  
- Loyalty building  
- Optimizing relationships |
| Increase sales by                      | - Reaching new markets  
- Reaching more buyers/suppliers  
- Global exposure |
| Contribution to achieving goals through improved management of data and “near perfect” information flow. |
| Increased work volume by improving efficiency of information flows and collaborative working practices. |
| Staff reductions                       |                                                                                               |

**Source:** Modified from Standing and Stockdale (2001b)
Daniel et al. (2003) conducted a study in which experts, both practicing managers and industry commentators, presented their views on the future of e-hubs. Their study indicates that the use of e-hubs provides significant advantages related to key business processes (i.e., Procurement, Supply Chain Management, and New Product Development), for both buyers and suppliers, as presented in Table 2.5.

Table 2.5 Benefits of E-Hubs on Key Business Processes; Buyer and Supplier Perspectives

<table>
<thead>
<tr>
<th>Business Process</th>
<th>Benefits for buyers</th>
<th>Benefits for suppliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement</td>
<td>- Reduction in cost of goods</td>
<td>- Process efficiencies/transaction cost reduction</td>
</tr>
<tr>
<td></td>
<td>- Reduced transaction costs</td>
<td>- Marketing benefits</td>
</tr>
<tr>
<td></td>
<td>- Reduced procurement cycle times</td>
<td>- Error reduction</td>
</tr>
<tr>
<td></td>
<td>- Increase process compliance</td>
<td>- Improved relationship</td>
</tr>
<tr>
<td></td>
<td>- Error reduction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Improved market visibility of products from non-participating suppliers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Supplier relationship improvements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Becomes an enabler for SCM</td>
<td>- Becomes an enabler for SCM</td>
</tr>
<tr>
<td></td>
<td>- Supply chain efficiency improvements</td>
<td>- Supply chain efficiency improvements</td>
</tr>
<tr>
<td></td>
<td>- Cost reduction</td>
<td>- Supply chain visibility improvements</td>
</tr>
<tr>
<td></td>
<td>- Improved supply chain relationship</td>
<td>- Cost reduction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Improved supply chain relationship</td>
</tr>
<tr>
<td>Supply Chain Management</td>
<td>- Improved collaboration/information sharing</td>
<td></td>
</tr>
<tr>
<td>(SCM)</td>
<td>- Connectivity benefits</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Reduced NPD cycle times</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Better access to improved technology/know-how</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Cost reductions</td>
<td></td>
</tr>
<tr>
<td>New Product Development</td>
<td>- Improved collaboration/information sharing</td>
<td>- Improved collaboration/information sharing</td>
</tr>
<tr>
<td>(NPD)</td>
<td>- Customer satisfaction</td>
<td>- Reduced NPD cycle times</td>
</tr>
<tr>
<td></td>
<td>- Improved product design/quality</td>
<td>- Improved marketing</td>
</tr>
<tr>
<td></td>
<td>- Design/quality</td>
<td></td>
</tr>
</tbody>
</table>

Source: Extracted from Daniel et al. (2003)

Although many authors (e.g., Bakos, 1991; Standing & Stockdale, 2001b) indicate that the use of e-marketplaces possibly reduces the price of goods, the notion is not undisputed. For instance, Bloch and Catfalis (2001) emphasize that buyers join e-marketplaces to optimize supply and demand, rather than to gain benefits from lower prices. Also, Lee (1998) questions the reduced price assumption, since it is based on markets in which there are more buyers than suppliers. Based on a
case study of an e-marketplace for used-car auctions, Lee found that prices of products traded through e-marketplaces can, in fact, be higher than prices of products sold in traditional markets; therefore, analyses of e-marketplace impacts on product prices should also consider economic factors beyond the buyers’ search costs (ibid.).

The review of the literature within the area of B2B e-marketplaces clearly indicates that B2B e-marketplaces can bring numerous benefits to participating buyers and suppliers. These benefits accrue from various value creation activities and strategies companies can pursue to generate and sustain significant value through B2B e-marketplaces (Chung et al., 2001). In addition, Bloch and Catfolis (2001, p. 20) stress the importance of understanding value creation in the context of B2B e-marketplaces and state: “As with traditional B2B marketplaces, before any company starts using a B2B e-marketplace, it needs to make sure it will create value and therefore revenue for both buyers and sellers.”

2.3 Value Creation through B2B e-Marketplaces

In all markets, there are inefficiencies in trade between companies. Bygdeson and Gunnarsson (2001) have identified five types of inefficiencies that could be reduced through B2B e-marketplace solutions. These inefficiencies involve:

- **Market information**: It is difficult for sellers to reach buyers and for buyers to locate companies and products.

- **Pricing**: It is difficult for sellers and buyers to obtain information about supply and demand in order to get the best price.

- **Ordering process**: It is time-consuming for buyers and sellers to process many orders in differing formats. Many purchases are made without efficient systems and without formal purchasing agreements.

- **Trust**: It is difficult to judge whether payment and/or delivery will be made in new business relationships.

- **Collaboration processes**: Today, many specialized companies are involved in process chains to gather and share information.

Several authors (e.g., Andrew et al., 2000; Bakos, 1998; Bruun et al., 2002; Bygdeson & Gunnarsson, 2001) agree that firms could deal with indicated inefficiencies by connecting to B2B e-marketplaces and using the values created by these entities.
Although the concept of value is extremely old, there is no commonly agreed definition of it. Instead, definitions vary from narrowly describing value as “price,” to more complex definitions (Haksever, Chaganti, & Cook, 2004). For example, Porter (1985, p. 3) defines value as “what buyers are willing to pay,” whereas Haksever et al. (2004, p. 292) define value as “the capacity of a good, service, or activity to satisfy a need or provide a benefit to a person or legal entity.”

Value creation is seen as the crucial goal of organizations, and is referred to as “a model that describes a series of value-adding activities connecting a company’s supply side (raw materials, inbound logistics, and production processes) with its demand side (outbound logistics, marketing, and sales)” (Rayport & Sviokla, 1995, p. 22). Amit and Zott (2001, p. 494) discuss value creation in e-business; they focus on sources and define value sources and value drivers as “any factor that enhances the total value created by an e-business. This value, in turn, is the sum of all values that can be appropriated by the participants in e-business transactions.” The importance of understanding the value creation of e-marketplaces is expressed by Bruun et al. (2002, p. 287), stating: “Without a deep understanding of how e-marketplaces create value, the chances of crafting a strategy that will lead to sustainable competitive advantage are slim.” B2B e-marketplaces create value for participating organizations and generate revenue for themselves through various functions (Dai & Kauffman, 2002a) that address a number of different inefficiencies in the market (Bygdeson & Gunnarsson, 2001). Thus, in the following subsections, we will review literature with respect to market inefficiencies and the role and function of B2B e-marketplaces.

Bloch and Catfolis (2001) state that B2B e-marketplaces create value by providing market intelligence and by supply chain integration, due to the advantages e-marketplaces have over traditional marketplaces in these two areas. By providing access to marketing intelligence, the e-marketplace enables suppliers to identify and serve unfulfilled needs. In addition, this information makes it easier for buyers and intermediaries to get an overview of available offerings and to compare them. B2B e-marketplaces could also create value by offering supply chain integration. In fact, from the suppliers’ perspective, enhancements in logistic processes are one of the most important advantages of using an e-marketplace (ibid.). Especially with respect to strategic purchases, supply chain integration implies that suppliers obtain a better insight into the buyers’ future requirements (Bloch & Catfolis, 2001). Supply chain integration also leads to enhanced process transparency, since it allows the entire procurement process to be tracked online; that is, any delay in delivery can be traced by the buyers through their internal systems.
An alternative perspective concerning sources of value created through B2B e-marketplaces is presented by Andrew et al. (2000). These authors make a distinction between activities that transfer value from one party to another, i.e., value shift activities, and activities that create new value, i.e., value creation activities. Table 2.6 presents these two sets of activities with respect to sources of value and drivers of the activities.

Table 2.6 Sources of Value Creation

<table>
<thead>
<tr>
<th>Source of Value</th>
<th>Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value shift activities</strong></td>
<td></td>
</tr>
<tr>
<td>Activities that take value from one party and transfer it to another (a “zero-sum” game)</td>
<td>Aggregation - Achieved discounts by consolidating volume</td>
</tr>
<tr>
<td>Process automation</td>
<td>- Decreased maverick buying</td>
</tr>
<tr>
<td>Transparency/auctions</td>
<td>- Increased competition among suppliers</td>
</tr>
<tr>
<td><strong>Value creation activities</strong></td>
<td></td>
</tr>
<tr>
<td>Activities that create new value through improved efficiencies or productivity (a “win-win” scenario)</td>
<td>Lower marketing and sales costs - Lower cost to reach and serve customers</td>
</tr>
<tr>
<td>Lower transaction costs</td>
<td>- Fewer ordering errors</td>
</tr>
<tr>
<td></td>
<td>- Streamlined approval process</td>
</tr>
<tr>
<td></td>
<td>- Lower supplier-evaluation costs</td>
</tr>
<tr>
<td></td>
<td>- Streamlined accounts-payable-and-receivable process</td>
</tr>
<tr>
<td>Lower costs in use</td>
<td>- Access to superior products</td>
</tr>
<tr>
<td></td>
<td>- Customization of inputs and after-sale service raises quality and yield of output</td>
</tr>
<tr>
<td>Lower inventory costs</td>
<td>- More efficient supply chain reduces need for inventory</td>
</tr>
<tr>
<td></td>
<td>- Less obsolescence, less rework</td>
</tr>
<tr>
<td>Lower cycle time</td>
<td>- Collaborative design and project management improve products, reduce redesign, and speed time to market</td>
</tr>
<tr>
<td>Improved asset utilization</td>
<td>- Increases scale by reorganizing the value chain</td>
</tr>
<tr>
<td></td>
<td>- Higher labor productivity</td>
</tr>
<tr>
<td></td>
<td>- Better capacity planning and utilization</td>
</tr>
</tbody>
</table>

Source: BCG analysis in Andrew et al. (2000)
Bruun et al. (2002), emphasize that it is crucial that e-marketplace managers thoroughly understand the benefits facilitated by e-marketplaces, as buyers and suppliers perceive them, in order to make the value proposition\textsuperscript{11} compelling for these parties. B2B e-marketplaces build their value proposition toward participating companies based on three fundamental elements:

- increased market efficiency
- increased supply chain efficiency
- creation of new value

Similar to the distinction that Andrew et al. (2000) point out between value shift activities and value creation activities, Bruun et al. (2002) indicate a difference between \textit{transferred value} and \textit{created value}. The first key element, i.e., increased market efficiency, often results in transfer of value from one e-marketplace participant to another. For example, increased price transparency as a result of the e-marketplace’s aggregation of suppliers’ catalogues usually benefits the buyer, while the supplier probably has to face reduced margins. The second source of value, increased supply chain efficiency, results in value being created rather than transferred. The reason for this is that enhanced efficiency in the supply chain leads to direct cost savings. Concerning the third source of value, new value creation, Bruun et al. (2002, p. 295) state that this “represents a huge potential for powerful value propositions to e-marketplace participants, as they, per definition, provide the participants with new value they cannot get anywhere else.” Table 2.7 presents key elements of value propositions towards buyers and sellers.

\textsuperscript{11} Value proposition can be described as “a program of goods, services, ideas, and solutions that a business marketer offers to advance the performance goals of the customer organization” (Hoffman et al., 2002, p. 185).
Table 2.7 Key Elements of Value Proposition towards Buyers and Sellers

<table>
<thead>
<tr>
<th></th>
<th>Value proposition towards buyers</th>
<th>Value proposition towards sellers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market efficiency</strong></td>
<td>- Access to a broader range of suppliers</td>
<td>- Access to a broader range of customers (expanded reach)</td>
</tr>
<tr>
<td></td>
<td>- Increased transparency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- More buying power (through aggregation)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Better prices</td>
<td></td>
</tr>
<tr>
<td><strong>Supply chain efficiency</strong></td>
<td>- Streamlined internal processes (process automation)</td>
<td>- Streamlined internal processes (process automation)</td>
</tr>
<tr>
<td></td>
<td>- Lower interaction costs</td>
<td>- Lower interaction costs</td>
</tr>
<tr>
<td></td>
<td>- Process savings due to one-stop shopping</td>
<td>- Lower marketing and sales costs</td>
</tr>
<tr>
<td></td>
<td>- Lower inventory carrying costs</td>
<td>- Shorter product development cycles</td>
</tr>
<tr>
<td></td>
<td>- Lower cost in use (due to increased customization and access to superior products)</td>
<td>- Better capacity planning and utilization</td>
</tr>
<tr>
<td></td>
<td>- Improved logistics management</td>
<td>- Lower inventory carrying costs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Improved logistics management</td>
</tr>
<tr>
<td><strong>New value creation</strong></td>
<td>- Everything above and…</td>
<td>- Everything above and…</td>
</tr>
<tr>
<td></td>
<td>- Access to new information-based services</td>
<td>- Access to new information-based services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Opportunity to offer new information-based services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Better customer feedback</td>
</tr>
</tbody>
</table>

Source: Andrew et al. (2000); Means and Schneider (2000); in Bruun et al. (2002)

With respect to the creation and capturing of value in B2B e-commerce, Chung et al. (2001, p. 6) stress the importance of long-term value creation, and state that this requires not only “a good business idea” but also industry-specific knowledge about the value drivers and value potential. Chung et al. (2001) identify four main strategies by which companies can create and sustain significant value through e-marketplaces. Similar to Andrew et al. (2000), these authors discuss aggregation, transparency, and automation as value creation strategies, but Chung et al. (2001) also put forward disintermediation as a fourth strategy. Table 2.8 summarizes the value creation strategies and points out indicators of e-marketplace potential.

Empirical studies concerning the value creation of B2B e-marketplaces are scarce. However, Anders (2002) conducted an empirical study on European B2B e-marketplaces, and the findings indicate that a majority (71 percent) of e-marketplaces saw their main value proposition in the improvement of information, while 68 percent cited process acceleration and the reduction of process cost. Furthermore, fewer than half the respondents (48 percent) stated that they
intended to generate product price reductions for their customers. The value propositions cited less frequently are: global sourcing (37 percent), demand bundling (35 percent), improvement of productivity (33 percent), supply chain streamlining (32 percent), error reduction (30 percent), providing of sourcing expertise (29 percent), and reduction of supplier numbers (27 percent).

Table 2.8 Value Creation Strategies

<table>
<thead>
<tr>
<th>Value creation strategy</th>
<th>Definition</th>
<th>Indicators of e-Marketplace potential</th>
</tr>
</thead>
</table>
| **Scale and Spend Aggregation** | Bundling of purchasing volume to benefit from economies of scale in sourcing, logistics, and supply chain management. | - Fragmented buyer market  
- Fragmented supply market  
- Considerable economies of scale for suppliers  
- Commodity-like products (e.g., energy, steel, chemicals) |
| **Market and Value Chain Transparency** | Creating visibility along and between previously disconnected value chains. | - Highly fragmented value chains with little transparency and many information asymmetries  
- High degree of operational interdependence among players in a multi-step value chain (e.g., automotive industry) |
| **Transaction Automation** | Facilitation and streamlining of existing transaction processes. | - High process cost relative to value added  
- Complex processes that can be significantly streamlined and facilitated by an e-marketplace offering  
- High need for communication between relevant parties and impediments to such communication through existing channels  
- Benefits available for all parties through dynamic pricing opportunities |
| **Disintermediation** | Use of e-marketplaces to eliminate elements of existing value chain. | - Fragmented sales channel with little value added  
- Opportunities to use the Internet to deliver additional value to target customers above and beyond what is available through current sales channels |

Source: Extracted from Chung et al. (2001)

As indicated in section 2.2, concerning the role and function of B2B e-marketplaces, several authors (e.g., Bakos, 1991 and 1998; Grieger, 2003; Kaplan & Sawhney, 2000) particularly highlight two functions that create value for e-
Dai and Kauffman (2002a) take this discussion further by adding functions related to management needs and the role of technology adapters. As presented in Table 2.9, these researchers point out the mechanisms through which various functions are performed.

Table 2.9 Summary of B2B Electronic Market Functions.

<table>
<thead>
<tr>
<th>B2B e-market roles</th>
<th>B2B e-market functions</th>
<th>Examples</th>
<th>Theoretical basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic market functions</td>
<td>Aggregation</td>
<td>Public e-cataloging</td>
<td>SciQuest</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Private e-cataloging</td>
<td>CommerceOne MarketSite</td>
</tr>
<tr>
<td>Matching</td>
<td>Public bidding</td>
<td>FastParts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Private negotiating</td>
<td>e-STEEL Exchange</td>
<td></td>
</tr>
<tr>
<td>Facilitation</td>
<td>Internet-based financial services</td>
<td>TradeCard</td>
<td>Electronic market’s role of facilitation</td>
</tr>
<tr>
<td></td>
<td>Delivery and logistics</td>
<td>Optimum Logistics</td>
<td></td>
</tr>
<tr>
<td>Management needs</td>
<td>Procurement expertise and knowledge</td>
<td>Instill, RiverOne</td>
<td>Digital intermediary’s role in providing expertise</td>
</tr>
<tr>
<td>Business process support</td>
<td>Workflow management</td>
<td>ChannelPoint</td>
<td>IOS[^12]-related business process innovations</td>
</tr>
<tr>
<td></td>
<td>Collaborative project management</td>
<td>Citadon</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supply chain management</td>
<td>Transora</td>
<td></td>
</tr>
<tr>
<td>Role of technology adapters</td>
<td>System integrators</td>
<td>NewView Connect (previous E-Steel Connect from e-Steel)</td>
<td>Adoption of network technologies</td>
</tr>
<tr>
<td></td>
<td>Standards providers</td>
<td>Converge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Outsourcing services</td>
<td>PurchasePro</td>
<td></td>
</tr>
</tbody>
</table>

Source: Dai and Kauffman (2002a)

[^12]: Interorganizational Systems
In the context of B2B e-marketplaces, electronic cataloging is most commonly used for the aggregation of product offerings. Dai and Kauffman (2002a) make a distinction between public and private e-cataloging. Public e-cataloging is buyer-neutral, which implies that the same products and prices are published for all potential buyers in the e-market. Public e-cataloging is particularly advantageous in fragmented markets, when demand is difficult to predict and when purchases are made infrequently. Dai and Kauffman (2002a) mention the chemical and biotechnology industries as examples of industries in which the use of public e-cataloging potentially creates great value, mainly by lowering the buyers’ search costs. Furthermore, they state that Private e-cataloging, on the other hand, is buyer-specific, which means that the e-market can present different electronic catalogues with customized offerings for any particular buyer. But, since private e-cataloging usually requires that buyers preselect and prequalify suppliers with whom they prefer to trade on the e-market, the potential for decreasing buyers’ search costs is not as strong as in public e-cataloging (ibid.). Instead, private cataloging is claimed to be advantageous when it comes to frequent purchases of large quantities, because B2B e-markets can streamline the buyers’ entire purchasing process, thereby reducing his/her operating costs. However, Dai and Kauffman (2002a) suggest that streamlining the purchasing process necessitates systems integration and connectivity with suppliers.

Concerning value creation through the e-market function of matching supply and demand, Dai and Kauffman (2002a) describe that this is realized by electronic auctions, which enable companies to negotiate more efficiently in situations characterized by price uncertainty and information asymmetry. They further explain that electronic auctions could involve mechanisms for public bidding, where bids are open to all e-market participants, as well as for private negotiation, in which only preselected and prequalified participants can take part. Dai and Kauffman (2002a) suggest that Public bidding is particularly beneficial for buyers who look for products that are usually difficult to find, or for buyers who prefer to purchase products in small batches. In addition, public-bidding mechanisms increase suppliers’ reach to potential buyers, thus, for example, enabling selling of excess inventory. Matching supply and demand by private negotiation mechanisms enables companies to negotiate and conduct business with a preselected group of prequalified suppliers. This allows companies to negotiate deals electronically with various suppliers, while maintaining privacy. Value is created through private negotiation mechanisms especially when purchasing direct goods in large quantities, such as steel products and bulk chemicals (Dai & Kauffman, 2002a). The reason B2B e-markets can provide private negotiation and private e-cataloging is that such mechanisms make it possible for companies participating on the e-market to maintain preferred buyer-supplier relationships. This is particularly important when products of great strategic significance to the
buyer are involved, since supplier reliability and qualification are a major concern in such cases (ibid.).

E-markets’ third basic function, as described by Dai and Kauffman (2002a), concerns facilitation of transactions. This function can be performed by providing Internet-based financial services as well as delivery and logistics services. Internet-based financial services are one facilitating function being offered more and more frequently. But, due to the fact that only specialized institutions can provide such services, B2B e-markets increasingly partner with financial-service providers to offer them. Similar developments toward forming partnerships with specialized service providers are taking place in the area of delivery and logistics (ibid.). Leveraging physical value delivery, such as global logistics, freight forwarding, warehousing, inspection services, etc., is even claimed to be a requirement for the long-term success of e-marketplace business models (Raisch, 2001).

According to Dai and Kauffman (2002a) some digital intermediaries offer procurement expertise and knowledge to add value that addresses management needs. B2B e-markets use three kinds of mechanism to facilitate companies’ sourcing decisions. These include:

- tools and reports that leverage the large quantity of data generated from online transactions to analyze procurement costs and trends
- industry-specific knowledge
- procurement knowledge and expertise from traditional intermediaries that can also be made available through partnering and joint ventures

Besides offering the possibility of creating value by providing procurement expertise and knowledge, Dai and Kauffman (2002a) claim that B2B e-markets can also support business processes by facilitating workflow management, collaborative project management, and supply chain management. Concerning workflow management, Dai and Kauffman (2002a) anticipate that B2B e-markets will be implemented in order to automate interorganizational processes, and thereby improve process efficiency. Furthermore, these authors indicate that B2B e-markets, besides creating open markets for transaction, could also serve as platforms for communication and collaboration. Thus, by taking advantage of the extensive reach and communication capabilities of the World Wide Web, e-markets can create value by providing collaborative project management solutions (ibid.). In addition, Dai and Kauffman (2002a) indicate that B2B e-markets could facilitate enhanced efficiency in the supply chain by coordinating buyers’ and suppliers’ planning and scheduling activities. Most B2B e-markets that provide supply chain management solutions are industry-sponsored and, consequently, not
many independent e-markets provide such functions. Dai and Kauffman (2002a, p. 61) explain that: “This is so because putting such processes into action requires sophisticated data-processing and network technology, as well as a common data model shared by trade partners.” They continue by indicating it would probably be difficult for independent e-markets to convince their participants to adopt such a solution, and independent e-markets would most likely not be able to benefit from economies of scale as industry sponsored e-markets do.

In addition to value creation activities, such as providing basic market functions and functions that address management needs, B2B e-markets are increasingly creating value for buyers and suppliers by providing system integration, standards implementation, and technology solutions services (Dai & Kauffman, 2002a). In order to maximize the operational efficiency of member companies, B2B e-markets aim to offer system integration solutions and services to achieve enhanced network connectivity and to accomplish an end-to-end electronic trading channel that seamlessly connects the e-market to the participating companies’ enterprise systems (ibid.). Based on the notion that standardization is crucial with respect to making information sharing easier, Dai and Kauffman (2002a) foresee that B2B e-markets will create value by performing the function of standard providers, and thus advocate and implement standards that facilitate connections between heterogeneous systems. B2B e-markets could also create value by providing outsourcing services, such as systems that enable buyers to automate purchasing processes and enable suppliers to manage catalogues. These kinds of services could, according to Dai and Kauffman (2002a), help companies overcome barriers with respect to adopting the concept of participating on B2B e-markets.

Andrew et al. (2000) anticipate that nearly all the value e-markets will facilitate is related to procurement transactions and collaboration activities. Their survey also indicates that 66 percent of buyers and 75 percent of suppliers were either engaged in projects to increase online collaboration or were planning to undertake such projects within two years.

From a procurement perspective, Subramaniam and Shaw (2002) discuss four models of Web-based procurement, and how these create value for buyers or suppliers. Table 2.10 summarizes the factors that create value and the factors that affect value in each of the models.
<table>
<thead>
<tr>
<th>Form of Web-based procurement</th>
<th>Factors that create value</th>
<th>Factors that affect realized value</th>
</tr>
</thead>
</table>
| **Buy-side procurement system** | - Reduced transaction costs  
- Higher process quality  
- Increased system responsiveness  
- Lower development costs  
- Increased control | - Process characteristics  
- Degree of centralization  
- Degree of integration with enterprise systems  
- Bargaining power of buyer |
| **Private B2B e-market** | - Reduced product price  
- Knowledge creation and dissemination  
- Lower search costs to locate sellers | - Product characteristics  
- Rate of innovation in industry  
- Supplier fragmentation  
- Bargaining power of buyer |
| **Industry B2B exchange** | - Reduced product price  
- Increased utilization of surplus assets  
- Lower search costs to locate sellers or buyers | - Product characteristics  
- Size of industry  
- Industry fragmentation  
- Power of buyers and sellers  
- Coordination among buyers |
| **Third-party B2B e-market** | - Lower product price for buyers  
- Lower search costs for buyers and sellers  
- Service quality | - Industry fragmentation  
- Liquidity  
- Industry participation |

**Source:** Subramaniam and Shaw (2002)

Sculley and Woods (2001) discuss e-marketplace value creation beyond the basic market functions of e-marketplaces, and argue that they add value by building a virtual community. Moreover, these authors predict that successful B2B exchanges will develop into “full-fledged exchange communities” (p. 165). They will provide services that enable effective networking between people in the same vertical, as well as services that provide these individuals with all the business information they require in one place. However, in order to create a valuable trading community, B2B exchanges must consider and build in the factors that make up a complete online service; the “Six Cs”\(^\text{13}\), which according to Sculley and Woods (2001) include:

- **Commerce** – the centralized market space;
- **Content** – trading data, pricing, product information, industry-specific news, and so forth;
- **Context** – specialization in a vertical;
- **Community** – value-added services that attract and hold new users;
- **Communications** – members’ ability to meet each other and communicate with each other on-line;

\(^{13}\) Steve Case, the CEO of America Online, identified these factors, popularly labelled as the “Six Cs,” as being crucial components of an online service (Sculley & Woods, 2001).
Connectivity – use of open, Web-based, applications so members can use the Internet to connect to the exchange.

It is critical a B2B exchange does not try to build its own network but rather ensures that all its systems are on the Internet, and offers its trading mechanism on the World Wide Web, since these are open systems accessible to all.

The values companies offer to customers (Osterwalder & Pigneur, 2002), as well as how companies intend to create value (Chesbrough & Rosenbloom, 2002), can be described in terms of business models.

2.4 Business Model and Business Strategy

In the past, strategists were not particularly concerned with the concept of business models. This was due to the fact that a standard model was assumed for each industry, and regardless of industry, vertical integration was a common characteristic (Tapscott, 2001). But interest in business models has increased since the advent of the Internet, especially as its use dramatically reduces transaction costs between companies. This, in turn, has led to the emergence of numerous new business models that are different from those of traditional business (Kauffman & Walden, 2001), and also more complex (Osterwalder & Pigneur, 2004).

Although managers generally have an intuitive understanding of the company’s business model, changes due, for instance, to increased networking, complex value propositions, and multiple distribution channels make it increasingly difficult for them to understand exactly how and where the money is made (Osterwalder & Pigneur, 2004).

Today, the terms “business model” and “strategy” are widely used; however, they are also among the most misinterpreted and sloppily used terms in business (Magretta, 2002; Osterwalder & Pigneur, 2004), with overlapping definitions (Seddon & Lewis, 2003). Due to the inevitable relation between the concepts of business models and business strategy (ibid.), this section starts with a review of literature discussing differences as well as relationships between these two concepts.

Bearing in mind the uncertainty associated with the terms “business model” and “strategy,” managers need straightforward definitions before they can apply the business-model concept (Magretta, 2002). Thus, this section also deals with definitions of the concepts of strategy and business models in the particular
context of e-business. Finally, the literature overview focuses on explicit business models for e-marketplaces, as there is a growing, though not yet extensive, body of literature within this field.

2.4.1 What Distinguishes “Strategy” from “Business Model”?

The terms “business model” and “strategy” are often poorly defined and frequently used interchangeably (Seddon & Lewis, 2003; Tapscott, 2001). However, several authors (e.g., Seddon & Lewis, 2003; Chesbrough & Rosenbloom, 2002; Magretta, 2002) argue that business model does differ from strategy. For example, Chesbrough and Rosenbloom (2002) indicate that there are at least three differences between business model and strategy as summarized in Table 2.11

Table 2.11 Main Differences between Business Model and Strategy.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Business Model</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competition</td>
<td>Less central</td>
<td>Central</td>
</tr>
<tr>
<td>Value creation</td>
<td>For the business</td>
<td>For the shareholders</td>
</tr>
<tr>
<td>Knowledge assumption</td>
<td>Cognitively limited, and</td>
<td>Assumes that there is a great deal of reliable information available.</td>
</tr>
<tr>
<td></td>
<td>biased by the earlier success of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the firm.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Extracted from Chesbrough and Rosenbloom (2002)

Concerning the relation between business model and strategy, Seddon and Lewis (2003) describe a business model to be “an abstract representation of some aspects of a firm’s strategy” (Figure 2.5). The idea of viewing a strategy as something less abstract than a business model is based on the notion that “a firm’s strategy is deeply rooted in that particular firm’s competitive environment.” On the other hand, the aim with business models is to create an abstract that is cleaned from all irrelevant details that exist within a strategy (Seddon & Lewis, 2003, p. 237).

Some authors (e.g., Linder & Cantrell, 2000; Petrovic, Kittl, & Teksten, 2001; Rappa, 2002; and Timmers, 1998) include the concept of strategy in the description of “business model,” while others (e.g., Nilsson, Tolis, & Nellborn, 1999; Osterwalder & Pigneur, 2002) consider “strategy,” “business processes,” and “technology” as inter-linked components where the business model is a blueprint of strategy (Pateli & Giaglis, 2003).
2.4.2 Business Strategy

The term strategy derives from the ancient Greek *stratēgia*, meaning generalship. For the ancient Greeks, “it meant a chief magistrate of a military commander in chief” (Ghemawat, 2002, p. 37). Even though strategy is a very old term, its use in a business context dates only from the twentieth century, and its use in a competitive context is even more recent (ibid.). Within the area of e-business and e-commerce, the emphasis has been on getting the technological solutions in place, and it has, therefore, been argued that having a clear strategy has decreased in importance (Jelassi & Enders, 2005). However, since technology cannot replace strategy, it is essential that companies take strategy into consideration in order to achieve sustainable competitive advantage (ibid.).

In an e-business context, Jelassi and Enders (2005, p.7) define the concept of strategy by pointing out some aspects that are crucial for strategy formulation:

- Strategy is concerned with the *long-term direction* of the firm.
- Strategy deals with the overall plan for deploying the resources a firm possesses.
- Strategy entails the willingness to make trade-offs, and to choose between different directions and different ways of deploying resources.
- Strategy is about achieving unique positioning vis-à-vis competitors.
The central goal of strategy is to achieve sustainable competitive advantage over rivals, thereby ensuring lasting profitability.

According to Bruun et al. (2002), research focusing on business strategy within the context of B2B e-marketplaces is fragmented, and there is still a lack of research that could increase e-marketplace managers’ understanding of the concept and help them formulate appropriate strategies. Bruun et al. (2002) have developed a holistic theoretical framework with respect to B2B e-marketplace strategy. They identify and explain considerations necessary to decide on the strategy of an e-marketplace. Bruun et al. (2002) state that e-marketplace managers have to decide on elements such as focus, governance, functionality, technology, and partnership to become successful. But to craft a winning strategy, the e-marketplace must also be able to build liquidity and capture some of the value it creates (ibid.).

In their analysis of B2B e-markets, Lennstrand et al. (2001) present an analyzing framework to describe B2B e-markets from a long-term viability point of view. In their framework, business strategies are divided into three fundamental and three optional parameters. The fundamental parameters concern trading mechanisms, sources of revenue and ownership structure, whereas the optional parameters—content, services and connectivity—represent different ways of adding customer value, and differentiating the e-market from its competitors. Every e-market must decide upon strategy for each one of the fundamental parameters, since these are the core elements of the B2B e-market’s business model (ibid.).

2.4.3 Business Model Definition and Components

Despite the claim that there is an overabundance of recent research work concerning business models within the area of e-business (Kruger, Swatman, & van der Beek, 2003), the literature is not consistent in the use of the term “business model,” and there is no commonly accepted definition of the concept (Osterwalder & Pigneur, 2004). Instead, there is a wide range of definitions and little consensus as to what constitutes a business model (Vassilopoulou, Ziovelou, Pateli, & Pouloudi, 2003).

Many authors have presented taxonomies of business models and e-business models (e.g., Applegate, 2001; Amit & Zott, 2001; Afuah & Tucci, 2001; Timmers, 1998; Weill & Vitale, 2001; Rappa, 2002; Tapscott, Ticoll, & Lowy, 2000). According to Kruger et al. (2003, p. 3), “there are almost as many taxonomies of business models and e-business models as there are authors writing about the subject.” Existing research on e-business models (empirical as well as conceptual) can, however, be divided into two main, complementary, streams.
One stream of research concerns the description of explicit business models (e.g., Timmers, 1998; Rappa, 2002; Applegate, 2001). The other stream focuses on business model components, and aims to define and analyze these (e.g., Afuah & Tucci, 2001; Amit & Zott, 2001; Weill & Vitale, 2001).

Due to the existence of various definitions and taxonomies, classified based on different viewpoints, there is no clear picture of the shape and role of e-business models and what constitutes a successful business model (Vassilopoulu et al., 2003).

Table 2.12 presents various definitions of business models. Some definitions are generic (e.g., Magretta, 2002; Petrovic et al., 2001), while, for instance, Timmer’s (1998) commonly cited definition, as well as those suggested by Weill and Vitale (2001) and Osterwalder and Pigneur (2002), are more concrete (Vassilopoulu et al., 2003).

Table 2.12 Business Model Definitions

<table>
<thead>
<tr>
<th>Researchers</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rappa (2002)</td>
<td>A method of doing business by which a company generates revenue to sustain itself. The business model spells out how a company makes money by specifying where it is positioned in the value chain.</td>
</tr>
<tr>
<td>Turban, Lee, King, &amp; Chung (2002)</td>
<td>The method by which a firm builds and uses its resources to offer its customers better value than its competitors and to make money doing so. A business model can be conceptualized as a system that is made up of components, linkages, and associated dynamics.</td>
</tr>
<tr>
<td>Afuah and Tucci (2001)</td>
<td>An architecture for the product, service, and information flows, including a description of the various business actors and their roles; a description of the potential benefits for the various business actors; and descriptions of sources of revenues.</td>
</tr>
<tr>
<td>Timmers (1998)</td>
<td>A description of a complex business that enables study of its structure, the relationships among structural elements, and how it will respond to the real world.</td>
</tr>
<tr>
<td>Applegate (2001)</td>
<td>A description of the value a company offers to one or several segments of customers and the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, in order to generate profitable and sustainable revenue streams.</td>
</tr>
<tr>
<td>Osterwalder &amp; Pigneur (2002)</td>
<td></td>
</tr>
</tbody>
</table>
Table 2.12, cont.: Business Model Definitions

<table>
<thead>
<tr>
<th>Researchers</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weill &amp; Vitale (2001)</td>
<td>A description of the roles and relationships among a firm’s consumers, customers, allies, and suppliers that identifies the major flows of product, information, and money, and the major benefits to participants.</td>
</tr>
<tr>
<td>KMLab Inc. (2000) in Chesbrough and Rosenbloom (2002)</td>
<td>A description of how your company intends to create value in the marketplace. The description includes the unique combination of products, services, image, and distribution that the company carries forward. It also includes the underlying organization of people, and the operational infrastructure.</td>
</tr>
<tr>
<td>Petrovic et al. (2001)</td>
<td>A description of how your company intends to create value in the marketplace. The description includes the unique combination of products, services, image, and distribution that the company carries forward. It also includes the underlying organization of people, and the operational infrastructure.</td>
</tr>
<tr>
<td>Auer &amp; Follack (2002)</td>
<td>A description of the logic of a “business system” for creating value that lies behind the actual processes.</td>
</tr>
<tr>
<td>Amit and Zott (2001)</td>
<td>A description of the content, structure, and governance of transactions designed to create value through the exploration of business opportunities.</td>
</tr>
<tr>
<td>Seddon &amp; Lewis (2003)</td>
<td>An abstract representation of some aspects of a firm’s strategy; it outlines the essential details one needs to know to understand how a firm can successfully deliver value to its customers.</td>
</tr>
<tr>
<td>Tapscott et al. (2000)</td>
<td>Concerns the invention of new value propositions that transform the rules of competition and mobilize people and resources to unprecedented levels of performance.</td>
</tr>
<tr>
<td>Hamel (2000)</td>
<td>A business concept that has been put into practice.</td>
</tr>
<tr>
<td>Jutla, Bodorik, Wang (1999)</td>
<td>The business model determines processes and transactions. (i.e., business process – retail [external, internal], procurement, transaction – buy, payment, registration, etc.)</td>
</tr>
<tr>
<td>Lam and Harrison-Walker (2003)</td>
<td>A method, concept, framework, or architecture, by which companies can use the Internet or the Web to carry out their strategies of capturing dominant market positions, establishing viable market niches, adding value for their stakeholders, or sustaining themselves over time.</td>
</tr>
</tbody>
</table>

The most recent literature concerning business models emphasizes their components rather than contemplate business model (Pateli & Giaglis, 2004). Several authors (e.g., Afuah & Tucci, 2001; Chesbrough & Rosenbloom, 2002; Hamel, 2000; Linder & Cantrell, 2000; Petrovic et al., 2001; Rayport & Jaworski, 2002; and Weill & Vitale, 2001) have started to break down business models into
their atomic elements. Afuah and Tucci (2001) discuss elements that are common to all business models and on which making money rests. Table 2.13 summarizes some questions that all companies should continuously ask about their business models in general and about Internet business models in particular (ibid.).

Table 2.13 Components of Business Model

<table>
<thead>
<tr>
<th>Component of Business Model</th>
<th>Questions for All Business Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer value</td>
<td>Is the firm offering its customers something distinctive or at a lower cost than its competitors?</td>
</tr>
<tr>
<td>Scope</td>
<td>To which customers (demographic and geographic) is the firm offering this value? What is the range of products/services offered that embodies this value?</td>
</tr>
<tr>
<td>Pricing</td>
<td>How does the firm price the value?</td>
</tr>
<tr>
<td>Revenue source</td>
<td>Where do the dollars come from? Who pays for what value and when? What are the margins in each market, and what drives them? What drives value in each source?</td>
</tr>
<tr>
<td>Connected activities</td>
<td>What set of activities does the firm have to perform to offer this value, and when? How connected (in cross section and time) are these activities?</td>
</tr>
<tr>
<td>Implementation</td>
<td>What organizational structure, systems, people, and environment does the firm need to carry out these activities? What is the fit between them?</td>
</tr>
<tr>
<td>Capabilities</td>
<td>What are the firm’s capabilities, and which capability gaps need to be filled? How does a firm fill these capability gaps? Is there something distinctive about these capabilities that allow the firm to offer better value than other firms and makes them difficult to imitate? What are the sources of these capabilities?</td>
</tr>
<tr>
<td>Sustainability</td>
<td>What is it about the firm that makes it difficult for other firms to imitate it? How does the firm keep making money? How does the firm sustain its competitive advantage?</td>
</tr>
</tbody>
</table>

Source: Modified from Afuah and Tucci (2001)

According to Hamel (2000), a business model consists of four major components: Customer Interface, Core Strategy, Strategic Resources, and Value Network. These components, in turn, consist of several elements. The components are linked together by three “bridge” components: Customer Benefits, Configuration, and Company Boundaries (Figure 2.6). The Customer Benefits link the company’s core strategy to the customers’ needs; that is, the bundle of benefits the company has decided to offer its customers. Configuration describes the bridge between competencies, assets, and processes and the company’s core strategy;
that is, how those linkages are managed. The Company Boundaries constitute the link between the company’s strategic resources and its value network, and involve decisions about what activities to perform within the company and what to outsource to the value network.

![Diagram of Business Model Components]

**Figure 2.6 Components of Business Models**
**Source:** Hamel (2000, p. 96)

Rayport and Jaworski (2001) discuss four business model components (Figure 2.7), each of which requires some choices. For instance, concerning the *value cluster* component, companies need to determine their value proposition for targeted customers. In addition, choices must be made regarding the *market offering* (i.e., product, service, information). It is also necessary to select a unique, defendable *resource system*. Finally, companies need to decide upon a *financial model*.

![Diagram of Business Model Components]

**Figure 2.7 Components of a Business Model**
**Source:** Rayport and Jaworski (2001, p.71)
According to Laudon and Traver (2002), a business model consists of eight elements: value proposition, revenue model, market opportunity, competitive environment, competitive advantage, market strategy, organizational development, and management team. Although value proposition and revenue model may be the most important components of a business model, the other elements must be considered in order to better understand, for instance, why a company has succeeded or failed (ibid.).

Linder and Cantrell (2000, p. 2), indicate that components of business models “range from revenue models and value propositions to organizational structures and arrangements for trading relationships.” Table 2.14 presents components that, according to Linder and Cantrell (2000), could each constitute a vital part of a business model.

### Table 2.14 Components of a Business Model

<table>
<thead>
<tr>
<th>Component</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pricing model</td>
<td>Cost plus; CPM (cost per thousand)</td>
</tr>
<tr>
<td>Revenue model</td>
<td>Advertising or broadcast model; Subscription or cable model; Fee-for-service</td>
</tr>
<tr>
<td>Channel model</td>
<td>Bricks ‘n mortar; Clicks ‘n mortar; Direct-to-customer</td>
</tr>
<tr>
<td>Commerce process model</td>
<td>Auction; Reverse auction; Community</td>
</tr>
<tr>
<td>Internet-enabled commerce relationship</td>
<td>Market-maker; Aggregator; Virtual supply alliance; Value network</td>
</tr>
<tr>
<td>Organizational form</td>
<td>Stand-alone business unit; Integrated Internet capability</td>
</tr>
<tr>
<td>Value proposition</td>
<td>Less value and very low cost; More value and the same cost; Much more value at greater cost</td>
</tr>
</tbody>
</table>

Source: Linder and Cantrell (2000, p. 3)

Petrovic et al. (2001) discuss business model elements and divide the business model into seven components, or sub-models. Partly similar to Linder and Cantrell (2000), these authors discuss business model components in terms of sub-models. In addition, Petrovic et al. (2001) explain what each of these sub-models should describe (Table 2.15).
Table 2.15 Components of Business Model

<table>
<thead>
<tr>
<th>Components of Business Model (sub-models)</th>
<th>The Component Describes the Logic of:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Model</td>
<td>What core product(s)/service(s)/experience(s) are delivered to the customer and other value-added services derived from the core competence.</td>
</tr>
<tr>
<td>Resource Model</td>
<td>How elements are necessary for the transformation process, and how to identify and procure the required quantities.</td>
</tr>
<tr>
<td>Production Model</td>
<td>How elements are combined in the transformation process from the source to the output.</td>
</tr>
<tr>
<td>Customer Relations Model</td>
<td>How to reach, serve, and maintain customers. It consists of the following sub-models: Distribution Model, Marketing Model, and Service Model.</td>
</tr>
<tr>
<td>Revenue Model</td>
<td>What, when, why, and how the company receives compensation in return for the products.</td>
</tr>
<tr>
<td>Capital Model</td>
<td>How financial sourcing occurs to create a debt and equity structure, and how that money is utilized with respect to assets and liabilities over time.</td>
</tr>
<tr>
<td>Market Model</td>
<td>Choosing a relevant environment in which the business operates.</td>
</tr>
</tbody>
</table>

Source: Modified from Petrovic et al. (2001)

Amit and Zott (2001) discuss three components of business models: business model content (exchanged goods or information and the resources required to facilitate the exchange); business model structure (the parties involved in transactions and how they are linked); and business model governance (the control of the flows of goods, information, and resource, and the legal association form).

Weill and Vitale (2001) specify the elements of business models based on different business perspectives. Besides identifying five ways to represent a business, they identify the key information required for each approach (Table 2.16).
### Table 2.16 “Atomic” Elements per Representation Way

<table>
<thead>
<tr>
<th>Representation Approach</th>
<th>Key Information Required</th>
</tr>
</thead>
</table>
| **1. Business Strategy** | - Targeted customers  
- Product and service offerings  
- Unique and valuable position  
- Choices and trade-offs |
| **2. Organizational Form or Structure** | - Hierarchy of authority  
- “Shape” of the organization  
- Network of organizations  
- Mechanisms for rights management and conflict resolution |
| **3. Business Process** | - Key set of activities to produce an outcome  
- Who (departments, people, roles) conduct these activities  
- Design and evaluation of activities  
- Competitive advantage embedded in activities |
| **4. Value Chain** | - Value added by firm to its inputs  
- Value-adding activities that fit with those of other players  
- Boundaries between the firm and other players of the chain  
- Value chain fit within the competitive market landscape |
| **5. Core Competencies** | - Intellectual and service strengths  
- Sources of competitive advantage |

**Source:** Weill and Vitale (2001, in Pateli, 2002, p. 11)

Chesbrough and Rosenbloom (2002) point out a set of business model components by defining functions, which include:

- articulating the value proposition, i.e., the value created for users by the offering based on the technology;
- identifying a market segment, i.e., the users for whom the technology is useful and for what purpose, and specifying the revenue generation mechanism(s) for the firm;
- defining the structure of the value chain within the firm required to create and distribute the offerings, and determining the complementary assets needed to support the firm’s position in this chain;
- estimating the cost structure and profit potential of producing the offering, given the value propositions and value chain structure chosen;
- describing the position of the firm within the value network linking suppliers and customers, including identification of potential complementary players and competitors; and
formulating the competitive strategy by which the innovating firm will gain and hold advantage over rivals.

Osterwalder and Pigneur (2002) refer to business model components by defining four main pillars, which are broken into several sub-components (Table 2.17).

<table>
<thead>
<tr>
<th>Business Model Component</th>
<th>Sub-components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Innovation</td>
<td>Target Customer Segment; Value Proposition; Capabilities</td>
</tr>
<tr>
<td>Customer Relationship</td>
<td>Information Strategy; Feel and Serve; Trust and Loyalty</td>
</tr>
<tr>
<td>Infrastructure Management</td>
<td>Resources; Activity (or Value) Configuration; Partner Network</td>
</tr>
<tr>
<td>Financials</td>
<td>Revenue Model; Cost Structure; Profit/Loss</td>
</tr>
</tbody>
</table>

Source: Modified from Osterwalder & Pigneur (2002)

Alt and Zimmermann (2001) distinguish six generic elements of a business model (i.e., mission, structure, processes, revenues, technology and legal issues) where the two latter elements are regarded as underlying aspects, which need to be considered with all components of business models (Figure 2.8).

![Figure 2.8 Generic Elements of Business Models](image)

Source: Modified from Alt & Zimmerman (2001)
Based on a review of recent and prevailing literature on business models, Pateli and Giaglis (2004) conclude that most researchers seem to agree about what constitutes a business model. Typically, a business model consists of the following primary components:

- mission (strategic objectives)
- target market (scope and market segment)
- value proposition (product/service offering)
- resources (capabilities, assets)
- key activities (intra- and inter-organizational processes)
- cost and revenue model (cost and revenue streams, pricing policy)
- value chain/net (alliances and partnerships) as the horizontal dimension.

In line with the views presented by Alt and Zimmermann (2001), Pateli and Giaglis (2004) indicate that there are additional dimensions of business models, underlying the above listed core components. These dimensions concern the context in which the business model is implemented and involve components as, for example, market structure, technology, and regulations (ibid.).

Table 2.18 presents a summary of reviewed literature on business models within the field of B2B e-commerce. Due to the apparent variety that exists in literature with respect to business model definitions, and the lack of agreement among authors about what actually constitutes a business model, it was necessary to turn to business model literature and select a definition that could serve as a basis for the literature overview. The business model definition by Lam and Harrison-Walker (2003, p. 18) was selected, since that is a comprehensive definition, proposed in the context of creating a typology of e-business models:

"Methods, concepts, frameworks, or architectures by which companies can use the Internet or the Web to carry out their strategies of capturing dominant market positions, establishing viable market niches, adding value for their stakeholders, or sustaining themselves over time."

Based on that definition, the reviewed literature is divided with respect to two different dimensions. The works are either empirical or conceptual, and discuss business models either as explicit business models or in terms of business model components. In addition, reviewed literature can be grouped into works on a general e-commerce level and those that discuss business models specifically on an e-marketplace level.
Table 2.18 Summary of Literature on Business Models

<table>
<thead>
<tr>
<th>Level</th>
<th>Explicit Business Models</th>
<th>Business Model Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General</td>
<td>General</td>
</tr>
<tr>
<td><strong>Conceptual</strong></td>
<td>Applegate (2001); Lam &amp; Harrison-Walker (2003); Tapscott et al. (2000)</td>
<td>Afuah &amp; Tucci (2001); Alt &amp; Zimmermann (2001); Hamel (2000); Laudon &amp; Traver (2002); Linder &amp; Cantrell (2000); Osterwalder &amp; Pigneur (2002); Pateli &amp; Giaglis (2004); Petrovic et al. (2001); Rayport &amp; Jaworski (2001); Weill &amp; Vitale (2001)</td>
</tr>
<tr>
<td><strong>Specific</strong> (e-marketplace)</td>
<td>Alaniz &amp; Roberts (1999); Daniel &amp; Klimis (1999); Popovic (2002); Skinner (2000)</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Domaracki (2001); Kaplan &amp; Sawhney (2000); Raisch (2001); Rosson (2000); Sculley &amp; Woods (1999)</td>
<td>*</td>
</tr>
<tr>
<td><strong>Specific</strong> (e-marketplace)</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

* Despite all the efforts that have been made, we could not identify any literature classified either as empirical or conceptual with respect to the specific context of B2B e-marketplaces.

2.4.4 e-Marketplace Business Models

As indicated in section 2.4.1, confusion prevails with respect to the definition of e-business models, and there is a lack of consensus on their characteristics. Consequently, this confusion applies to business models concerning e-marketplaces as well. Kauffman and Walden (2001) and Dai and Kauffman (2002a) claim that much research work remains to be done to understand which business models will be successful. Nevertheless, previous research concerning the e-marketplace phenomenon has identified various business models for e-marketplaces. Two common business models described in the literature are the Catalogue (aggregation) model and the Auction model (e.g., Domaracki, 2001; Raisch, 2001). The Catalogue aggregation model (also referred to as the supplier aggregation model) was the first commercial Internet-based marketplace, and today is the most widespread market mechanism (Raisch, 2001). Catalogue-
aggregating e-marketplaces perform as neutral intermediaries, basically by bringing together different companies’ catalogues with a multitude of products and services from various industry suppliers to establish a one-stop shopping site for buyers (Raisch, 2001). Compared with traditional paper catalogues, the electronic version allows easier, faster, and less expensive search of information, goods, and services (Popovic, 2002). Dai and Kauffman (2002a) discuss two types of e-cataloging: buyer-neutral (public) and buyer-specific (private). Essentially, public e-cataloging implies that the same product and price offerings are published to all potential buyers in the marketplaces. Private e-cataloging, on the other hand, enables the e-marketplace to customize the catalogues so that each buyer obtains a specific catalogue that includes products from its preferred and preselected suppliers with which the buyer has already negotiated contracts. The Catalogue aggregation model, particularly the public form, is used mostly within fragmented industries. Private cataloging is normally used in order to reduce the costs associated with transactional purchasing (ibid.).

The Auction model is another common business model employed by B2B e-marketplaces. Generally, the auction process starts with the supplier offering its product for sale. Potential buyers may then place their bids, competitively, until the top price is reached (Domaracki, 2001). The supplier could choose to initiate either an open (i.e., public) auction, advertised on the e-marketplace, or a closed (i.e., private) auction, in which the supplier invites a group of preselected buyers to participate (Raisch, 2001). As an auction process typically includes several buyers competing against each other, auctions thus are normally found in public exchanges (Domaracki, 2001). The Auction model provides a solution for suppliers to get rid of excess inventory (Raisch, 2001). According to Popovic (2002), auctions are particularly appropriate in situations characterized by limited supply, and demand unknown to the supplier, since these are circumstances that will most likely bring forth the highest flexible, market-determined price. Many e-marketplaces start by implementing the auction model, due to the fact that it is relatively easy to set up auction sites, and auctions often prove to be profitable (Raisch, 2001). Different types of online auctions are identified in the literature. A somewhat different model than the standard English auction, which begins with a low price which is bid up, is the Dutch auction, which starts with a high price that falls by fixed increments until a buyer accepts the price (Raisch, 2001). The first bidder automatically takes the item (ibid.). While suppliers initiate English and Dutch auctions, buyers may announce their interest in purchasing specific goods on an e-marketplace that provides Reverse auction. Suppliers bid to get the order by lowering the price. In a reverse auction, the supplier that comes up with the lowest bid usually wins the order (Domaracki, 2001; Raisch, 2001), although factors other than price (e.g., quality of the product and relationship development) are considered in the final decision (Popovic, 2002).
The opposite model to catalogue aggregation is the *Buyer aggregation* model (also known as demand aggregation, volume purchasing, group buying, and on-the-fly co-op). By joining forces online, small buyers may use their collective buying power to obtain higher volume discounts from larger suppliers (Popovic, 2002). Suppliers could benefit from the group-buying model as it enables them to make use of word-of-mouth communication between buyers in various online forums and, thus, reduce marketing costs and acquire new customers (ibid.).

In addition to the aggregation and auction models, e-marketplaces may apply a *Real-time (Liquid) exchange*, which, to a great extent, resembles the traditional stock market exchange model (Popovic, 2002). The Real-time exchange model generally signifies an e-marketplace where buyers and suppliers exchange bids and offers, in near-real time, within an industry spot market for commodity products. These are normally products such as electricity, gas, and telephone. Exchanges are typically used for time-critical purchases and for spot sourcing (ibid.).

According to Popovic (2002), the business models described above do not support new processes. Instead, they are replications of traditional processes that are brought to the Internet in order to reduce costs and speed up processes. *Collaboration e-marketplaces*, however, are claimed by Popovic (2002) to change the nature of both transactions and relationships between buyers and suppliers. By using Web servers as intermediaries, these e-marketplaces provide platforms that facilitate exchange of business information (e.g., business plan, inventory data, sales forecast, and product design) between business partners (Popovic, 2002; Raisch, 2001). Popovic (2002, p. 28) states, “the collaboration features are still in the early development stage, but collaboration is steadily taking off.” However, this development is, to some extent, held back by companies’ hesitation to share sensitive data with business partners, and by the fact that costs for integration of existing technologies are high (ibid.).

Raisch (2001) lists some samples of emerging business models that appear in the e-marketplace arena, and defines them with respect to types of products and services offered by the e-marketplace (Table 2.19). The table also points out the particular benefits of each business model.
Table 2.19 E-marketplace Business Models

<table>
<thead>
<tr>
<th>Types of Business Models</th>
<th>Types of Products and Services</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buyer aggregation</td>
<td>Commodity products and services</td>
<td>E-procurement; price transparency; lower product costs; less rogue spending; shorter procurement cycle</td>
</tr>
<tr>
<td>Supplier aggregation</td>
<td>Commodity products and services</td>
<td>Global sales channel expansion; increased revenues; fast inventory turns for FG; obsolete and excess</td>
</tr>
<tr>
<td>Integration solutions</td>
<td>Blended products and services Buyer/Supplier</td>
<td>PCs with value-added services; Cross-sell, up-sell opportunities; higher-margin business</td>
</tr>
<tr>
<td>Integration services</td>
<td>Integrated business process</td>
<td>Collaborative business services Design, source, make, deliver, sell Faster time-to-value; expense control Better market intelligence Leveraged resources</td>
</tr>
<tr>
<td></td>
<td>Integrated collaboration services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Workflow automation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Demand optimization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Financial, professional services</td>
<td></td>
</tr>
<tr>
<td>Integration systems</td>
<td>CRM, ERP, EDI, KM, SCM</td>
<td>Time-to-value acceleration; leverage partners</td>
</tr>
<tr>
<td>Integrated operations</td>
<td>Warehouses, logistics, freight</td>
<td>Improved working capital Fixed-asset savings</td>
</tr>
<tr>
<td></td>
<td>Freight consolidation</td>
<td></td>
</tr>
<tr>
<td>Translator models</td>
<td>Interconnection services</td>
<td>Value chain integration</td>
</tr>
<tr>
<td>Direct models</td>
<td>Company-specific products/services</td>
<td>Direct to customers; no middlemen sales</td>
</tr>
</tbody>
</table>

Source: Raisch (2001, p. 186)

Dai and Kauffman (2002a) discuss business models from the perspective of role and function, as previously discussed in section 2.3.3, rather than presenting explicit business models. Their framework for studying business models is limited; it does not consider issues associated with industry structure and organization. Nevertheless, they point out that business models vary, depending on the structure of the industry, the market they serve, and the products they cover. In addition, these researchers conclude that varying business models will also be applicable in the future, due to the adopting companies’ heterogeneous needs. For example, companies’ requirements of retaining preferred buyer-
supplier relationships could be met by using private trading mechanisms at the same time as transaction costs could be reduced through the use of public trading mechanisms (ibid.). Table 2.20 presents a summary of business models presented in the literature within the area of B2B e-marketplaces.

Table 2.20 Summary of E-marketplace Business Models

<table>
<thead>
<tr>
<th>Source</th>
<th>Business Model</th>
</tr>
</thead>
</table>
| Alaniz & Roberts (1999) | - Direct transactions  
                          - Trading portals                                                               |
| Daniel & Klimis (1999)    | - Biased market  
                          - Unbiased market  
                          - Personalized regional and global market                                          |
| Kaplan & Sawhney (2000)    | - MRO hubs  
                          - Yield hubs  
                          - Exchanges  
                          - Catalogue hubs                                                               |
| Rosson (2000)             | - Buyer managed  
                          - Supplier managed  
                          - Distributors/market makers  
                          - Content aggregator                                                           |
| Sculley & Woods (1999)    | - Aggregators  
                          - Trading hubs  
                          - Post and browse markets  
                          - Auction markets  
                          - Fully automated exchanges                                                     |
| Skinner (2000)            | - Sell-side applications  
                          - Buy-side applications  
                          - Market-making applications  
                          - Supply chain applications                                                     |
| Popovic (2002)            | - Catalogue aggregation model  
                          - Buyer aggregation model  
                          - Request for Quotas (RFQ) and Request for Proposal (RFP) model  
                          - Auction model (e.g., Standard, Dutch, Reverse)  
                          - Real-time exchange  
                          - Collaboration platform                                                       |
| Domaracki (2001)          | - Catalogue model  
                          - Online distribution model  
                          - Auction model  
                          - Reverse auction model                                                        |
| Raisch (2001)             | - Buyer aggregation  
                          - Supplier aggregation  
                          - Integration solutions  
                          - Integration services  
                          - Integration systems  
                          - Integrated operations  
                          - Translator models  
                          - Direct models                                                               |
2.5 B2B e-Marketplace Challenges

Reviewed literature shows that despite the undoubted value created by B2B e-marketplaces, and the efficient transacting mechanisms they provide for buyers, suppliers, and intermediaries, the creation of e-marketplaces presents substantial challenges (Dai & Kauffman, 2002a; Rayport & Jaworski, 2002). According to Rayport and Jaworski (2002), these challenges generally are business related rather than technical. As presented in the previous section, a number of new business models that are different and more complex than traditional off-line business models have emerged within the area of B2B e-marketplaces. Some authors (e.g., Bruun et al., 2000; Rayport & Jaworski, 2002) also claim that finding a business model that provides enough value for trading partners to justify the effort and cost of participation might be the greatest challenge to the e-marketplace. But finding an appropriate way of creating value is only one piece of the puzzle; e-marketplaces also have to deal with the challenge of capturing some of the value created through them; that is, they have to formulate appropriate revenue models (Bruun et al., 2002). Without the ability to capture a share of the value that the e-marketplace creates for its participants, the e-marketplace will be unable to achieve profitability (ibid.).

B2B e-marketplaces most often charge transaction fees, either to the buyer or the seller, or to both (Bruun et al., 2002; Sculley & Woods, 2001; Turban & King, 2003). Most transaction fees are based on a percentage of the transaction price, usually amounting to between 1 and 5 percent, but these numbers are expected to decrease as technology evolves (Bloch & Catfolis, 2001). Another source of revenue is subscription (or membership) fees, which are usually fixed annual or monthly fees (ibid.). Finally, e-marketplaces can charge license fees, advertising fees, and fees for value-added services (Sculley & Woods, 2001; Bruun et al., 2002).

According to Bruun et al. (2002), e-marketplaces have to make a thorough evaluation of the advantages and limitations of each type of fee so that they can capture as much value as possible. Table 2.21 presents the advantages and limitations of various revenue sources. In addition, Bruun et al. (2002), suggest that the revenue model should rest on a combination of fees rather than on a single fee type. This would allow the e-marketplace to tie its revenue model more accurately to the value it creates, and make it less vulnerable to competition. But, since the perception of value often differs significantly among different types of customers, it is important for the e-marketplace to know its customers when deciding upon an appropriate revenue model (ibid.).
<table>
<thead>
<tr>
<th>Fee type</th>
<th>When/Who</th>
<th>Advantages</th>
<th>Limitation</th>
</tr>
</thead>
</table>
| Transaction fees | Start-up, for bringing together fragmented buyers and sellers | - Can be directly tied to savings (both process and price savings)  
- Important revenue source when high level of liquidity (transaction volume) is reached | - If process savings are not completely visible, use of the system is discouraged (incentive to move transactions off-line)  
- The firm might be perceived as a mere transaction facilitator instead of an industry portal or infomediary  
- Transaction fees likely to decrease with time  
- In the long term, transaction-based fees need to be linked to changing value proposition |
| License fees | Large buyers with large volume Enterprise application providers | - High up-front revenue  
- Creates incentives for many transactions  
- Customization and back-end integration leads to lock-in of participants | - Up-front fee is a barrier to entry for participants  
- Price differentiation is complicated  
- Creates inability to scale with growth of the marketplace |
| Subscription (member ship) fees | In medium to long term | - Create incentives to transact  
- Price can be differentiated  
- Possibility to build additional revenue from new user groups  
- Avoid the difficulty of calculating myriad transaction fees for a given complex solution | - Fixed fee is a barrier to entry for participants |
| Fees for value-added services | | - Service offering can be differentiated  
- Price can be differentiated  
- Possibility to build additional revenue from established, as well as new, user groups (third parties) | - Cumbersome process for customers to continually evaluate new services |
| Advertising fees | Advertising networks focusing niche firms | - Well-targeted advertisements can be perceived as value-added content by trading participants  
- Easy to implement | - Inability to scale with volume  
- Limited revenue potential  
- Overdone or badly targeted advertisements can be a disturbing element on the Web site |

**Source:** Compiled from Skinner (2000); Bruun et al. (2002)
Concerning who the e-marketplace should charge, Chung et al. (2001) suggest that the value created through an e-marketplace should be fairly distributed among those parties who contribute to the value of the exchange. In line with this, Bruun et al. (2002) state, for example, that the party benefiting from the increased efficiency achieved through the use of an e-marketplace should be charged.

Several authors (e.g., Bruun et al., 2002; Dou & Chou, 2002; Kaplan & Sawhney, 2000; Laudon & Traver, 2002; Lucking-Reiley & Spulber, 2001; Raisch, 2001; Ramsdell, 2000; Rayport & Jaworski, 2002; Turban & King, 2003; Wise & Morrison, 2000) agree that the creation of liquidity represents a major challenge for e-marketplace operators. Liquidity is the result of having a sufficient number of participants in the e-marketplace to achieve a critical mass of buyers and suppliers, as well as a sufficient transaction volume (Raisch, 2001; Turban & King, 2003). Achieving a critical mass of buyers and sellers is important, because having the greatest liquidity translates into market domination (Sculley & Woods, 2000), and supports economies of scale and scope, which are important drivers of the e-marketplace business model (Bruun et al., 2002). In addition, Turban and King (2003) state that the earlier an e-marketplace achieves the necessary liquidity level, the better its chances will be for survival. However, our overview of e-marketplace literature indicates that achieving critical mass, and thereby liquidity, takes time. According to Rayport and Jaworski (2002), the process of convincing organizations to join the e-marketplace is both long and expensive, despite the fact that the e-marketplace offers its participants appropriate economic incentives. Prospective buyers and suppliers will not join the e-marketplace only on “visionary predictions of the glorious future of B2B e-trade; they must see the benefits in it right now,” according to Lennstrand et al. (2001, p. 18). Bearing in mind the dilemma that a critical mass of buyers and suppliers must be attracted simultaneously (Lennstrand et al., 2001), the greatest challenge for new e-marketplace operators is to bring the first group of strategic buyers and suppliers into the marketplace and complete the first transactions (Rayport & Jaworski, 2002). A good strategy for building liquidity should, according to Rayport and Jaworski (2002), not only cover attracting a critical mass of buyers and sellers simultaneously, but also include exploiting network externalities and extending liquidity continuously.

---

14 A technology or product exhibits network externalities when it becomes more valuable to users as more people take advantage of it. For example, the more people who are connected to a network within the Internet, the more valuable that network is (Afuah & Tucci, 2001). In an e-marketplace setting, this means that the e-marketplace with the largest base of participants within an industry has a great advantage as the positive network externalities make that e-marketplace even more attractive to join (Bruun et al., 2002).
Both of the key challenges of creating liquidity and capturing value are complex and must be met for an e-marketplace to become successful (Bruun et al., 2002). In addition, these two challenges are related, as there is no value to capture unless there is a sufficient and sustainable flow of transactions from a critical mass of buyers and suppliers (Chung et al., 2001). But, according to Bruun et al. (2002), the tricky part is to handle the trade-off that exists between the two tasks. On the one hand, in an attempt to rapidly attract many participants, the e-marketplace might keep the price of its services low, which naturally affects its ability to generate profit. On the other hand, by focusing on capturing value, the e-marketplace runs the risk that prospective buyers and suppliers may hesitate to join, and turn instead to the e-marketplace’s competitors. Currently, most e-marketplaces prioritize liquidity building, due to the competition they experience (ibid.).

Aside from challenges associated with business models, building liquidity, and capturing value, the literature review indicates that there are additional challenges concerning catalogue content management, internationalization, and adoption that e-marketplaces have to meet to become successful (Rayport & Jaworski, 2002). For the e-marketplace operator, catalogue content management involves challenges associated with location of the content (i.e., internal storage versus external access), external content (i.e., quality, search, and normalization), taxonomy definition and maintenance, mapping to taxonomy, and supplier updates (ibid.). Concerning internationalization, the challenge for e-marketplace operators, according to Rayport and Jaworski (2002), is to enable the use of multiple languages and currencies to facilitate transactions across geographical boundaries.

Finally, Andrew et al. (2000) claim that developing and creating high-value-added services is challenging for e-marketplaces as technology is not in place to enable more sophisticated forms of real-time collaboration among multiple participants. Besides establishing an appropriate technological infrastructure and allocating a considerable amount of time and resources, improving collaboration requires huge changes in internal processes and behaviors (ibid.).

Table 2.22 presents a summary of major challenges, as pointed out in B2B e-marketplace literature.
Table 2.22 Major Challenges for B2B e-Marketplaces

<table>
<thead>
<tr>
<th>Source</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bruun et al. (2002); Rayport &amp; Jaworski (2002)</td>
<td>Finding an appropriate business model</td>
</tr>
<tr>
<td>Bruun et al. (2002)</td>
<td>Capturing value</td>
</tr>
<tr>
<td>Bruun et al. (2002); Dou &amp; Chou (2002); Kaplan &amp; Sawhney (2000); Laudon &amp; Traver (2002); Lucking-Reiley &amp; Spulber (2001); Raisch, (2001); Ramsdell (2000); Rayport &amp; Jaworski (2002); Turban &amp; King (2003); Wise &amp; Morrison (2000)</td>
<td>Creating liquidity</td>
</tr>
<tr>
<td>Rayport &amp; Jaworski (2002)</td>
<td>Adoption</td>
</tr>
<tr>
<td>Rayport &amp; Jaworski (2002)</td>
<td>Internationalization</td>
</tr>
<tr>
<td>Andrew et al. (2000)</td>
<td>Developing and creating high-value-added services</td>
</tr>
</tbody>
</table>

Not all e-marketplaces, however, manage to successfully meet these challenges. Although e-marketplaces are a quite recent phenomenon, there are already many examples of successes and failures among them (Bruun et al., 2002).

2.6 B2B e-Marketplace Success and Failure

In this section, we will first discuss how the success of e-marketplaces can be defined and measured. In addition, we will present an overview of literature on critical success factors and critical failure factors. In general terms, the word “success” can be defined as the achievement of something desired, planned, or attempted, while “failure,” simply stated, is the lack of success (Thesaurus.com, 2004).

2.6.1 Defining and Measuring Success of B2B e-Marketplaces

Discussions about how to define and measure the term success in the context of e-marketplaces are scarce in both academic and non-academic literature. However, one view is represented by researchers such as Bruun et al. (2002), who argue that an e-marketplace is successful when it is profitable. Sculley and Woods (2001, p.
31) refer to analysts who argue that Internet companies should be evaluated on the basis of gross revenue rather than on net income. Sawhney and Zabin (2001) discuss an alternative way of measuring performance and evaluate whether it is successful or not by comparing e-business initiatives with traditional IT initiatives. These authors conclude that while payoffs from traditional IT initiatives are often evaluated in terms of return on investment (ROI) and total cost of ownership (TCO), these units of measurement are not appropriate for measuring e-business initiatives. The reason for this is that e-business initiatives are normally more open-ended and difficult to anticipate in advance, compared to traditional IT initiatives. Moreover, whereas IT initiatives usually focus on cost saving, e-business projects focus instead on value creation. Hence, Sawhney et al. (2001) recommend the use of adaptive units of measurement and suggest several intermediate units (Table 2.23) for measuring progress during the rollout of an e-business initiative.

<table>
<thead>
<tr>
<th>Units of Measurement</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Launch date</td>
</tr>
<tr>
<td>Usage</td>
<td>Number of customers or suppliers using the application</td>
</tr>
<tr>
<td>Performance</td>
<td>On-time delivery; Site up-time</td>
</tr>
<tr>
<td>Relationship</td>
<td>Customer or channel partner satisfaction</td>
</tr>
</tbody>
</table>

Source: Adapted from Sawhney and Zabin (2001)

### 2.6.2 Critical Success Factors

The concept of success factors was developed in the early 1960s by Daniels (1961). According to Daniels (1961, p. 116), “in most industries there are usually three to six factors that determine success; these key jobs must be done exceedingly well for a company to be successful.” Rockart (1979, p. 85), refined and popularized the concept of identifying critical success factors and defined it as events and conditions “in a few key areas which absolutely must go right in order for the business to succeed.” In the context of e-business, critical success factors are defined as “the things a firm must do well to flourish” (Weill & Vitale, 2001, p. 108), or as “contributing conditions, done exceedingly well, for electronic market processes to function with more than average success” (Fairchild, Ribbers, & Nooteboom, 2004, p. 64). In order to identify critical success factors for B2B e-marketplaces in the literature, we use the term as it is defined by Fairchild et al.
(2004, p. 64), since this definition covers factors with “economic impacts towards continuance of electronic markets,” but are not “critical” as in the definition by Rockart (1979).

Although critical success factors with respect to e-marketplaces have been conceptually discussed, not least by several consultancy firms, there is a lack of empirical studies within that area (Fairchild et al., 2004). However, Fairchild et al. identify 17 success factors for electronic markets and divide these into context-related and process-related success factors (Figure 2.9). These success factors were tested with four different case studies. The case analysis shows that four of the proposed success factors, i.e., Frequency of Purchase, Value of Product, Market Variability, and Government Regulations, are not supported as success factors.

Although critical success factors with respect to e-marketplaces have been conceptually discussed, not least by several consultancy firms, there is a lack of empirical studies within that area (Fairchild et al., 2004). However, Fairchild et al. identify 17 success factors for electronic markets and divide these into context-related and process-related success factors (Figure 2.9). These success factors were tested with four different case studies. The case analysis shows that four of the proposed success factors, i.e., Frequency of Purchase, Value of Product, Market Variability, and Government Regulations, are not supported as success factors.

![Figure 2.9 Success Factors of Electronic Markets, Segmented into Context, Process, and Outcome](source)

**Source:** Fairchild et al. (2004)

In their analysis of three e-hubs in a supply chain context, Kathawala et al. (2002) cite attracting and retaining critical mass of transactions, appropriate technology that allows integration with the e-hub’s participants, and the governance of the e-hub management as critical success factors.

Instead of discussing specific critical success factors, Bruun et al. (2002) identify five elements that constitute the foundation (or strategic position) for e-marketplace success. By testing their theoretical framework during the rollout of one B2B e-marketplace, Bruun et al. (2002) found focus, governance, functionality, technology, and partnership was essential for e-marketplace success. Various issues must be considered with respect to each of these elements (Table 2.24), which must also be carefully designed and continuously modified in order to accomplish success.

67
Table 2.24 Elements of the Setup of an e-Marketplace – Foundation for Success

<table>
<thead>
<tr>
<th>Element</th>
<th>Issues to consider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus</td>
<td>- Identifying which specific buyer and seller segments to target</td>
</tr>
<tr>
<td></td>
<td>- What type of products are available on the e-marketplace</td>
</tr>
<tr>
<td></td>
<td>- Key players in a given industry</td>
</tr>
<tr>
<td></td>
<td>- Geographic coverage</td>
</tr>
<tr>
<td></td>
<td>- Horizontal vs. vertical e-marketplace</td>
</tr>
<tr>
<td>Governance</td>
<td>- Degree of neutrality (i.e., neutral or biased toward buyers or suppliers)</td>
</tr>
<tr>
<td>Functionality</td>
<td>- Commerce (i.e., trading mechanisms)</td>
</tr>
<tr>
<td></td>
<td>- Content (i.e., commerce content and other value-added content)</td>
</tr>
<tr>
<td></td>
<td>- Collaboration (i.e., between buyers and sellers, and with third parties)</td>
</tr>
<tr>
<td></td>
<td>- Coordination of Commerce, Content, and Collaboration</td>
</tr>
<tr>
<td>Technology</td>
<td>- Type of technological platform</td>
</tr>
<tr>
<td></td>
<td>- Platform’s ability to support development of advanced market-making tools</td>
</tr>
<tr>
<td></td>
<td>- Integrated procurement tools, advanced collaboration tools.</td>
</tr>
<tr>
<td></td>
<td>- Possibility of frictionless integration with the ERP* systems of participating</td>
</tr>
<tr>
<td></td>
<td>buyers and sellers.</td>
</tr>
<tr>
<td></td>
<td>- Scalability</td>
</tr>
<tr>
<td></td>
<td>- Flexibility</td>
</tr>
<tr>
<td></td>
<td>- Security</td>
</tr>
<tr>
<td>Partnership</td>
<td>- Core competence</td>
</tr>
<tr>
<td></td>
<td>- Acquisition of complementary skills</td>
</tr>
</tbody>
</table>

* Enterprise Resource Planning

**Source:** Extracted from Bruun, Jensen and Skovgaard (2002)

With respect to focus, e-marketplace operators should, for example, consider what buyer and seller segments to target, and what products to offer. A lack of clear focus could lead to a situation in which the e-marketplace tries to sell everything to everybody, but ends up selling nothing to anybody. The governance element involves deciding whether the e-marketplace should be neutral or biased toward either buyers or sellers, i.e., by what group it should be operated or controlled (ibid.). Functionality in the context of B2B e-marketplaces is described with respect to three core elements: Commerce, Content, and Collaboration (or Connection) (Kearney, 2000; Bruun et al., 2002). In addition, choosing a scalable, flexible, and secure technological platform that supports the development of various tools and enables integration, is crucial for the success of an e-marketplace. Concerning partnerships, Bruun et al (2002) emphasize that e-marketplaces, like other types of firms, should concentrate on their core competencies and outsource other, non-core, tasks to partners with complementary skills, in order to become successful.
An overview of literature on e-marketplaces, including the empirical studies presented above, indicates that e-marketplaces are successful for a number of reasons. A clear majority of authors discussing the success of e-marketplaces stress the importance of achieving a critical mass of participants, and thereby creating liquidity, to become successful (e.g., Andrew et al., 2000; Bruun et al., 2002; Dou & Chou, 2002; Fairchild et al., 2004; Kaplan & Sawhney, 2000; Kathawala et al., 2002; Kearney, 2000; Laudon & Traver, 2002; Lucking-Reiley & Spulber, 2001; Raisch, 2001; Ramsdell, 2000; Rayport & Jaworski, 2002; Skinner, 2000; Tumolo, 2001; Turban et al., 2002; Weill & Vitale, 2001; Wise & Morrison, 2000). Creating liquidity is not only a critical success factor; as pointed out in the previous section; it also constitutes a major challenge that e-marketplace operators have to deal with.

Another factor that is heavily emphasized as important for e-marketplace success is domain expertise (Andrew et al., 2000; Dou & Chou, 2002; Kearney, 2000; Raisch, 2001; Skinner, 2000; Turban et al., 2002). This involves significant knowledge about industry structure, business processes, industry players, and government and policies.

The ability to capture value and configure an appropriate revenue model is also considered crucial for e-marketplace success (e.g., Bruun et al., 2002; Chung et al., 2001; Raisch, 2001; Sculley & Woods, 2001; Tumolo, 2001; Turban et al., 2002). To be able to capture value, Bruun et al. (2002) state that e-marketplaces must, firstly, offer a compelling value proposition and, secondly, configure an appropriate revenue model.

Several authors (e.g., Andrew et al., 2000; Bloch & Catfolis, 2001; Bruun et al., 2002; Kathawala et al., 2002; Kearney, 2000; Tumolo, 2001; Weill & Vitale, 2001) point out appropriate technology as a critical factor for success. For instance, Bruun et al. (2002) claim that the technological platform should support the development of advanced market-making tools, integrated procurement tools, and advanced collaboration tools. In addition, Tumolo (2001) stresses the importance of seamless integration capabilities (Bruun et al., 2002; Kathawala et al., 2002; Tumolo, 2001). Building the system is not necessarily an internal task, according to Sculley and Woods (2001). Instead, they suggest that the e-marketplace should concentrate on its core competency and outsource the platform building to technology experts.

Concerning strategic partnership, making the right partnerships is very important for achieving success (Bruun et al., 2002; Sculley & Woods, 2001; Skinner, 2000). That is because it allows the e-marketplace to build liquidity and scale up quickly toward market domination. Chung et al. (2001) emphasize that e-
marketplaces should also actively pursue partnering opportunities. Dou and Chou (2002) suggest that vertical exchanges should partner with horizontal (i.e., functional) hubs to facilitate one-stop shopping for buyers connected to the marketplace.

With respect to functionality, several authors (e.g., Bruun et al., 2002; Kearney, 2000; Turban et al., 2002) argue that blending commerce, content, and community/connection (or collaboration) is crucial for success, since the right mix of these components is a requirement to achieve critical mass. Furthermore, complementing process automation with deep content is stated to be a key to success (Dou & Shou, 2002).

Targeting the right industries is another factor suggested as critical for the success of e-marketplaces (Dou & Chou, 2002; Skinner, 2000; Turban et al., 2002). An overview of success factors discussed in the literature is presented in Table 2.25.
Table 2.25 Critical Success Factors

<table>
<thead>
<tr>
<th>Critical Success Factors</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical mass/Liquidity</td>
<td>Andrew et al., 2000; Bruun et al., 2002; Dou &amp; Chou, 2002; Fairchild et al., 2004; Kaplan &amp; Sawhney, 2000; Kathawala et al., 2002; Kearney, 2000; Lucking-Reiley &amp; Spulber, 2001; Raisch, 2001; Ramsdell, 2000; Rayport &amp; Jaworski, 2002; Skinner, 2000; Tumolo, 2001; Turban et al., 2002; Weill &amp; Vitale, 2001; Wise &amp; Morrison, 2000</td>
</tr>
<tr>
<td>Understanding of stakeholder motives to be able to clearly communicate the value created through e-marketplace</td>
<td>Andrew et al., 2000; Fairchild et al., 2004</td>
</tr>
<tr>
<td>Dominance – first mover</td>
<td>Kaplan &amp; Sawhney, 2000; Sculley &amp; Woods, 2001</td>
</tr>
<tr>
<td>Right owners</td>
<td>Ramsdell, 2000; Turban et al., 2002</td>
</tr>
<tr>
<td>Ability to exploit economies of scope</td>
<td>Turban et al., 2002; Wise &amp; Morrison, 2000</td>
</tr>
<tr>
<td>Trust</td>
<td>Fairchild et al., 2004</td>
</tr>
<tr>
<td>Domain expertise</td>
<td>Dou &amp; Chou, 2002; Kearney, 2000; Raisch, 2001; Skinner, 2000; Turban et al., 2002</td>
</tr>
<tr>
<td>Ability to capture value through an appropriate revenue model</td>
<td>Bruun et al., 2002; Chung et al., 2001; Raisch, 2001; Sculley &amp; Woods, 2001; Tumolo, 2001; Turban et al., 2002</td>
</tr>
<tr>
<td>Appropriate technology.</td>
<td>Andrew et al., 2000; Bloch &amp; Catfolis, 2001; Bruun et al., 2002; Kearney, 2000; Kathawala et al., 2002; Tumolo, 2001; Weill &amp; Vitale, 2001</td>
</tr>
<tr>
<td>Strategic partnerships</td>
<td>Bruun et al., 2002; Chung et al., 2001; Dou &amp; Chou, 2002; Fairchild et al., 2004; Sculley &amp; Woods, 2001; Skinner, 2000</td>
</tr>
<tr>
<td>Functionality: Blend content, community (or collaboration), and commerce.</td>
<td>Bruun et al., 2002; Dou &amp; Shou, 2002; Kearney, 2000; Turban et al., 2002</td>
</tr>
<tr>
<td>Focus: targeting the right industries; targeting inefficient (industry) processes; focus on non-complex products with low asset specificity</td>
<td>Andrew et al., 2000; Bruun et al., 2002; Dou &amp; Chou, 2002; Fairchild et al., 2004; Sculley &amp; Woods, 2001; Skinner, 2000; Turban et al., 2002</td>
</tr>
</tbody>
</table>

15 This table should be read bearing in mind that there are some overlaps between critical success factors as presented by different authors. However, our intention is to present examples of critical success factors rather than analyze them.
<table>
<thead>
<tr>
<th>Critical Success Factors</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance: Maintaining commercial neutrality</td>
<td>Bruun et al., 2002; Chung et al., 2001; Kathawala et al., 2002; Ramsdell, 2000; Raisch; Sculley &amp; Woods, 2001; Turban et al., 2002</td>
</tr>
<tr>
<td>Learning cost/Adoption</td>
<td>Fairchild et al., 2004</td>
</tr>
<tr>
<td>Openness</td>
<td>Raisch, 2001; Ramsdell, 2000; Turban et al., 2002</td>
</tr>
<tr>
<td>A full range of services/Complete solutions</td>
<td>Ramsdell, 2000; Skinner, 2000; Turban et al., 2002</td>
</tr>
<tr>
<td>Catalogue content management</td>
<td>Dou &amp; Chou, 2002; Skinner, 2000</td>
</tr>
<tr>
<td>Brand building and brand strength.</td>
<td>Turban et al., 2002</td>
</tr>
<tr>
<td>Management of channel conflict</td>
<td>Kaplan &amp; Sawhney, 2000; Turban et al., 2002</td>
</tr>
<tr>
<td>Transparency and integrity.</td>
<td>Sculley &amp; Woods, 2001</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Andrew et al., 2000; Raisch, 2001; Sculley &amp; Woods, 2001</td>
</tr>
<tr>
<td>Ease of use</td>
<td>Raisch, 2001</td>
</tr>
<tr>
<td>Interoperability</td>
<td>Raisch, 2001</td>
</tr>
<tr>
<td>Standard setting</td>
<td>Raisch, 2001; Skinner, 2000; Wise &amp; Morrison, 2000</td>
</tr>
<tr>
<td>Customization</td>
<td>Andrew et al., 2000; Dou &amp; Chou, 2002; Skinner, 2000</td>
</tr>
<tr>
<td>Creation of value for both suppliers and buyers</td>
<td>Bloch &amp; Catfolis, 2001</td>
</tr>
<tr>
<td>Ownership of customer relationship and customer data</td>
<td>Weill &amp; Vitale, 2001</td>
</tr>
</tbody>
</table>

2.6.3 Critical Failure Factors

In addition to literature discussing critical success factors with respect to e-marketplaces, some authors (e.g., Bloch & Catfolis, 2001; Chen, 2003; Daniel et al., 2003; Ganesh & Madanmohan, 2004) suggest various factors as critical for the failure of e-marketplaces. But none of these authors defines the concept of critical failure factors. Literature in the broader area of e-commerce, however, suggests that critical failure factors could be analyzed through inverted critical success factors (Han & Noh, 2000). The reasons why several e-marketplaces have failed, and why many more are predicted to fail, vary (Turban et al., 2002). Several authors state that many e-marketplaces have failed because they have not
succeeded in gaining critical mass and maintaining liquidity (Chen, 2003; Daniel et al., 2003; Ganesh & Madanmohan, 2004).

Ganesh and Madanmohan (2004, p. 54) identify a number of reasons why e-marketplaces failed to attract suppliers and buyers, and therefore did not achieve critical mass and necessary liquidity:

- Supplier enablement and participation (i.e., suppliers hesitate to join e-marketplaces due to complex procedures and high upfront costs).
- Path dependency (i.e., companies hesitate to break away from existing networks of relationships).
- Asset specificity (i.e., companies do not want to give up investments that have already been made in building a network of contracts).
- Partnerships and relationships (i.e., companies are not culturally prepared to make changes to compete based solely on price within an open marketplace).
- Privacy issues (i.e., suppliers are concerned about competitors possibly getting hold of their price lists).
- Technology adoption (i.e., suppliers are reluctant to adopt new technology).
- Price competition and commoditization (i.e., suppliers are reluctant to compete solely on price and are concerned about their products/services being commoditized due to competition based solely on price).

In summary, many e-marketplaces failed because companies, especially suppliers, were not truly prepared to change their way of doing business (ibid.).

In their study of e-hubs, Daniel et al. (2003) also identify various reasons for failures. Similar to Ganesh and Madanmohan (2004), they found that suppliers hesitate to join e-marketplaces where they perceive that the principal criterion for competition is based on price. Problems in attracting suppliers to the e-marketplace consequently lead to potential buyers becoming reluctant to participate in the e-marketplace. Other factors attributed to the failure of e-marketplaces involve incomplete service offerings (Daniel et al., 2003) and the inability to obtain additional funding (Tumolo, 2001). Venture capitalists are increasingly reluctant to support e-marketplaces with a revenue model based on transaction fees (ibid.). In addition, Bloch and Catfolis (2001, p. 28) state that two pitfalls must be avoided: an industry consortium marketplace “must ensure that the management has the right entrepreneurial mindset in order to focus on speed—an essential requirement to capture significant market share.” The e-
marketplace also has to develop organization, structure, and processes in order to avoid anti-competitive behavior. An overview of failure factors discussed in the literature is presented in Table 2.26.

Table 2.26 Critical Failure Factors

<table>
<thead>
<tr>
<th>Critical Failure Factors</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient financial resources</td>
<td>Tumolo, 2001</td>
</tr>
<tr>
<td>Unable to achieve critical mass and maintain liquidity</td>
<td>Chen, (2003); Daniel et al. (2003); Ganesh &amp; Madanmohan, (2004)</td>
</tr>
<tr>
<td>Supplier enablement and participation</td>
<td>Ganesh &amp; Madanmohan (2004)</td>
</tr>
<tr>
<td>Price competition and commoditization</td>
<td>Daniel et al. (2003); Ganesh &amp; Madanmohan (2004)</td>
</tr>
<tr>
<td>Antitrust issues</td>
<td>Bloch &amp; Catfolis (2001)</td>
</tr>
<tr>
<td>Incomplete service offerings</td>
<td>Daniel et al. (2003)</td>
</tr>
<tr>
<td>Management’s lack of right entrepreneurial mindset</td>
<td>Bloch &amp; Catfolis (2001)</td>
</tr>
</tbody>
</table>
2.7 Evolution of e-Marketplaces and Trends

Although the growth of e-hubs has been phenomenal, there are still concerns with respect to their sustainability and future (Kathawala et al., 2002). Even though current technology allows buyers and sellers to bypass intermediaries entirely, this is not likely to occur (Weill & Vitale, 2001). Instead, B2B e-marketplaces are expected to persist, even in the future, though not in their current form (eMarketservices, 2002). But since indications concerning the future role of e-marketplaces are mixed, there is a need to shed light upon future trends (Daniel et al., 2003).

An overview of literature on B2B e-marketplaces indicates that research explicitly focusing on their future is fairly limited. In a conceptual study, Wise and Morrison (2000) discuss the future of B2B e-commerce, including the development of e-marketplaces. Raisch (2001) provides a vision of e-marketplaces evolving into value trust networks. Daniel et al. (2003) present empirical research on the future of e-hubs, while the empirical study of Anders (2002) emphasizes the future development of B2B e-marketplaces in Europe. Besides these comprehensive works, many authors who discuss B2B e-marketplaces from different viewpoints also indicate some future developments and trends in this respect (e.g., Dai & Kauffman, 2002a; Kathawala et al., 2002; Lennstrnad et al., 2001; Race, 2003; Timmers, 2000).

Several authors (e.g., Anders, 2002; Kathawala et al., 2002; Race, 2003; Raisch, 2001; Timmers, 2000; Wise & Morrison, 2000) foresee that B2B e-marketplaces will eventually develop toward becoming full-service providers. However, Anders (2002) states that B2B marketplaces can be divided into two groups. While some e-marketplaces evolve into providers of comprehensive service offerings, the others will instead niche with respect to their service offerings and, thus, extend their services only marginally. Weill and Vitale (2001) predict that there will be a few major players and a large number of niche players in each industry.

Race (2003) describes how technology solutions for B2B commerce have evolved from EDI to e-marketplaces, and subsequently to Web services. In the next five years, Race foresees an increase of Web services, business service networks and adaptive business networks, and states (p. 12), “the vision is that all business processes will be services encoded in software running on networks.” B2B e-marketplaces will, however, also have a role to play in the future, especially in developing the foundation of business service networks. But e-marketplaces will also become relevant as service aggregators, governing multi-relationship business interactions between trading partners in such a service network (ibid.).
Raisch (2001) also discusses a development toward service networks, and, eventually, global value trust networks, and states that most e-marketplaces are going through an evolutionary process, as illustrated by Figure 2.10. In Phase I the e-marketplace concentrates on matching buyers and suppliers; thus, the focus is on transaction and liquidity. In the next phase, the e-marketplace has moved to supporting value-adding services. In the third phase, when the services are in place, the e-marketplace can move to global knowledge networks. Based on trust and value creation, the e-marketplace can finally (i.e., phase IV) move to global value trust networks, which will weave enterprises, marketplaces, industries, and individuals together into productive digital workgroups. In this phase, the focus is on collaboration, trust, and globalization.

**Figure 2.10 The Evolution of E-Marketplaces**

*Source:* Extracted from Raisch (2001)

In addition to the general prediction that e-marketplaces will focus increasingly on offering value-adding services in future, several authors (e.g., Dai & Kauffman, 2002a; Daniel et al., 2003) foresee that e-marketplaces will become more focused on collaboration processes in the future, due to the fact that information sharing and visibility are considered drivers of joint problem solving (Daniel et al., 2003). Daniel et al. (2003) explored the future of e-hubs in product-based supply chains by analyzing the views of several experts (i.e., practicing managers and industry commentators) on the nature of e-hubs now and in the year 2010. Their analysis indicates that the use of e-hubs will continue to increase, which in turn implies that e-hubs will impact key business processes, buyer-supplier relationships, and industry structure.

With respect to key business processes, buyers are expected to benefit, particularly in the areas of procurement and supply chain management, while suppliers will benefit mainly due to reduced transaction costs (Daniel et al., 2003). The anticipated further propagation of the use of e-hubs is expected to increase
the realization of benefits for both buyers and suppliers, and e-capability will become a supplier selection criterion, rather than a differentiating characteristic (Daniel et al., 2003). However, widespread adoption is dependent on development and adoption of software standards, reliable appropriate technology, and support of senior managers within organizations (ibid.).

Concerning the impact of e-hubs on buyer-supplier relationships, the common view that the use of e-hubs would have a negative impact on such relationships was not supported by the study of Daniel et al. (2003). Rather, the use of e-hubs is expected to increase the level of trust between buyers and suppliers, and encourage buyers’ reduction of the number of supplier relationships. Instead, buyers are expected to cultivate long-term relationships with a smaller group of preferred suppliers, and increase joint problem solving through the use of e-hubs (ibid.).

The use of e-hubs is also expected to support the trend toward a decreasing number of manufacturers (brand owners) and suppliers in industries. The reduced number of brand owners implies a move to more private marketplaces. In addition, tier-one suppliers are expected to increasingly act as service providers, while brand owners will develop into brokers between electronically linked supplier networks and the customer (Daniel et al., 2003).

Concerning what type of e-marketplaces will exist in the future, Dai and Kauffman (2002a), as well as Daniel et al. (2003), predict a move to private e-marketplaces. However, an exception to this move will be seen in industries with small and fragmented buyers and suppliers (Daniel et al., 2003). In such industries, third-party public marketplaces or consortium marketplaces are expected to dominate (ibid.). An additional view is presented by Kathawala et al. (2002), who expect that the distinctions between public and private e-marketplaces will blur. Another anticipated development with respect to type of e-marketplace is presented by Dai and Kauffman (2002a), who foresee that companies’ use of different transacting mechanisms to meet different purchase needs will push B2B e-marketplaces to form all-in-one markets. That is, by offering various trading mechanisms on a single platform, buyers will be enabled to purchase both production and operating supplies in the same e-marketplace (ibid.).

Finally, Lennstrand et al., (2001) claim that electronic trading over the Internet will undoubtedly have a great impact on how companies conduct business in the future. However, professional analysts and industry experts do not agree about how the future business models of B2B e-marketplaces will be formed.
2.8 Summary

In the previous sections of this chapter we have presented an overview of literature related to the area of B2B e-marketplaces, and undertaken an evaluation of previous research related to this study’s problem area, “Critical assessment of B2B e-marketplaces.” This section encompasses a brief summary of Chapter Two.

Section 2.2 provided a background for this study as it comprises various definitions associated with e-marketplaces, a presentation of different ways to classify these, as well as a discussion on how buying and supplying organizations benefit by using B2B e-marketplaces. Subsequently, section 2.3 dealt with value creation through B2B e-marketplaces by focusing on market inefficiencies and how they could be reduced by the use of B2B e-marketplaces. Since value proposition and value creation can be described in terms of business models, and because of the inevitable relation between the concepts of business models and business strategy, section 2.4 discussed definitions and components of these two concepts, as well as differences and relationships between them. The section also focused on explicit business models for e-marketplaces.

Despite the fact that B2B e-marketplaces create undoubted value for buyers, suppliers, and intermediaries, setting up and running an e-marketplace is associated with substantial challenges, which section 2.5 focused upon. In order to gain a better understanding of the reasons why some B2B e-marketplaces managed to successfully meet these challenges, while others failed, critical success factors and critical failure factors were the center of attention in section 2.6. Finally, aiming to obtain increased insight into the way e-marketplaces work, section 2.7 focused on the evolution of B2B e-marketplaces and trends within this area.

In the next chapter, an overview of the literature will be used to develop this study’s research problems and related research questions. A conceptual framework for this study will also be developed, based on the literature that has been presented in this chapter and the results from a pilot study that will be presented in the next chapter.
CHAPTER THREE
PROBLEM DISCUSSION, RESEARCH PROBLEM, RESEARCH QUESTIONS AND CONCEPTUAL FRAMEWORK

3.1 Introduction

Chapter One outlined the background of the problem area: “Assessment of B2B e-marketplaces.” Chapter Two then presented and evaluated an overview of previous research related to this problem area. Based on the literature review, this third chapter will begin with a problem discussion that formulates the research problem. Additionally, results from the pilot study of three B2B e-marketplaces are presented. Based on the research problem and the pilot study results, relevant research questions are formulated, and a delimitation of the thesis is presented. This chapter will conclude with a conceptual framework, the aim of which is to guide the subsequent data collection.

As discussed in the first chapter, e-marketplaces have become increasingly important players in the business-to-business field. Due to the many potential benefits these marketplaces have offered to their participants, interest in trading through them has increased considerably in the business community (Daniel, Hoxmeier, White, & Smart, 2004). Some researchers optimistically predicted that most B2B transactions would be carried out via e-marketplaces by the year 2003 (Nairn, 2000 in Daniel et al., 2004). Subsequently, numerous companies hastily entered the B2B e-marketplace arena, bringing many initiatives and large capital investments (Gebauer & Shaw, 2002), but often without a clear understanding of their customers’ priorities and how to actually earn money (Wise & Morrison, 2000). As a result, many B2B e-marketplaces failed (Stockdale & Standing, 2002), even though many continue to thrive (Daniel et al., 2004). However, the failure of some marketplaces and the success of others raises questions concerning which marketplaces will be successful in the future, and whether the entire idea is viable (Kathawala et al., 2002; Daniel et al., 2004).

3.2 Problem Discussion and Research Problem

Electronic trading over the Internet is expected to have a large impact on how companies will conduct business in future (Lennstrand et al., 2001), and trading through B2B e-marketplaces is expected to increase substantially (Kaplan &
Sawhney, 2000). But the phenomenon of B2B e-marketplaces is fairly new and still in a formative stage (Dai & Kauffman, 2002a), a fact that, together with the current consolidation of B2B e-marketplaces (Stockdale & Standing, 2002), suggests that it is increasingly important for B2B e-marketplace operators to understand how these e-marketplaces really work and create value. This raises questions about the characteristics of viable B2B e-marketplace models, factors contributing to their success (Gebauer & Shaw, 2002), and what business strategies should be adopted to reach long-term sustainability (Bruun et al., 2002). But while the use of appropriate business strategies is claimed to be very important, it is also argued that the rapid development within B2B e-commerce increases the degree of uncertainty, which, in turn, makes the development of such strategies truly challenging (Timmers, 2000; Rayport & Jaworski, 2002).

The literature review indicates, unfortunately, that research within the broader area of B2B e-business does not present any clear picture with respect to the shape and role of e-business models, and what constitutes a successful business model (Vassilopoulu et al., 2003). In addition, research related to the more specific area of B2B e-marketplaces is fairly limited and generally provides only fragmented answers, due to the fact that these studies have specific perspectives. For example, e-marketplaces have been looked upon from a technological perspective, from the viewpoint of a particular industry or geographical market, or simply as investment opportunities. As a result, authors, usually with rather dissimilar views about the structures and functions of e-marketplaces, have examined e-marketplace models under a variety of names and definitions, thus creating confusion rather than increased understanding among business practitioners (Popovic, 2002).

The lack of research within the area of B2B e-marketplaces has been emphasized by, for example, Bruun et al. (2002), who point out that it is necessary to investigate the e-marketplace operators’ need to understand how viable business models and appropriate strategies might be constructed. In particular, they highlight the lack of holistic research aimed at developing models that would help e-marketplace managers understand and create the necessary business strategies.

Likewise, Kauffman and Walden (2001), as well as Turban and King (2003), stress the need for further research on business models. While Kauffman and Walden (2001) emphasize the need to understand exactly how business models and performances are changed by the Internet, Turban and King (2003) stress the need for further research that focuses on identifying business models and where to use them. But Turban and King (2003) also indicate that there is a lack of research concerning the analysis of the success or failure of applications. In addition, Daniel et al. (2003) point out that indications with respect to the future role of
B2B e-marketplaces are mixed, and that it is, therefore, essential to shed light also upon future trends within this area.

The importance of understanding how B2B e-marketplaces work has been highlighted in Chapter One and Chapter Two. Based on the previous discussion, conclusions can be drawn that there is a need for more detailed research on B2B e-marketplaces, focusing especially on their business performance, in order to better comprehend the phenomenon. Thus, the research problem for this thesis is formulated as:

Based on the review of literature, we have identified four dimensions essential for the assessment of business performance of B2B e-marketplaces: Strategic Position, Critical Success Factors, Challenges, and Business Model (e.g., Bruun et al., 2002; Lennstrand et al., 2001; Rayport & Jaworski, 2001). Because there has been limited research on B2B e-marketplaces, a pilot study was conducted to verify the appropriateness of analyzing B2B e-marketplaces’ business performance from these mentioned dimensions. In conjunction with the review of literature, the pilot study was used to help to develop the research questions, as well as to develop concepts and conceptualize more clearly. Consequently, the pilot study facilitated the development of the conceptual framework. The pilot study was conducted within three B2B e-marketplaces. The companies were mainly selected based on convenience (i.e., access), but our purpose was also to encompass e-marketplaces that represent diverse ownership structures (biased versus independent), as well as different direction of trade (horizontal versus vertical\(^\text{16}\)).

### 3.2.1 Pilot Study

As indicated, the pilot study was conducted to clarify major dimensions identified by the literature as important for the performance of B2B e-marketplaces (i.e., Strategic Position, Critical Success Factors, Challenges, and Business Model). Results from the analysis are presented in this section. Since the aim was to achieve a deeper understanding of a new and complex area (i.e., B2B e-

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16. *Vertical* e-marketplaces serve one specific industry or industry segment, whereas *Horizontal* e-marketplaces provide the same functions (i.e., procurement) across different industries (Grieger, 2003).
marketplaces), this pilot study was designed to be exploratory, and a qualitative method was selected. Respondents were interviewed at three B2B e-marketplaces (Company One, Company Two, and Company Three) by means of an interview guide with open-ended questions, but the respondents were also allowed to freely express opinions and insights concerning the subject matter. The respondents, who had both insight and knowledge in the field, were identified through preliminary contacts. Appendix 1 presents the demographic characteristics of the e-marketplaces investigated, and the findings of the pilot study. The appendix includes results relating to the investigated e-marketplaces’ Strategic Position (i.e., focus, governance, functionality, technology, and partnerships), Critical Success Factors, Challenges, and Business Model (i.e., revenue model and value proposition). However, a summary of the findings concerning each of the four dimensions is also presented in Table 3.1 – 3.5.
Table 3.1 Summary of the Strategic Position of the Investigated B2B e-Marketplaces

<table>
<thead>
<tr>
<th>Strategic Position (elements)</th>
<th>Company One</th>
<th>Company Two</th>
<th>Company Three</th>
</tr>
</thead>
</table>
| Focus                        | • Horizontal  
• Non-strategic goods and services  
• Nordic Countries  
• Buyers: Large firms (membership is required)  
• Suppliers: Buyers’ existing relationships  
• No focus on particular industry key players, but initially focusing on key players in each country. | • Horizontal  
• Non-strategic goods and services  
• Europe, Nordic countries  
• Buyers: Large, decentralized service firms (membership is required)  
• Suppliers: Buyers’ existing relationships  
• No focus on particular industry key players | • Vertical  
• Cell phones and accessories  
• Global  
• Buyers: Membership is not required  
• Suppliers: Wholesalers and large distributors*  
• No focus on particular industry key players |
| Governance                   | • Neutral**, but to some extent biased toward buyers.  
• Open for buyers. | • Neutral.  
• Open for buyers. | • Neutral.  
• Open for both buyers and suppliers. |
| Functionality                | • **Commerce**: Auction, Reverse auction, Catalogue, Catalogue with online-order, Exchange  
• **Content**: Managing catalogue content  
• **Collaboration**: Currently no collaboration tools in place | • **Commerce**: Catalogue with online order  
• **Content**: Managing catalogue content  
• **Collaboration**: Currently no collaboration tools in place | • **Commerce**: Auction, Exchange  
• **Content**: Detailed product specifications  
• **Collaboration**: Currently no collaboration tools in place |
| Technology                   | • **Commerce One**: platform  
• Offers various technological solutions for connecting suppliers to the e-marketplace | • Oracle platform  
• Large extent of in-house system development | • Linux operating system  
• Outsourcing system development |
| Partnership                  | • Few but deep partnerships with technology providers  
• Approach the market to offer a fully-fledged solution in collaboration with SAP | • Few but deep partnerships with technology providers  
• Offers e-invoice and P-Card solutions in collaboration with a large financial services group | • Few but deep partnerships with technology provider |

* In Company Three’s case, a buyer can act as a supplier and vice versa.  
** An e-marketplace that is not operated or controlled by just one user group (e.g., buyers or sellers)
Table 3.2 Factors Perceived as being Critical for Success of the E-marketplace

<table>
<thead>
<tr>
<th>Company One</th>
<th>Company Two</th>
<th>Company Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Procurement process experience</td>
<td>• Competent and structured sales process (of e-marketplace’s services)</td>
<td>• Industry expertise</td>
</tr>
<tr>
<td>• Focus on large companies that provide committed liquidity</td>
<td>• Trustworthiness</td>
<td>• Trustworthiness</td>
</tr>
<tr>
<td>• Buyers can join the e-marketplace only by bringing in their existing</td>
<td></td>
<td>• Showing activity by displaying frequent offers and requests on the Web site to keep up members’</td>
</tr>
<tr>
<td>business relationships (i.e., suppliers)</td>
<td></td>
<td>interest in trading.</td>
</tr>
<tr>
<td>• The right governance where the Board seriously supports Management</td>
<td></td>
<td>• Ability to create business opportunities that lead to actual deals.</td>
</tr>
<tr>
<td>• Cost control</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Ability to create business opportunities that lead to actual deals.</td>
<td></td>
</tr>
</tbody>
</table>

Table 3.3 Summary of Challenges as Perceived by the Respondents in each B2B e-Marketplace

<table>
<thead>
<tr>
<th>Challenges at the start-up of the e-marketplace</th>
<th>Company One</th>
<th>Company Two</th>
<th>Company Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Resolving the business model</td>
<td>• Financing</td>
<td>• Financing</td>
<td>• Increasing revenue</td>
</tr>
<tr>
<td>• Understanding the business model and its</td>
<td>• Finding sufficient and adequate competence</td>
<td>• Acquiring members</td>
<td>• Acquiring manufacturers</td>
</tr>
<tr>
<td>consequences</td>
<td></td>
<td></td>
<td>• Expanding use of the Escrow system</td>
</tr>
<tr>
<td>Present challenges</td>
<td></td>
<td></td>
<td>• Creating a local partner network</td>
</tr>
<tr>
<td>• Customer acquisition</td>
<td>• Customer acquisition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Further geographical expansion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Balance the allocation of resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Pinpoint customers’ actual needs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anticipated Future Challenges</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Changes in organizational structure due to</td>
<td>• Customer acquisition</td>
<td></td>
<td>• Revising business model</td>
</tr>
<tr>
<td>growth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Extension into new product areas</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 3.4 Summary of Revenue Model of the Investigated B2B e-Marketplaces

<table>
<thead>
<tr>
<th></th>
<th>Company One</th>
<th>Company Two</th>
<th>Company Three</th>
</tr>
</thead>
</table>
| **Buyers**     | • Subscription fee, based on the e-marketplace’s commitment (e.g., number of activated suppliers) | • Subscription fee, based on the e-marketplace’s commitment (e.g., number of activated suppliers, number of invoices) | • Fixed membership fee  
• Registration fee  
• Transaction fee for Escrow service |
|                | • Two-thirds of revenue originates from buyers                               |                                                                           |                                                                              |
| **Suppliers**  | • Subscription fee                                                           | • No fee                                                                   | • Fixed membership fee  
• Registration fee  
• Transaction fee for Escrow service |
|                | • One-third of revenue originates from suppliers                             |                                                                           |                                                                              |

### Table 3.5 Summary of Value Propositions of the Investigated B2B e-Marketplaces

<table>
<thead>
<tr>
<th>Company One</th>
<th>Company Two</th>
<th>Company Three</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value proposition to suppliers:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• New customer reached</td>
<td>• Integrated solutions for electronic documents</td>
<td>• Company C offers a trustworthy network of traders. This network enables new members to immediately begin trading, and provides small companies with desirable access to manufacturers and very large distributors.</td>
</tr>
<tr>
<td>• Reduced selling costs</td>
<td>• Improved processes for handling orders and invoices</td>
<td></td>
</tr>
<tr>
<td>• Completely integrated statistics for customer relationship management and profitable customer analysis</td>
<td>• Enhanced contract compliance, and thereby increased volume.</td>
<td></td>
</tr>
<tr>
<td>• More effectively managed excess and obsolete products through auction tool</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Financial services including, for example, credit risk insurance and e-invoicing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Logistical services integrated with the Company One marketplace.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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### Table 3.5, Cont.: Summary of Value Propositions of the Investigated B2B e-Marketplaces

<table>
<thead>
<tr>
<th>Company One</th>
<th>Company Two</th>
<th>Company Three</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value proposition to buyers:</strong></td>
<td><strong>Value proposition to buyers:</strong></td>
<td><strong>Value proposition to buyers:</strong></td>
</tr>
<tr>
<td>• Increase organizational efficiency in the sourcing process</td>
<td>• Possibility of enhancing contract compliance and thereby reducing cost per unit.</td>
<td>• Company C offers a trustworthy network of traders. This network enables new members to begin trading immediately, and provides small companies with desirable access to manufacturers and very large distributors.</td>
</tr>
<tr>
<td>• Secure contract compliance and save costs by implementing e-procurement solutions</td>
<td>• Increased efficiency in procurement process and invoice handling, thereby saving time and money</td>
<td></td>
</tr>
<tr>
<td>• Reduce manual work and minimize administration by automation and user-friendly self-service</td>
<td>• Reduced general administration costs in the long run.</td>
<td></td>
</tr>
<tr>
<td>• Create transparency of spend and get better sourcing data</td>
<td>• Enhanced quality and better control.</td>
<td></td>
</tr>
<tr>
<td>• Get electronic interface with suppliers and increase the efficiency of the supply chain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Manage e-procurement catalogues by specialized content refinery and secure better search-and-find</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Move from operational buying to strategic sourcing by tailoring the service for the buying company’s needs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Value proposition to potential new owners and partners:</strong></td>
<td><strong>Value proposition to potential new owners and partners:</strong></td>
<td><strong>Value proposition to potential new owners and partners:</strong></td>
</tr>
<tr>
<td>• Due to its good reputation Company One could be regarded as an interesting player. However, currently, Company One does not strive for new owners or partners.</td>
<td>• Being an attractive investment; this is driven by Company B’s growth in sales volume and profitability, as well as by market growth.</td>
<td>• Not disclosed</td>
</tr>
</tbody>
</table>
Conclusions

The three mini-cases in the pilot study provided an understanding of the complexity of the B2B e-marketplace phenomenon. The overall analysis of the three cases, however, indicates that:

A) With respect to **Strategic Position**:  
B2B e-marketplaces can differ considerably in all elements of the strategic position; i.e., focus, governance, functionality, technology, and partnership. The differences, illustrated by the three pilot cases, indicate that B2B e-marketplaces cannot easily be classified into distinct categories as suggested by several researchers (e.g., Kaplan & Sawhney, 2000; Rayport & Jaworski, 2001; Skjott-Larsen et al., 2003). For example, Company One is considered partly both a neutral and a buy-side e-marketplace by the company’s representatives. This implies that it is important to understand B2B e-marketplaces’ strategic positions to assess these firms.

B) With respect to **Critical Success Factors**:  
Factors critical for the success of e-marketplaces vary, although trustworthiness and process, or industry expertise, were mentioned as crucial in two of the companies. The disclosed differences with respect to critical success factors could possibly be explained, at least partly, by the differences in the e-marketplaces’ strategic positions. For example, trustworthiness was highlighted as a critical success factor in Company Two and Company Three, while Company One did not consider it an issue. This was explained by the fact that Company One was set up by a number of very large firms that brought their existing supplier relationships to the e-marketplace (i.e., strategic position with respect to buyer focus and governance).

C) With respect to **Challenges**:  
E-marketplaces face different challenges, and these change over time. Despite the differences demonstrated in the pilot study, customer acquisition is evidently a major challenge for all three e-marketplaces. Another emphasized challenge deals with business model decisions (i.e., resolving and adjusting them). The pilot study clearly supports the previous finding that setting up e-marketplaces involves many challenges. This indicates that understanding what challenges an e-marketplace has to meet in order to succeed is essential for the assessment of these companies.
D) With respect to Business Model:

Deciding about and revising the business model are main concerns for e-marketplace operators. This may be because the B2B e-marketplace is a new phenomenon where traditional business models cannot easily be applied; there are simply no clear-cut B2B e-marketplace business models. Instead, it is a matter of fitting together various components to form a suitable business model. Thus, the findings of the pilot study indicate that it would be more appropriate to investigate business model components rather than “fixed” business models in order to understand how B2B e-marketplaces work.

3.2.2 Research Questions

Within the scope of the research problem of this thesis: “How, in a holistic view, can the business performance of a B2B e-marketplace be analyzed?”, and the result of the pilot study, four research questions were developed.

Research Question 1

As discussed in Chapter Two, and also illustrated by the pilot study, B2B e-marketplaces are not homogeneous organizations that can be described in one single business model. Instead, they might differ fundamentally with respect to, for example, ownership structure, direction of trade, and type of products offered on the e-marketplace. This indicates that B2B e-marketplaces’ foundations (i.e., strategic position), from which challenges are met, vary (Bruun et al., 2002). Hence, it is essential to map out major differences with respect to e-marketplaces’ strategic positions in order to be able to describe business strategies used by these firms.

Reviewed literature shows that basic differences, for example, in ownership structure or direction of trade, have been used by various researchers (e.g., Kaplan & Sawhney, 2000; Lennstrand et al., 2001; Rayport & Jaworski, 2001; Skjott-Larsen et al., 2003) as a basis for classifying e-marketplaces. However, these different classifications are typically made from various specific viewpoints (e.g., ownership structure or direction of trade) that overlap to some extent. Consequently, these classifications have been criticized for not fully recognizing all the various business models which have emerged or considering the possibility that operators of B2B e-marketplaces might well combine several categories (Stockdale & Standing, 2002; Rayport & Jaworski, 2002).

Bearing in mind the lack of a commonly agreed taxonomy of B2B e-marketplaces, and the continuously changing business environment in which these companies operate, we find limited value in using previously discussed
classifications of B2B e-marketplaces as the starting point for describing their business performance. As an alternative to those classifications, Bruun et al. (2002) have developed a framework of e-marketplace strategy from a more holistic viewpoint. Their framework explains how e-marketplaces, in order to achieve success, must create a strong strategic position and meet the challenge of building liquidity and capturing value. The term “strategic position” refers to the elements (i.e., focus, governance, functionality, technology, and partnership) that make up the foundation for success when setting up an e-marketplace.

Since the framework developed by Bruun et al. (2002) is comprehensive, detailed, and provides an overall perspective on e-marketplace strategy, the part of their framework that deals with the foundation, (i.e., strategic position) will be used as a theoretical base for this thesis. The composition of the strategic position will be identified and described with an aim to identify and analyze possible differences with respect to business performance. Based on this discussion, the first research question is formulated as:

How can the strategic position of B2B e-marketplaces be characterized?

**Research Question 2**

The aforementioned development within the field of B2B e-marketplaces raises many questions about the factors contributing to their success (Gebauer & Shaw, 2002), and stresses the importance of understanding what those factors entail. However, literature concerning B2B e-marketplaces, as well as analysis of the pilot study, indicates that factors important for success vary, depending, for instance, on whether the e-marketplaces focus on vertical trading within a specific industry, or instead focus on providing the same function (e.g., procurement) across different industries. For example, several authors (e.g., Andrew et al., 2000; Dou & Chou, 2002; Kearney, 2000; Raisch, 2001; Skinner, 2000; Turban et al., 2002) point to domain expertise as a critical success factor. For vertical e-marketplaces, this involves having deep knowledge of a particular industry; in the case of horizontals, domain expertise implies that they have to be experts on specific processes and also be able to standardize them (Dou & Chou, 2002).

Based on the fact that critical factors for success and/or failure vary due, for instance, to the e-marketplace’s direction of trade, our assumption is that the strategic position sets the boundaries for the elements which constitute critical success or failure factors. Research conducted in the B2B e-marketplace area suggests various factors that are crucial for the success of e-marketplaces, as well
as different factors that might lead to failure. However, the literature review reveals that critical success and failure factors are mainly discussed conceptually, whereas empirical studies dealing with these issues are lacking (Fairchild et al., 2004). Thus, the second research question is formulated as:

**Research Question 3**

As discussed in Chapter Two, creating an e-marketplace is associated with considerable challenges (Dai & Kauffman, 2002a; Rayport & Jaworski, 2002). Research within the field of B2B e-marketplaces points out that finding an appropriate business model (e.g., Bruun et al., 2002), achieving critical mass of participants in order to create liquidity (e.g., Dou & Chou, 2002; Kaplan & Sawhney, 2000), and creating and capturing value (e.g., Bruun et al., 2002) are major challenges. In addition, the pilot study indicates that the challenges change over time.

With respect to research, there are, however, very few empirical studies focusing on identification of B2B e-marketplace challenges and determination of their importance as perceived by B2B e-marketplace operators. Thus, the third research question is formulated as:

**Research Question 4**

Business models are inevitably linked to business strategy (Seddon & Lewis, 2003), and play a central role in firm performance (Afuah & Tucci, 2001). Since the business model is at the core of a company’s e-commerce business strategy process (Rayport & Jaworski, 2002), in order to meet major challenges and become successful, B2B e-marketplace operators need to develop appropriate business models. Thus, to gain a better understanding of the B2B e-marketplace phenomenon, it is vital to focus on emerged business models in this area. However, there is no commonly accepted definition of the business model concept
(Osterwalder & Pigneur, 2004), and the question of what constitutes a successful business model has no clear-cut answer (Vassilopoulu et al., 2003; Pateli & Pouloudi, 2003). Instead, research on business models could, as pointed out in Chapter Two, be divided into two major streams: one that focuses on explicit models, and another that concerns definitions and analysis of business model components (Pateli & Giaglis, 2004).

Most recent research concerning business models has found it more useful to emphasize the components of business models rather than deal with business model definitions (Pateli & Giaglis, 2004). The prevailing confusion concerning business models and the rapid emergence of various business models within e-business, which typically are more complex than those of traditional business (Osterwalder & Pigneur, 2004), indicate that discussing explicit business models in order to understand the B2B e-marketplace phenomenon, is not particularly constructive. Thus, in line with recent research, we will highlight business model components in this thesis rather than focus on different types of business models.

Literature review reveals an apparent lack of empirical as well as conceptual research on business model components in the specific context of B2B e-marketplaces. Although there are a few empirical studies on business model components within the broader area of B2B e-business (e.g., Amit & Zott, 2001; Chesbrough & Rosenbloom, 2002), most literature on business model components is conceptual (e.g., Alt & Zimmerman, 2001; Pateli & Giaglis, 2004; Petrovic et al., 2001). Research on business model components does not, however, present any commonly agreed upon set of components, although most frameworks cover the two central components of value proposition and revenue (e.g., Afuah & Tucci, 2001; Chesbrough & Rosenbloom, 2002; Linder & Cantrell, 2000; Petrovic et al., 2001). Instead, researchers have developed a number of frameworks covering different sets of business model components.

In this thesis, we will use Pateli and Giaglis’s (2004) framework for analyzing e-business models as a theoretical foundation, since this is the most recent framework dealing with business model components that we have identified in the literature review. In addition, the framework developed by Pateli and Giaglis (2004) is comprehensive, since it is synthesized from recent and prevalent literature on business model components, and therefore covers business model components proposed by others (e.g., Amit & Zott, 2001; Afuah & Tucci, 2001; Alt & Zimmermann, 2001; Chesbrough & Rosenbloom, 2002; Hamel, 2000; Linder & Cantrell, 2000; Osterwalder & Pigneur, 2002; Petrovic et al., 2001; Weill & Vitale, 2001).
The core components of business models discussed by Pateli and Giaglis (2004) involve mission, target market, value proposition, resources, key activities, cost and revenue model, and value chain/net. However, Pateli and Giaglis (p. 308) also indicate the existence of underlying components that “set the contextual framework in which the business model is implemented” (e.g., market structure, regulation regime and technology maturity).

The apparent link between business model and business strategy, the lack of research on business model components in the area of B2B e-marketplaces, the limited empirical research on business model components in the area of e-business, and the prevailing uncertainty concerning what constitutes a successful business model, provide the basis for the fourth research question:

What is the critical impact of the components of business models on the success and/or failure of B2B e-marketplaces?

3.2.3 Delimitations

Basically, the literature on B2B e-marketplaces can be divided into two main streams. While one stream aims at explaining why this phenomenon emerged at all (e.g., Malone, Yates & Benjamin, 1987; Benjamin & Wigand, 1995; Bakos, 1997), the other stream of literature deals with specific aspects of B2B e-marketplaces, such as their success or failure (Fairchild et al., 2004), their impact on industries (Choudhury et al., 1998; Giaglis et al., 2002), and their functionality and services (Bakos, 1998). The intention of this thesis is not to explain the reasons behind the emergence of B2B e-marketplaces, but to focus on the managerial and organizational aspects once a B2B e-marketplace has been established.

3.3 Conceptual Framework

The purpose of this section is to build an appropriate conceptual framework for assessing the business performance of B2B e-marketplaces. Miles and Huberman (1994, p. 18) claim that a conceptual framework explains “…either graphically or in narrative form, the main things to be studied—the key factors, constructs or variables—and presumed relationships among them.” The conceptual framework, which may either precede or follow the formulation of research questions, will help the researcher identify who and what will or will not be studied (ibid.). The necessity of clearly defining concepts used in a research study is highlighted by
Cooper and Schindler (2001), who claim that confusion about the meaning of the concepts could jeopardize the value of the study.

The emerged conceptual framework for this study is developed based upon the research problem, which is an outcome of literature review, and research questions, which emerged from the research problem and the conducted pilot study. The above process provides evidence to conclude that a prerequisite factor for success is to decide on the appropriate strategic position of the organization, while being able to recognize relevant critical success and/or failure factors, and thereby enable the B2B e-marketplace to clearly identify the challenges, so it can develop an appropriate set of business model components and, as a result, achieve success.

However, since companies do not operate in isolation from their environment (Afuah & Tucci, 2001; Jelassi & Enders, 2005), an assumption can be made that the environment within which an e-marketplace is operating has an impact on the success and/or failure of the firm. This will therefore be taken into account as an underlying factor influencing the firm’s strategic position, critical success, and/or failure factors, challenges, and business model.

Our intention is to see if provided evidence can be validated or not. Figure 3.1 shows a graphical description of the emerged conceptual framework. The framework is described as a process with the indication that we have no scientific evidence to indicate either the starting or ending point of the process. Thus, we strongly believe we should let the findings of this study decide on the process on the whole, and specify the starting point if possible. In addition, literature review suggests that there are overlaps between some of the dimensions. This will be dealt with under the section 3.3.4 “Business Model Components”.

The concepts used in the framework (i.e., strategic position, critical factors, challenges, business model components, and success) are conceptualized and will be presented in subsequent sections.
3.3.1 Strategic Position

The first research question addresses the strategic position of B2B e-marketplaces. Bruun et al. (2002) describe the strategic position in terms of five elements (i.e., Focus, Governance, Functionality, Technology, and Partnership) that must be carefully designed in alignment in order to constitute the foundation for e-marketplace success. In line with the views provided by Bruun et al. (2002, p. 289), the focus will be on these elements, since they cover “the most important, the least understood, and the unique strategic issues inherent in the setup of the e-marketplace business model.” In addition, these elements are all core to current research on e-marketplaces (ibid.). Consequently, other aspects of e-marketplaces, such as organization, marketing, and financing, will not be considered as part of the strategic position, since they do not fall under the requirements of being
among the most important, the least understood, unique for the setup of an e-marketplace, or core to current research on the topic.

In this thesis, the strategic position of an e-marketplace is conceptualized as the five elements discussed by Bruun et al. (2002) (i.e., Focus, Governance, Functionality, Technology, and Partnership). The measure used to capture the strategic position in this investigation is presented in Table 3.6.

Table 3.6 Measures to Capture the Strategic Position

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Concept</th>
<th>Conceptual Definition</th>
<th>Measure</th>
</tr>
</thead>
</table>
| Strategic position | **Focus**      | - Targeted segments of buyer and supplier organizations  
- Geographical coverage  
- Type of products available on the e-marketplace  
- Direction of trade (horizontal vs. vertical) | Description of:  
- the main targeted segments of buying and selling organizations and their geographical location,  
- the major type of products traded through the e-marketplace,  
- the main direction of trade (as perceived by respondents in this thesis study)                                                                                       |
| Governance         | Degree of neutrality (or ownership structure) |                                                                                                                                                                                                                       | Description of ownership structure                                                                                                                                                                |
| Functionality      | **Commerce**: Trading functions  
**Content**: Commerce content (i.e., content closely related to purchases).  
**Value-added content** (i.e., information on important industry-related issues, community information forums, related party information).  
**Collaboration**: Collaboration tools that connect trading participants and third parties. | Description of:  
- trading function facilitated through the e-marketplace  
- main features of commerce content  
- main features of value-added content  
- main collaboration tools (as perceived by respondents in this thesis study)                                                                                      |
Table 3.6, Cont.: Measures to Capture the Strategic Position

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Concept</th>
<th>Conceptual Definition</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic position</td>
<td>Technology</td>
<td>Type of technological platform and - its ability to support the development of advanced market-making tools, integrated procurement tools, advanced collaboration tools, and the platform’s possibility of frictionless integration with the ERP systems of participating buyers and suppliers. - Scalability and Flexibility - Security</td>
<td>Description of technological platform with respect to: - Platform’s ability to support development of advanced market-making tools, integrated procurement tools, advanced collaboration tools. - Possibility of frictionless integration with the ERP-systems of participating buyers and suppliers. - Ability to adapt to shift of e-marketplace’s focus or to increased or changed demands for functionality. - Security (i.e., ensuring trust of buyers and sellers in the e-marketplace)</td>
</tr>
<tr>
<td>Partnership</td>
<td>Partnership</td>
<td>Non-core activities that are carried out by a partnering company with complementary skills</td>
<td>Identification of the main areas of partnership (as perceived by respondents in this thesis study)</td>
</tr>
</tbody>
</table>

3.3.2 Critical Success/Failure Factors

The second research question focuses on factors critical for the success and/or failure of B2B e-marketplaces. Consequently, this question necessitates conceptualization of the terms “success” and “failure,” as well as “critical success factors” and “critical failure factors.”

Broadly, the word “success” can be defined as the achievement of something desired, planned, or attempted (Thesaurus.com, 2004). When discussing business performance, success is often associated with profitability. Similar to the views presented by Bruun et al. (2002), our point of departure is that e-marketplaces are independent entities and, therefore, are successful if they are profitable. The measures used in this thesis to capture success and failure of B2B e-marketplaces are presented in Table 3.7.
Table 3.7 Measures to Capture the Outcome/Performance

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Concept</th>
<th>Conceptual Definition</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome/Performance</td>
<td>Success</td>
<td>The achievement of something desired, planned or attempted (Thesaurus.com, 2004)</td>
<td>A B2B e-marketplace is successful when it achieves profit.</td>
</tr>
<tr>
<td></td>
<td>Failure</td>
<td>Lack of success</td>
<td>A B2B e-marketplace is failing when it does not achieve profit.</td>
</tr>
</tbody>
</table>

With respect to factors critical for the success of B2B e-marketplaces, in this thesis we use the definition of critical success factors offered by Fairchild et al. (2004, p. 64), as their definition comprises factors with “economic impacts towards continuance of electronic markets.” Our aim is to identify major factors that are *important* for the success of B2B e-marketplaces. To that end, we consider Rockart’s (1979) often-cited definition as being too narrow, since it merely pinpoints the few factors that *absolutely* must go right. Unlike Rockart (1979), Weill and Vitale (2001) present a definition\(^{17}\) that is very broad; therefore, we also disregard their definition of critical success factors. In line with views provided by Han and Noh (2000), critical failure factors in this thesis are considered as inverted critical success factors, and are thus conceptualized as conditions that, if present in an organization, are critical for its failure. The conceptualization and the measures used in this thesis to capture critical success and failure factors are presented in Table 3.8.

Table 3.8 Measures to Capture the Critical Factors

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Concept</th>
<th>Conceptual Definition</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Factors</td>
<td>Critical success factor</td>
<td>Contributing conditions, done exceedingly well, for electronic market processes to function with more than average success. Based on Fairchild et al. (2004)</td>
<td>An assessment of major factors that B2B e-marketplace managers perceive as critical to the success of B2B e-marketplaces (<em>perceived as major CSF by respondents in this thesis study)</em></td>
</tr>
<tr>
<td></td>
<td>Critical failure factor</td>
<td>Conditions that, if present in an organization, cause electronic market processes to function with less than average success.</td>
<td>An assessment of major factors that B2B e-marketplace managers perceive as critical to the failure of B2B e-marketplaces (<em>perceived as major CFF by respondents in this thesis study)</em></td>
</tr>
</tbody>
</table>

\(^{17}\) “The things a firm must do well to flourish” (Weill & Vitale, 2001, p. 108)
3.3.3 Challenges

The third research question deals with the major challenges that B2B e-marketplaces encounter. The word “challenge” could be defined as a demanding or stimulating situation, task, or problem (Wordreference.com, 2004; Merriam-Webster Online, 2004). As depicted in Figure 3.1 (page 94), the recognition of critical success and/or failure factors enables the B2B e-marketplace to identify the challenges, which could serve as a foundation for developing an appropriate set of business model components. At least hypothetically, an e-marketplace could find that critical success factors are already in place and that critical failure factors are non-existent, meaning that no major challenge would exist (illustrated by a dashed line between critical factors and business model components in the framework). As discussed in Chapter Two, it is, however, more likely that B2B e-marketplaces face some challenges that they need to manage to become successful. For example, having a critical mass of participants trading through the e-marketplace is deemed critical for e-marketplace success, but building liquidity (which is done by achieving critical mass) is one of the most frequently mentioned challenges in the literature on B2B e-marketplaces. Thus, in this thesis, we consider challenges as activities that the B2B e-marketplace must perform (e.g., build liquidity) in order to obtain competencies, which are not already in place (e.g., critical mass). The measure used to capture the challenges in this investigation is presented in Table 3.9.

Table 3.9 Measures to Capture the Challenges

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Concept</th>
<th>Conceptual Definition</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenge</td>
<td>Challenge</td>
<td>Sets of activities firms perform to obtain required competencies that enable successful performance.</td>
<td>An assessment of activities identified as major challenges by B2B e-marketplace managers (perceived as major challenges by respondents in this thesis study)</td>
</tr>
</tbody>
</table>

3.3.4 Business Model Components

The fourth research question deals with the components of business models, and focuses particularly on what critical impact these components have on the success and/or failure of B2B e-marketplaces. As discussed in section 3.2.1, we will base our conceptualization of business model components on Pateli and Giaglis’s (2004) framework. Their framework includes primary business model components such as mission (strategic objectives), target market (scope and market segment), value proposition (product/service offering), resources (capabilities, assets), key activities (intra- and inter-organizational processes), cost
and revenue model (cost and revenue streams, pricing policy) and value chain/net (alliances and partnerships). In addition, they discuss underlying components such as market structure, technology, and regulations. In this thesis, we consider issues related to target market and value chain/net (i.e., partnerships and alliances) in the context of strategic position and, thus, conceptualize those two concepts as part of the e-marketplace’s strategic position. Since suggested contextual components (i.e., market structure, technology, and regulation) can be considered as part of the environment surrounding e-marketplaces, they will be conceptualized in section 3.3.5.

The conceptualization and the measures used in this thesis to capture the impact of business model components are presented in Table 3.10.

**Table 3.10 Measures to Capture the Impact of Business Model Components**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Concept</th>
<th>Conceptual Definition</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business model component</td>
<td>Mission</td>
<td>Strategic objectives. (Pateli &amp; Giaglis, 2004)</td>
<td>Identification of the impact of strategic objective for the success and/or failure of the e-marketplace (as perceived by the respondents)</td>
</tr>
<tr>
<td>Value proposition</td>
<td>Product/service offerings</td>
<td>(Pateli &amp; Giaglis, 2004)</td>
<td>Identification of the impact of the product/service offering for the success and/or failure of the e-marketplace (as perceived by the respondents)</td>
</tr>
<tr>
<td>Resources</td>
<td>Capabilities and assets.</td>
<td>(Pateli &amp; Giaglis, 2004)</td>
<td>Identification of the impact of internal capabilities and assets for the success and/or failure of the e-marketplace (as perceived by the respondents)</td>
</tr>
<tr>
<td>Key activities</td>
<td>Intra- and inter-organizational processes.</td>
<td>(Pateli &amp; Giaglis, 2004)</td>
<td>Identification of the impact of intra- and inter-organizational processes for the success and/or failure of the e-marketplace (as perceived by the respondents)</td>
</tr>
<tr>
<td>Cost and revenue model</td>
<td>Cost and revenue streams, pricing policy</td>
<td>(Pateli &amp; Giaglis, 2004)</td>
<td>Identification of the impact of cost and revenue streams, and pricing policy for the success and/or failure of the e-marketplace (as perceived by the respondents)</td>
</tr>
</tbody>
</table>
3.3.5 Environment

Since it is evident that the economic, social, and technological, as well as the political and legal environment, influence the performance of a company (Afuah & Tucci, 2001; Chaffey, 2002; Jelassi & Enders, 2005), it is natural to consider them and try to establish the possible relationship between the environment in which the e-marketplace has been implemented and its strategic position, critical success and/or failure factors, challenges, and business model.

The conceptualization of environmental factors (i.e., economic, social, technological, political, and legal) and related issues will be based upon the perception of the respondents with respect to the influence and impact of these factors on the firm’s performance, either directly or indirectly.

3.4 Summary

This chapter served two purposes. First, Chapters One and Two were summarized in a problem discussion, which established the foundation of the development of the research problem of the study. The research problem, together with the results of the pilot study (presented in section 3.2.1), created the basis for formulating relevant research questions, and delimiting the thesis. The second aim of this chapter was to develop a conceptual framework for this study based on the research problem and research questions (see Figure 3.1, p. 91).

The framework and the measures used to capture the different concepts will guide this study’s data collection. The methodologies used to gather the empirical data will be described in the next chapter.
CHAPTER FOUR
METHODOLOGY

4.1 Introduction

The first three chapters of this thesis served the purpose of justifying the study and defining our research problem and research questions. This chapter outlines the study’s methodology and describes the methods used to test the conceptual framework empirically and thus provide answers to the research problem and research questions. Figure 4.1 shows a schematic presentation of the chapter.

Although interrelated, methodology and methods are different. While methodology is defined as “a way of thinking about and studying social reality” (Strauss & Corbin, 1998, p. 3) or as “strategies that lay out the means for achieving the goals of research” (Potter, 1996, p. 65), methods are described as procedures and techniques used to reach the study’s goals (Potter, 1996; Strauss & Corbin, 1998). Potter (1996, p. 65) sums up the interrelationship and differences by stating: “Methodologies are the blueprints; methods are the tools.” Based on this notion, the presentation of the selected methodology includes a discussion on research purpose (section 4.2) and research approach (section 4.3). In addition, we present our underlying beliefs (i.e., our research paradigm) (section 4.4) and selected research strategy (section 4.5). Research methods used in this study are discussed in section 4.6. Since the chosen methodology has to meet certain quality criteria, we also discuss this concept in section 4.7.

![Figure 4.1 A Schematic Presentation of the Methodology Chapter](image-url)
4.2 Research Purpose

Based on its purpose, research may be classified as exploratory, descriptive, or explanatory. Exploratory studies generally seek to investigate phenomena that are not well understood (Marshall & Rossman, 1999) or deal with a new, little-understood, problem/issue/topic in order to facilitate the development and formulation of a research idea (Phillips & Pugh, 2000). In such cases, the research commonly begins with an exploratory phase to assess what the study should be about and then, depending on the aim of the study, evolves into a descriptive or explanatory phase (Eriksson & Wiedersheim-Paul, 1997). In addition, exploratory research could be used to identify important categories of meaning or to generate hypotheses for further research (Marshall & Rossman, 1999; Yin, 2003). Descriptive research focuses on documenting and describing the phenomenon of interest (Marshall & Rossman, 1999), without the intention of examining causal relationships (Eriksson & Wiedersheim-Paul, 1997). Descriptive research is proposed in cases where the problem is clearly structured and the researcher is clear about what he or she intends to investigate (Eriksson & Wiedersheim-Paul, 1997). Contrary to descriptive research, causal or explanatory studies attempt to describe the relationship between different phenomena, or variables in the problem model, and examine possible causal relationships between these (Marshall & Rossman, 1999; Philips & Pugh, 2000).

In this study, the research problem and subsequent questions indicate that the aim is to obtain a holistic view of how B2B e-marketplaces work, focusing on the general nature of the problems and the components that relate to it. Bearing in mind that the phenomenon of B2B e-marketplaces is quite recent, our purpose is to understand the area so that we are able to provide a comprehensive description of the phenomenon. Consequently, this research could be categorized as mainly descriptive, but also to some extent, exploratory. According to Marshall and Rossman (1999, p. 33), descriptive and exploratory research can “build rich descriptions of complex circumstances that are unexplored in the literature.” Due to the fact that this research does not seek to establish causal relationships between the components studied, the intention is not to conduct an explanatory research.

The purpose of a study can be served in different ways, depending on what research approach the investigator chooses to apply, which will be discussed in the next section.
4.3 Research Approach

Scholars of research methodology (e.g., Denzin & Lincoln, 2000; Guba & Lincoln, 1994; Potter, 1996) discuss two general research approaches: quantitative and qualitative research. **Quantitative** research is commonly used when the purpose is to test hypotheses and generalize the results (Hair et al., 2003; Holme & Solvang, 1991). Thus, quantitative methods are generally concerned with quantifiable data, usually expressed in numbers and statistics, and associated with large samples, high concern for representativeness, and highly structured methods for data collection (Hair et al., 2003). According to Andersen (1998), quantitative methods are often used within natural science in explanatory studies that aim to analyze and explain causal relationships between variables. In research areas where knowledge and theoretical understanding of a phenomenon are limited, it can be very difficult to adopt a quantitative approach and, for example, develop accurate hypotheses (Sullivan, 2001). In line with this reasoning, applying a quantitative approach to investigate the B2B e-marketplace phenomenon is problematic, mainly due to the newness of the phenomenon, the lack of research within the field, and the types of research questions posed. In addition, a quantitative approach could hardly be considered a constructive way to clarify and magnify the reasons why many e-marketplaces failed during the first few years of the industry’s development.

In such cases where there is a limited understanding of a phenomenon, a **qualitative** research approach is often preferred, as it can be more exploratory and allows the researcher to be very descriptive (Cooper & Schindler, 2001; Hair et al., 2003; Marshall & Rossman, 1999; Sullivan, 2001). Thus, when the focus is on providing a complete picture of the situation, aiming to discover and gain a deeper understanding of social processes and interrelations, qualitative research is more useful (Hair et al., 2003; Holme & Solvang, 1991). Contrary to the typical use of numbers and statistics in quantitative studies, qualitative research basically involves data in the form of words or descriptions (Sullivan, 2001). Qualitative research often implies small samples, little concern for representativeness, and unstructured methods for data collection (Hair et al., 2003; Miles & Huberman, 1994; Sullivan, 2001). Qualitative methods are primarily used in social sciences (Herzog, 1996), and have become more important as a mode of inquiry in this field of science (Marshall & Rossman, 1999).

Marshall and Rossman (1999, p. 57) state that qualitative approach is particularly valuable within the following categories of research:

- “Research that delves in depth into complexities and processes.
- Research on phenomena or innovative systems that are little-known.
Research that seeks to explore where and why policy and local knowledge and practice are at odds.

Research on informal and unstructured linkages and processes in organizations.

Research on real, as opposed to stated, organizational goals.

Research that cannot be done experimentally for practical or ethical reasons.

Research for which relevant variables have yet to be identified.”

The decision as to which research approach to follow in a given research project should be guided by the research purpose and the research questions (Marshall & Rossman, 1999; Potter, 1996).

As stated before, the purpose of this study is to obtain a holistic view of how B2B e-marketplaces work, by assessing the business strategies that are adopted by these companies. A qualitative approach has the potential to provide a deeper understanding of the B2B e-marketplace phenomenon, and the problem can be understood within its context, thus providing a holistic view. The aim is mainly to explore and describe the complex phenomenon of B2B e-marketplaces, which needs to be addressed in its context. In addition, the aim is to understand an organizational phenomenon and the meaning people ascribe to their experiences. Due to the fact that the phenomenon is fairly new, and especially because holistic perspective is lacking, B2B e-marketplaces can hardly be considered a well-known phenomenon. Finally, all relevant components of the phenomenon have not yet been identified, and experimental research would not be appropriate since the aim is to study the phenomenon in its current context. Based on the above discussion, which was provided on the characteristics of quantitative and qualitative research, the qualitative research approach is most suitable for this study and has, therefore, been selected.

4.4 Research Paradigm

According to Denzin and Lincoln (2000, p. 18) the researcher “approaches the world with a set of ideas, a framework (theory, ontology) that specifies a set of questions (epistemology) that he or she then examines in specific ways (methodology, analysis).” This set of abstract principles that combines the researcher’s basic beliefs about ontology (“What is the nature of reality?”), epistemology (“What is the relationship between the inquirer and the known?”), and methodology (“How do we know the world, or gain knowledge of it?”) is defined as the research paradigm (Denzin & Lincoln, 2000, p. 19.).
Out of the five major paradigms (i.e., positivism, postpositivism, critical theory, constructivism, and participatory) that are discussed within social sciences (Lincoln & Guba in Denzin & Lincoln, 2000; Heron & Reason, 1997), our basic beliefs with respect to ontology, epistemology, and methodology coincide with the constructivist paradigm. This is due to the notion that the constructivist paradigm “assumes a relativist ontology (there are multiple realities), a subjective epistemology (knower and subject create understandings), and a naturalistic (in the natural world) set of methodological procedures” (Denzin & Lincoln, 2000, p. 21). Constructivists typically adopt a hermeneutic methodology (Denzin & Lincoln, 2000). Potter (1996, p. 44) explains hermeneutics as “the perspective that humans view the world as an interaction of parts and wholes. The part is only understood in the context of the whole, and the whole is constructed of the parts. There is no beginning and no end in this circular process of interpretation.” Consequently, the constructivist “holds to a contingent reality in which meaning is embedded in context, and behavior must be interpreted within it” (Potter, 1996, p. 40). The constructivist paradigm is also the one that best suits the exploratory and descriptive purpose of this study.

4.5 Research Strategy

Marshall and Rossman (1999, p. 61) state that research strategy is “a road map, an overall plan for undertaking a systematic exploration of the phenomenon of interest.” Various research strategies and appropriate use of these approaches are

18. *Positivism* assumes that the investigator is capable of studying the real world without influencing it or being influenced by it. *Postpositivism* assumes the existence of reality that is only imperfectly apprehensible. The *critical theory* assumes an apprehensible reality consisting of historically situated structures. The investigator and the investigated are interactively linked; therefore, the values of the investigator influence the inquiry. *Constructivism* sees knowledge as created in interaction between investigator and respondents. The *participatory* view integrates action with knowing by emphasizing full participation of investigator and investigated in the inquiry process in the dual roles of co-researchers and co-practitioners. The participatory paradigm is closely related to other forms of participative inquiry (e.g., action inquiry, participatory action research).

19. Potter (1996, pp. 42–49) discusses five axioms (i.e. basic assumptions) of qualitative research: *Phenomenology*, *Interpretive*, *Hermeneutics*, *Naturalism*, and *Humanistic studies*. *Phenomenology* assumes that researchers should keep themselves completely open, without having preconceived notions about the phenomenon. *Interpretive* axiom involves seeing the situation from the perspective of the other. *Hermeneutics* considers research as a never-ending process of observing and interpreting. *Naturalism* assumes that the researchers must experience the phenomenon in its natural, undisturbed state. *Humanistic studies* focuses on interpreting language (as a demonstration of meaning) in cultural and historical contexts.
presented in this section. Subsequently, the selection of a research strategy for this study is discussed and justified.

Yin (2003) identifies five major research strategies within the social sciences: experiments, surveys, archival analysis, histories, and case studies. Each strategy can be used for all three purposes: explanatory, descriptive, and exploratory. However, all strategies are associated with advantages and disadvantages and the boundaries between them often are unclear and blurred (ibid.).

When selecting an appropriate research strategy, the decision should be based on the type of research question posed, the extent of control an investigator has over actual behavioral events, and the degree of focus on contemporary events (ibid.). Table 4.1 illustrates all three conditions that need to be addressed when deciding on a research strategy.

Table 4.1 Relevant Situations for Different Research Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Form of research question</th>
<th>Requires control over behavioral events?</th>
<th>Focuses on contemporary events?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>How, Why</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Survey</td>
<td>Who, What, Where, How many, How much</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Archival analysis</td>
<td>Who, What, Where, How many, How much</td>
<td>No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>History</td>
<td>How, Why</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Case study</td>
<td>How, Why</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Source: Yin (2003, p. 5)

In accordance with the stated facts (i.e., type of research question, control over behavioral events, and focus on contemporary events), the case study approach was selected for this study. In case studies the focus is on detailed, in-depth descriptions and analysis of individual cases (Lekvall & Wahlbin, 1993) and it is a superior research strategy for several reasons (Denzin & Lincoln, 2000; Gummesson, 2000; Yin 2003):

- Case study research could help the investigator get a holistic view, including both context and details of an event or situation.
Since case study is rich in detail, it could result in a more complete understanding of various aspects of the phenomenon of interest, regardless of whether the purpose of the study is to explore, describe, or explain.

Case study research could help the investigator get emotional information that cannot otherwise be collected.

Exploratory case studies could be useful in identifying hypotheses that may be tested, and to develop or refine research questions.

The design of the cases in this study is more thoroughly discussed in the next section.

4.5.1 Case Study Design and Unit of Analysis

Denzin and Lincoln (2000) state that case studies have become a very common means of carrying out qualitative inquiry. While several researchers who do casework call their studies by some other name (e.g., fieldwork), Denzin and Lincoln (2000, p. 435) prefer the term case study as it “draws attention to the question of what specially can be learned from the single case.”

Yin (2003) defines a case study as an empirical investigation that deals with a contemporary phenomenon within its real-life context, and states that it is particularly useful in situations in which the boundaries between phenomenon and context are not clearly evident. This definition distinguishes case studies from other types of research strategies. For instance, experiments deliberately take away context while surveys have limited possibilities to deal with context.

A case study could focus on one single case or be designed as a multiple-case study (Yin, 2003). A single-case study is preferable when the single case represents an extreme or unique case, a critical case (e.g., a case that tests a well-formulated theory), or a revelatory case (e.g., when the researcher has the opportunity to study a phenomenon that has been previously inaccessible) (ibid.). Multiple-case design involves more than one case and has both advantages and disadvantages compared to a single-case study design. The validity does increase with multiple-case design, and the results from multiple-case studies are often considered more compelling and robust; however, multiple-case studies also are more expensive and time-consuming (ibid.).

In this research, multiple-case study design was selected due to the fact that this research is not dependent on a single, critical, extreme, unique, or revelatory case. Furthermore, multiple-case studies will provide more in-depth information about
the research problem concerning business strategies used by B2B e-marketplaces, and thus will result in a higher degree of validity.

Besides determining how many cases to include in a study, an important decision regarding the design of a case study concerns what “unit” to analyze. Miles and Huberman (1994, p. 25) define the unit of analysis (or the case) as “a phenomenon of some sort occurring in a bounded context.” Sullivan (2001, pp. 94–95) explains that “units of analysis are the specific objects or elements whose characteristics we wish to describe or explain and about which data will be collected.” That could include, for example, individuals, groups, organizations, programs, and social artifacts, which all are common units of analysis in social science research (ibid.). However, units of analysis (or cases) also could be events or entities that are less well defined than a single individual (e.g., decisions, implementation processes, and organizational change (Yin, 2003). The case study design may involve one single unit of analysis (i.e., holistic design) or multiple units of analysis (i.e., embedded design) (Yin, 2003).

The research problem and questions of this research address the e-marketplaces (companies) that create and run business-to-business electronic marketplaces, implying that the firms selected for our case study are the specific objects whose characteristics we wish to describe and from which data will be collected. Considering the fact that our research problem deals with business performance, and taking into account the notion that performance is typically accrued and reported at company level (Dyer & Singh, 1999), the unit of analysis is the whole organization (i.e., the B2B e-marketplace operator). In view of the fact that no logical subunits have been identified, holistic multiple-case study design is appropriate for this study.

4.6 Research Methods

4.6.1 Literature Review

Marshall and Rossman (1999, p. 43) state that “a thoughtful and insightful discussion of related literature builds a logical framework for the research that sets it within a tradition of inquiry and a context of related studies.” Yin (2003) emphasizes the importance of developing a theoretical framework, particularly when multiple-case study design is adopted, as it later becomes the vehicle for generalizing new cases.

According to Marshall and Rossman (1999), the main role of the literature review is that it:

- shows the underlying assumptions behind the research questions,
o demonstrates the researcher’s knowledge within the area,

o shows that the proposed study will fill a gap in previous research, and

o refines and redefines the research questions by embedding them in larger empirical traditions.

The literature review that was performed in this study is based upon literature related to B2B e-marketplaces. But literature within a broader area also has been reviewed, particularly literature concerning assessment of issues related to business strategy and business models. To provide the theoretical foundation for the research questions referred to previously, literature was obtained from different databases (ABI Inform, Business Source Elite, Emerald, Helecon and Social Sciences Citation Index). Titles and abstracts containing truncated forms of keywords (e.g., electronic commerce, electronic business, electronic marketplace, e-marketplace, B2B e-marketplace, e-hub, net marketplace, exchange, value creation, business strategy, business model, critical success factor, and critical failure factor) were researched. Subsequently, relevant articles were acquired, reference lists were inspected, and additional relevant articles were acquired. The process continued until the flow of literature was exhausted (yearly updated).

4.6.2 Case Selection

Miles and Huberman (1994, p. 27) indicate that sampling in qualitative research involves two actions:

1) The setting of boundaries “to define aspects of your case(s) that you can study within the limits of your time and means.”

2) The creation of a frame “to help you uncover, confirm, or qualify the basic processes or constructs that undergird your study.”

In qualitative research, the purpose of sampling is generally to gain access to relevant evidence about the phenomenon under study (Potter, 1996). There are two primary reasons why the researcher selects a specific sample (ibid.). First, when the researcher is in quest of efficiency, sampling can be done by selecting cases based on convenience (i.e., purposive sample). Secondly, the sampling can be guided by formal purposes, such as representativeness, finding a critical case, finding a typical case, or striving for a set of cases that maximizes variation (ibid.). The most commonly used argument for sampling is the one of convenience (Lincoln & Guba, 1985; Potter, 1996, p. 105).

In identifying the cases, the authors have tried several approaches, contacting e-marketplaces directly and using the network one of the researchers had due to his involvement in the development of an e-marketplace. The outcome was as follows: six companies agreed to participate in the study. One of these companies
was already bankrupt and another became bankrupt during the course of the investigation. Three companies can be considered successful, while the remaining firm appears to be heading toward bankruptcy.

To obtain additional information regarding emerging issues within the e-marketplaces, three interviews were conducted with top experts in the fields:

- Person A - Senior Director at one of the Worlds largest enterprise software companies. Head of research with expertise on financial, procurement and project solutions.
- Person B - Expert in procurement with experience as Senior Procurement Specialist at a major technology provider and from previous position as Head of Purchasing at a major multinational corporation.
- Person C - Partner in a large global management and consulting company with long experience from consulting firms and technology providers. Expert with background of research within e-marketplaces and with experience from building some of the early B2B e-marketplaces.

The main reason for the expert interviews was due to the fact that existing processes in the e-marketplace industry are very dynamic and the whole picture is constantly and rapidly changing. Thus, it is interesting as well as important to provide a picture of changes that are emerging. Information gathered from these experts is presented under section 6.6 (Emerging Trends).

4.6.3 Data Collection Methods

According to Yin (2003), the process of data gathering is more complex in case studies than in studies based on other research strategies. Yin (2003, p. 106) states that case study researchers, therefore, must have “a methodological versatility” and need to “follow certain formal procedures to ensure quality control during the data collection process.”

Data sought in a case study project can be collected through various methods. Yin (2003) discusses six sources of data collection available for case studies: documents, archival records, interviews, direct observations, participant observations, and physical artifacts. The various sources have their strengths and weaknesses, and many of the sources complement the others. To maximize the

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20 Person C has been a principle researcher with ONCE (The Open Network for Commerce Exchange), which is an organization that provides various actors in B2B e-Commerce, a collaborative forum to advance global trade. (http://www.connect.Once.com/default.asp, retrieved 2007-02-08).
benefit from these sources, Yin (2003) recommends that researchers should use multiple sources of data, and states that “the most important advantage presented by using multiple sources of evidence is the development of converging lines of inquiry, a process of triangulation” (p. 92). Triangulation gives the researcher an opportunity to obtain multiple measures of the same phenomenon, which is advantageous because it increases the validity of the research (ibid.)

The aim of this study has been to use as many sources of data as possible within the frame of available time and financial resources. However, archival records have not been selected for this research, as focus was given essentially to contemporary events (i.e., studying business strategies used by B2B e-marketplaces in present context). Due to the inability to obtain agreements to participate and observe, participant observation and direct observation were not considered as relevant sources of evidence in this study. Because the research problem and research questions do not indicate the need to obtain evidence on cultural features, data collection through physical artifacts was found to be a less relevant method of data gathering. Instead, the main method of data collection selected for this study was personal interviews, as this method is insightful (Yin, 2003) and makes it possible to gather large amounts of data quickly, with a potential for immediate follow-ups and clarifications (Marshall & Rossman, 1999). In addition to personal interviews, documentation, mainly containing company information (e.g., annual reports, organizational charts, brochures, Web pages) has been used as a means to confirm and strengthen evidence from other sources.

Interviews can be characterized in various ways. For example, interviews can be conducted by telephone or face-to-face, be formal or informal, casual or in-depth, and structured or unstructured (Marshall & Rossman, 1999; Potter, 1996; Yin, 2003). According to Marshall and Rossman (1999, p. 108), “typically, qualitative in-depth interviews are much more like conversations than formal events with predetermined response categories. The researcher explores a few general topics to help uncover the participant’s views but otherwise respects how the participant frames and structures the responses.” In the context of case study research, Yin (2003) discusses three different forms of interviews: open-ended, focused, and structured. The open-ended interview is the most common and the least structured type, allowing the respondents to express opinions and insights more freely. The focused interview allows an informal conversation, though it is partly structured: “following a certain set of questions derived from the case study protocol” (p. 85). Finally, the structured interview is guided by a thorough set of pre-designed questions and, thus, resembles a formal survey.
In this research, data collection through interviews was essential to tackle the research problem and subsequent research questions, due to the complexity of the phenomenon under study. Accessing data from individuals involved in making business strategy decisions in the B2B e-marketplace was vital for the accomplishment of this study. We therefore conducted interviews with people who were either involved in the establishment of the firm or heavily involved in the company’s strategic decision making. Permission for interviews was granted on condition of anonymity, which we have complied with completely.

The interviews conducted in this study were focused on pre-determined topics, presented in the conceptual framework (i.e., strategic position, critical factors, challenges, and business model components). As discussed in Section 4.1, this research could be categorized as mainly descriptive and, to some extent, exploratory. Therefore the interviews were conducted based on a developed interview guide in order to explore and describe the overall concepts within the emerged frame of reference. By using an interview guide (Appendix 2) with open-ended questions, opportunities were left open for any type of response, despite the fact that the interviews were focused. The interview guide was pre-tested by a number of researchers from Business Administration and Social Sciences, at Luleå University of Technology, and also by industry representatives.

4.6.4 Presentation and Analysis of Empirical Findings

In order to draw valid meaning from gathered data, it has to be analyzed (i.e., ordered, structured, and interpreted) (Marshall & Rossman, 1999). According to Potter (1996), various methods of analysis are available for qualitative researchers.

Yin (2003, p. 109) states that every investigation should start with “a general analytic strategy—defining priorities for what to analyze and why.” Furthermore, Yin discusses three general strategies that can be used in case study analysis: reliance on theoretical propositions, thinking about rival explanations and development of case description. The first, and more preferred, strategy implies that the theoretical propositions that led to the case study should be followed in the analysis. The second strategy involves defining and testing rival explanations and can be related to the first. The third strategy, which involves the use of a descriptive mode to present the case, is used particularly in situations in which theoretical propositions are absent. This study deals with a complex phenomenon and a variety of cases studied within a pre-defined conceptual framework. Thus, an analytical strategy that relies on the theoretical framework developed has been used.
According to Miles and Huberman (1994), data analysis involves three concurrent flows of activities that the researcher should go through: data reduction, data display, and conclusion drawing and verification. Data reduction implies a process of sharpening, sorting, focusing, discarding, and organizing data so that final conclusions can be drawn. Data display is an organized, compressed assembly of information. The third activity, conclusion drawing and verification, indicates that the researcher begins “to decide what things mean—is noting regularities, patterns, explanations, possible configurations, causal flows, and propositions” (Miles & Huberman, 1994, p. 11). The analysis of the empirical data in this study has involved all three activities proposed by Miles and Huberman (1994). Field notes and documentation have been rewritten, coded, and displayed in accordance with the conceptual framework. In addition, the cases are presented separately, following the structure of the conceptual framework. Empirical evidence was frequently displayed in tables to facilitate the analysis and the drawing of conclusions.

As previously mentioned, the purpose of our research is essentially descriptive, and to some extent exploratory, and the general research design is a holistic multiple-case study design. Empirical data have been presented and analyzed in this study following methods proposed by Yin (2003) and Miles and Huberman (1994). As depicted in Figure 4.2, the research problem and research questions laid the foundation for the development of the conceptual framework, which in turn laid the foundation for the data presentation. The presentation of the empirical data, conclusions, and discussions followed the structure that emerged in the conceptual framework.
Research Problem & Research Questions

Conceptual Framework:
- Strategic position
- Critical factors
- Challenges
- Business model components

Empirical Data Case A
Empirical Data Case B
Empirical Data Case C
Empirical Data Case D
Empirical Data Case E
Empirical Data Case F

Data Analysis:
- Strategic position
- Critical factors
- Challenges
- Business model components

Findings
(Answering Research Problem and Research Questions)

Figure 4.2 Presentation and Analysis of Empirical Data


4.7 Quality Criteria

Concerning case study research, Yin (2003) discusses four tests to establish the quality of the research: construct validity, internal validity, external validity, and reliability (Table 4.2). Yin’s tests with respect to construct validity, external validity, and reliability have been the quality criteria used for this study. Internal validity concerns only with explanatory or causal studies (Yin, 2003); thus, it was not found to be a relevant quality criterion for this study.

Table 4.2 Case Study Tactics for Four Design Tests

<table>
<thead>
<tr>
<th>Tests</th>
<th>Case Study Tactic</th>
<th>Phase in Research in which Tactic Occurs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construct Validity</td>
<td>- Use multiple sources of evidence</td>
<td>Data collection</td>
</tr>
<tr>
<td></td>
<td>- Establish chain of evidence</td>
<td>Data collection</td>
</tr>
<tr>
<td></td>
<td>- Have key informants review draft case study report</td>
<td>Composition</td>
</tr>
<tr>
<td>Internal Validity</td>
<td>- Do pattern-matching</td>
<td>Data analysis</td>
</tr>
<tr>
<td></td>
<td>- Do explanation-building</td>
<td>Data analysis</td>
</tr>
<tr>
<td></td>
<td>- Address rival explanations</td>
<td>Data analysis</td>
</tr>
<tr>
<td></td>
<td>- Use logic models</td>
<td>Data analysis</td>
</tr>
<tr>
<td>External Validity</td>
<td>- Use theory in single-case studies</td>
<td>Research design</td>
</tr>
<tr>
<td></td>
<td>- Use replication logic in multiple-case studies</td>
<td>Research design</td>
</tr>
<tr>
<td>Reliability</td>
<td>- Use case study protocol</td>
<td>Data collection</td>
</tr>
<tr>
<td></td>
<td>- Develop case study data base</td>
<td>Data collection</td>
</tr>
</tbody>
</table>

Source: Yin (2003, p.34)

According to Yin (2003), construct validity is about “establishing correct operational measures for the concepts being studied” (op. cit., p. 34). In order to enhance the construct validity for this study, data were collected through multiple sources (i.e., personal interviews were complemented by the use of internal documents and Web pages). To establish a chain of evidence, efforts were made to follow the same logical stream throughout the writing of this thesis: from the definition of the problem to the presentation of data and subsequent analytical considerations. Internal validity involves establishing a causal relationship and is only for explanatory or causal studies. Yin (2003) explains external validity to be about “establishing the domain to which a study’s findings can be generalized” (op. cit., p. 34). As previously discussed (Chapter Three), our intention is not to generalize the findings to all B2B e-marketplaces. However, to increase the
degree to which findings from this study can be generalized to other similar settings, multiple cases and multiple sources have been used. According to Yin (2003), the criteria of reliability deal with “demonstrating that the operations of a study - such as the data collection procedures - can be repeated, with the same results” (op. cit., p. 34). Moreover, Yin states that reliability aims at minimizing errors and biases in a study. In this study, attempts to reduce the biases have been made by carefully describing the data collection method, and through extensive and thorough documentation of each case.

To increase the validity and reliability of the research instrument, used to collect data, the interview guide was evaluated by firms participating in the pilot study so that it can provide a comprehensive view. Some suggestions resulted in modification of the interview guide. Additionally, the instrument was also reviewed by a number of researchers from Luleå University of Technology, thus, higher level of validity and reliability could be achieved. Suggestions from this group resulted in an additional modification of the instrument.

4.8 Summary

To summarize this chapter, the methodology adopted in this study can be illustrated schematically as follows by Figure 4.3.

![Figure 4.3 A Schematic Overview of the Methodology Adopted in this Study](image-url)
CHAPTER FIVE
EMPIRICAL DATA PRESENTATION

5.1. Introduction

The empirical data gathered from the case studies will be presented in this chapter. For the six case studies presented in this chapter, six B2B e-marketplaces were selected. Throughout the thesis, these companies will be denoted as company A, B, C, D, E, and F. Table 5.1 includes a brief presentation of each firm as to its year of establishment, industry and geographical focus, and size.

Table 5.1 Case presentation

<table>
<thead>
<tr>
<th>Cases: Business-to-Business e-marketplaces</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Industry</strong></td>
<td>Multiple industries</td>
<td>Multiple industries</td>
<td>Utility</td>
<td>Multiple industries</td>
<td>Multiple industries</td>
<td>Metal &amp; mining</td>
</tr>
<tr>
<td><strong>Geographical focus</strong></td>
<td>Europe</td>
<td>Northern Europe</td>
<td>Europe</td>
<td>Europe</td>
<td>Europe</td>
<td>Global</td>
</tr>
<tr>
<td><strong>No. of employees</strong></td>
<td>200</td>
<td>25</td>
<td>60</td>
<td>25</td>
<td>15</td>
<td>160</td>
</tr>
<tr>
<td><strong>Annual transaction volume</strong></td>
<td>€1.5 billion (2005)</td>
<td>€0.5 billion (2005)</td>
<td>€1 billion (2005)</td>
<td>N.A.*</td>
<td>N.A.*</td>
<td>€5.8 billion (2005)</td>
</tr>
</tbody>
</table>

* Information not available

The subsequent sections 5.2 – 5.7 present empirical data concerning respective cases and are organized in accordance with the frame of reference, which deals with four main dimensions: Strategic position, Critical success and/or failure factors, and Challenges and Business model components. In addition, data related to environmental factors and emerging trends are presented. Finally, each section concludes with a summary of respective case presentation. When presenting the empirical data we will use the words “company,” “firm,” and “e-marketplace” interchangeably to denote the cases included in the study.
5.2. Company A

5.2.1 The Company

The e-marketplace was established at the beginning of the year 2000 and is defined on the firm’s homepage as “the European leading provider for on-demand electronic procurement solutions and supplier network management. Currently, this e-marketplace connects large buying companies in various industries (e.g., energy, oil and gas, chemicals, pharmaceuticals, automotive, aerospace, electronics) with suppliers of non-production products. With the acquisition of Trade Ranger\textsuperscript{21} in May 2005, Company A became a leading global marketplace with more than 50 purchasing customers, approximately 12,000 suppliers and about 200 employees working at the company’s offices in Europe, the United States, and Asia. In terms of annual volume, the company processes more than 1,500,000 purchase orders and handles transactions valued at approximately €8 billion. The company achieved sales of €30.6 million in 2005, which is a 79 percent increase over 2004 (€17.1 million).

5.2.2 Strategic Position

Focus

Company A is a horizontal e-marketplace used by buying companies to purchase indirect material (e.g., non-strategic goods, such as office supplies). The firm’s main target market has remained the same since the introduction of the e-marketplace, meaning the company still focuses on large accounts, that is, buyers with an overall purchasing budget, or purchasing value, exceeding €200 million. The e-marketplace mainly targets decentralized companies that have subsidiaries or sites in several countries. The reason behind this focus is the notion that large, highly decentralized firms need to control and align their purchasing policy throughout the organization, and Company A offers solutions that meet such needs.

Similar to other horizontal e-marketplaces, Company A does not focus on any particular industry. Currently, the firm has leading French, German, and European companies as its clients (e.g., Alcatel, BASF, Bayer, Bewag, Bitburger, Clariant, Degussa, EDF-GDF, Heineken, Henkel, Michelin, REHAU, Renault Trucks, Sagem, Saint-Gobain, SAP, Schering, Snecma, Syngenta, Thomson, Total, T-System, Volkswagen) in such varying industries as chemical, retailing,

\textsuperscript{21} An e-marketplace focused on providing procurement solutions for the oil, gas, and chemicals industries.
construction, and aeronautics. However, the respondent has recognized an increased interest from industrial companies in using Company A’s solutions, while companies in the banking and cosmetics industries generally show a diminishing interest.

Suppliers are brought to the e-marketplace by the buyers who ask them to participate in an e-business program. Before the actual on-boarding of a supplier begins, Company A, which acts on behalf of buyers, contacts the suppliers by phone or in one-to-one meetings. Sometimes Company A also arranges “kickoffs” by gathering several suppliers in one location in order to present the e-marketplace, the services the company offers, and what the initiative involves. Currently, Company A has sourced more than 9,000 suppliers around the world and has integrated over 1,700 suppliers' catalogues electronically. According to the respondent, it could be stated Company A is buyer-centric as it is the buyer who decides whether or not to launch an e-procurement initiative. But, he continues: “When you see our revenue share or our revenue split, 40 percent of our revenue is coming from the supplier side. In that respect, I would say that we have two channels and two types of customers: buyers who want to roll out an e-procurement project and suppliers who find some services and some value in being part of this e-marketplace initiative. Otherwise, they would not be here.”

Due to the fact that several of Company A’s customers are large firms purchasing from suppliers all around the world, the company currently has activities in 42 countries on all continents. These activities range from having office and staff in some countries to having only a contract with one supplier that has a catalogue hosted on Company A’s e-marketplace in another country.

**Governance**

Company A is partly owned by private investors as 37 percent of its shares are traded on the stock market. But large companies in such industries as pharmaceutical, banking, IT, and chemicals hold the majority of shares. Owners such as BASF, Bayer, Degussa, T-System, SAP, and Henkel also are connected to the e-marketplace as buyers. Despite the fact that these companies have dual roles as owners and buyers, the respondent describes Company A as purely neutral with respect to governance, since the owners have not used their shareholder position to bring trade to the e-marketplace. He believes an e-marketplace will not exist in the long term if it is too buyer-oriented or too supplier-oriented. For example, some suppliers will definitely hesitate to join this community if they know a competitor owns it. According to the respondent, relying on shareholders acting also as customers was one of the reasons why many vertical e-marketplaces failed.
Functionality

The company provides e-marketplace solutions that involve infrastructure and solutions, as well as services and consulting in the areas of procurement, exchange, and content. Concerning functionality, Company A covers the whole chain, from source to payment process, and thus includes demand, sourcing, and contract management, sourcing capabilities, auctions, e-procurement with workflow reporting, and invoice matching and payment. The focus with respect to functionality has changed over the years. From the beginning, Company A focused solely on the procurement solution, since management considered it challenging enough just to get that solution in place. In fact, it took about three-and-half years before the company expanded its range of services beyond pure procurement solutions. The strategy was to start up first by creating the critical mass of buyers and suppliers, and then, with a sufficient base of buyers and suppliers, offer them a whole range of gradually developed services. At first, Company A expanded into offering payment solutions, but the development of sourcing solutions soon followed. However, the respondent experienced resistance toward sourcing and auction functions among suppliers, and providing these functions even seemed to scare off them off. Thus, to attract suppliers to join the e-marketplace, Company A had to keep a low profile with respect to its sourcing and auction solutions. The respondent expressed this by stating that, “You didn’t want to tell them that you were making auctions as well.”

The content involves everything related to the commerce of non-production goods and services, such as office supplies, industrial supplies, electronic components, spare parts, and computers. In addition, there are also services that can be configured in catalogues. Although the main focus currently is on non-production goods and services, the company is stepping into strategic goods and production as well. This is mainly because buyers ask for such services, but there is also a trend of horizontal e-marketplaces moving into strategic goods and services so these companies can provide a more complete service. Elaborating further on this trend, the respondent explained: “From the beginning, we knew that we would go there. But, we wanted to stick to, and very much focus on, indirect goods, because this is already very difficult, even if it doesn’t seem so and look so. But, we knew that the service levels and requirements for strategic goods are much higher than what we need to provide for indirect goods. So we waited for three to four years, but we knew that one day we would go there. Then, when we saw our first customers asking for it... in a way we have followed the trend, but we did not push it.”
Technology

Technology is the company’s priority investment area, and over the past three years the company has invested a total of €20 million in technology. The company’s trading platform is based on SAP\textsuperscript{22} and POET\textsuperscript{23} technologies, and its network is supported by WebMethod\textsuperscript{24} technology. The company’s B2B network is highly integrated and enables industrial partners to exchange e-business documents and data. In fact, the company’s Website claims that, “Company A can carry out any form of integration required by buyers and/or suppliers…” Company A has also developed a portal, a collaborative tool, in order to exchange content between buyers and suppliers. The collaborative solutions offered by Company A have a wide range of functions, high interoperability with the clients’ and suppliers' IT systems, as well as a high level of security.

Concerning the flexibility and scalability of the technology, the respondent explains this has not yet been an issue. Currently, the company has more than 50,000 users, and a certain number of customers can, of course, be added to the company’s technological platform without changing the architecture completely. The respondent does not foresee future problems with respect to the flexibility and scalability of the technology: “We do not see any major problems coming, even though we have a research and development service always figuring out which component of the chain might be the weakest one; because it is always there, you might have some problems.” Then, pondering the future, the respondent continues that it is more likely problems might arise around the catalogue component “because when you have thousands of people accessing the same catalogue simultaneously, you might have some database problem.”

In order to scale its business, Company A’s model is really focused on the IT part of the service of the e-marketplace; therefore, the customers have to share the same platform. The large buyers who joined the e-marketplace at the beginning found this difficult to accept, because each one wanted to have their own platform and their own team specialized and customized just for them. However, since customizing solutions is not “positive from a financial point of view” and can “bring more complexity towards the suppliers,” the company does not start new projects with customers that demand heavily customized solutions.

\textsuperscript{22} SAP is the world's largest inter-enterprise software company and one of the world's largest independent software providers. SAP was founded in 1972 (http://www.sap.com/company/index.epx).

\textsuperscript{23} POET AG is a globally active provider of catalogue platforms for B2B eCommerce and Supplier Relationship Management.

\textsuperscript{24} WebMethod is one of the leading independent software vendors of products and services for business integration (http:www.Webmethods.com).
Concerning the security of the solutions the company offers, the respondent admits security was a somewhat difficult issue during the first two years. However, security is not an issue today, even though customers still might have questions. The difference is the company now knows how to meet the customers’ security concerns appropriately.

**Partnership**

Due to the scale of the solutions offered, Company A has several partners, of three principal types: technological partners, integrators, and foreign marketplaces. By partnering with companies that are involved in different stages of the project, such as planning, reengineering of the purchasing process, implementation, providing technical services, change management consultancy services, and on-boarding foreign suppliers, Company A can offer its customers global operational solutions rapidly.

According to the respondent, SAP and WebMethods are the company’s main partners. The operational partnership contract with SAP was signed during the first quarter of 2000. A couple of months later, SAP bought five percent of the share capital and thus became a stockholder in the company. On Company A’s Internet Website, the partnership between Company A and SAP is described on three levels: 1) A capitalistic partnership based on SAP being a Company A stockholder; 2) A technological partnership in which Company A works in close relationship with SAP’s Research and Development teams; and 3) A commercial partnership based on an operational partnership contract that unites SAP France and Company A, which gives Company A access to SAP’s sales network. In order to integrate and facilitate business relationships between the marketplace, buyers, and suppliers, Company A established a partnership with WebMethods, whose technology serves as its communications platform.

In addition, the company established a partnership with POET in 2001. In this partnership, POET’s technical expertise in content management was brought together with Company A’s in-depth knowledge of e-procurement, enabling the two companies to develop new content management solutions.

To facilitate implementation of global scale e-procurement projects, the company has to be physically present in Europe. To cover activities in the U.S. and Asia, the company collaborates with other e-marketplaces through interoperability agreements.
5.2.3 Critical Success/Failure Factors

The respondent characterizes a successful e-marketplace as one that:

- Has achieved a profitable position
- Is not heavily dependent on one particular buyer, but instead has a balanced split between big customers and others
- Has a well-established business model

The company aims to become a peoples’ market for one-stop shopping and a major way to access the supplier community. In addition, the costs to go through Company A should be clear to the customers. Therefore, Company A wants to escape customization and complexity. Instead, the company strives for simplicity and, consequently, focuses on standardization: “We want to have some very simple contracts, very simple pricing models. We want people to access our community very easily; this is probably the most challenging part that we still need to achieve, because procurement is still complex and very time- and resource-consuming. This is something that, including the learning curve of people and the capacity to use a search engine, is really what needs to be achieved within the next two or three years.” Therefore, the respondent pinpoints user adoption as being the single most critical factor for e-marketplace success.

Despite the fact that the company strives to avoid customization, caring for the customers is stated to be critical to the success of the company: “At Company A, we care for our customers because our success depends on meeting their needs and expectations.”

Having a strong entrepreneurial mindset is another factor the respondent deems essential for success. This is what Company A, as well as other e-marketplaces that survived the shakeout, have in common—a typically entrepreneurial way of managing this type of business. According to the respondent, this was, however, not the case for vertical marketplaces, owned by very big industries that rely on the power of their shareholders. That is also one of the reasons for the failure of Covisint, the respondent concludes.

In addition, the respondent implies that neutrality with respect to the governance of the e-marketplace is an important factor for success: “You cannot handle a..."
company with the complexity of what we are doing if you are not totally independent and neutral.”

Besides the critical success and failure factors the respondent discussed during the interview, Company A’s official Web site brings forth the company’s technological expertise as an important success factor. The company’s early experience from developing systems for SMEs28 provided it with expertise and experiences especially “in the fields of integration of multiple heterogeneous environments, ergonomics of the applications, "rollout" kits, and the management of the technical/application balance between personalization and system sharing” (Company A, 2005).

With respect to failure factors, five major reasons are cited:

- Inability to deliver expectations that are promised
- Lack of sufficient funds (capital)
- Very high costs of external consultants during startup and development phases
- Inability to respond to the fast pace of market change. This could partly be due to lack of entrepreneurial mentality
- Large, and thus highly influential, shareholders that made the e-marketplace an internal service firm for themselves rather than treating the e-marketplace as a real, independent, neutral, and private company

The respondent states he has experienced how e-marketplaces were not really in a position to turn around and adjust to market changes due to shareholders’ pressure to continue ongoing projects with them.

Focusing further on the lack of entrepreneurial ways of managing a company, the respondent explains that some e-marketplaces started with an idea that was very dogmatic and conceptual with respect to the pricing model for suppliers. While some decided the suppliers should not pay any fee for joining the e-marketplace, other e-marketplaces decided the suppliers should pay a very high price. Because the latter group was generally relying on their shareholders’ customers pushing, and sometimes even forcing, the suppliers to pay, they had the false impression

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28. Small and Medium-sized Enterprises. A commonly used definition of SMEs is provided by the Commission of the European Communities (EC), which defines SMEs as firms having between 50 and 249 employees. (Retrieved January 17, 2006, from http://europa.eu.int/comm/enterprise/enterprise_policy/sme_definition/index_en.htm)
the pricing model was fine. But when the e-marketplace had to find new customers, it discovered these customers were not all in a position to force their supplier base to connect to the e-marketplace. Rather than stating a model and then pushing it onto the customers, the respondent recommends a more entrepreneurial and customer-oriented approach. This involves listening carefully to the customers and gradually fine-tuning the pricing model based on the value you are providing. In addition, the entrepreneurial approach includes not spending money too quickly. The respondent states there is a risk an e-marketplace backed by strong shareholders does not make every possible effort to quickly achieve profitability, since the shareholders can solve problems just by adding more financial resources. He continues by stating: “When you have no other way to escape but providing the right value proposition at the right price, and finding the right sales guy to sell it... I mean... you’ll find it and you’ll do it. It is what I call the entrepreneurial factor of success.”

5.2.4 Challenges

Initially, Company A’s main challenge was to raise enough money to launch its very cash-hungry business. But the company did not have a very clear strategy with respect to raising capital. The respondent claims that due to the fact that Company A was not founded by customers, it had to rely instead on its ability to prove the value of its offerings.

The next large challenge facing management was to survive very rapid growth followed by a period of downsizing in the years 2002 and 2003. According to the respondent, many e-marketplaces failed because they were unable to adapt quickly enough to the rapidly changing situation.

Other big challenges were to find new services and to be very customer oriented. In the case of Company A, this challenge could be met through its entrepreneurial mindset. But the respondent emphasizes that the great loyalty shown by the company’s customers helped greatly in the efforts to develop new services.

With respect to the supplier side, the respondent states: “Probably one of the biggest challenges was to find the right pricing model, the right offering that would not make them escape but would also provide some consistent revenues.” Although it turned out to be difficult to motivate the supply side to pay any transaction fees at all, the respondent says the company’s belief is that revenues should come from both buyers and suppliers, with the idea that the company’s model would eventually distribute costs evenly among buyers and suppliers.
The respondent also discusses challenges regarding the fact that the company has now gone into strategic goods: “Although it is part of the system now, there are some specific difficulties when dealing with strategic goods, such as the service level requirement when you have a purchase order or a goods receipt which is related to a strategic component required to maintain or to repair machinery in a plant... I mean... they cannot afford to have one or two hours of delay, so the integration of both supplier and buyer in the system is deeper. So, this is more complex than just sending some purchase order on pencils and Xerox machines.”

In order to maintain and increase the critical mass of buyers and suppliers connected to the e-marketplace, the company’s main strategy is not to focus on technology, but to focus on the users of the technology. This involves dealing with the question of what a user needs to see in his environment, in his portal, in order to return to Company A when he wants to purchase products through the e-marketplace, the respondent explains. He continues by stating: “This led us very quickly to change our focus from catalogues, due to the fact that a majority of suppliers do not have catalogues and cannot put their service in a catalogue. So very quickly, I would say that in the year 2001 we realized that if we would only focus on catalogues, we would target only 20 percent of the total span of the companies. So a user would go into the portal and find only 20 percent of what he is buying, so he would have at least two tools: one, Company A, for the catalogues, and another one for something else, and this is really not good. What we want is to have is a one-stop shopping strategy and to have a portal where he the user finds everything.”

Thus, to increase the liquidity of the company, and to increase the number of purchase orders from each buyer, Company A’s management focuses on non-catalogue purchases, the respondent concludes. He adds that the company tries to accommodate the customers as best he can, but emphasizes that this should not be confused with the concept of customization. Instead, it is about “Trying to find some very simple and pragmatic solutions so a customer who wants to have 2,000 suppliers that are not in catalogues can have a trading directory that is very simple to access... no matter if it is a catalogue or not.”
5.2.5 Business Model Components

Mission

In a corporate presentation from 2005, the company’s missions for buyers and suppliers were formulated as follows:

For Buyers:

- Facilitate on a large scale the roll out and the application of their indirect purchasing policies (suppliers’ selection, master agreements, procedures) and the overall control of indirect expenses.
- Automate processes and increase internal productivity.

For Suppliers:

- Consolidate on one single point of contact interfaces, tools, content services, and assistance, to enable suppliers to cope with all their customers’ e-procurement projects and gain in productivity through electronic exchanges.

The company’s strategic objective has not changed over time, and still is to “provide an increase in productivity and, therefore, savings to both buyers and suppliers through collaborative tools.” Although the company’s goal has not changed, the respondent emphasizes that the ways to achieve the strategic objective and the portfolio to support it certainly have evolved.

Value Proposition

Company A develops and operates private online e-procurement platforms for large European companies. This enables these companies to access their suppliers and personalized electronic catalogues, and perform electronic transactions.

Three main platform functions offered by the company are:

- An e-procurement system, which is the main part of the company’s technological offer
- An Exchange Hub
- A Content and Catalogue Hub

In addition, the company offers value-added services related to these platform functions, such as content management, back-end connection, functional customization, consulting, technical support, and training. The company’s
offerings are bundled in several modules that can be combined in various ways. A customer could, for example, select the procurement module and the exchange module, and then combine these with a module that deals with integration. Such a model enhances the customers’ flexibility, since it provides them with a range of choices—such as adding or dropping certain modules at all times, and selecting the extent to which their in-house systems should be integrated with Company A’s solutions.

The company’s value proposition for buyers involves offering a comprehensive tool with features that help them enhance productivity. The firm’s solution enables the buyers’ organizations to align their purchasing policy and gain enhanced control of spending. However, this is not only a cost-saving tool, but also a way to manage the buyers’ spending. The respondent summarizes the company’s value proposition by stating: “What we do is provide a single link between the buyer and his community of suppliers. This is really the value proposition to the buyers.”

For suppliers, the company’s value proposition is to provide access to a new sales channel through the e-marketplace. Suppliers linked to the e-marketplace potentially have access to all buyers working with the marketplace. But the company also helps the suppliers build their catalogues and directly integrate some XML documents in their back office. Thus, the value proposition also offers increased productivity. Furthermore, the tools Company A provides enable the suppliers to set up their catalogues on the buyers’ procurement portal, which, in turn, might result in increased market share. For example, by connecting to a multinational buyer’s procurement portal, a supplier could expand its activities into new markets.

With respect to the impact the company’s offering has on its success, the respondent states he does not regard the company’s offering as the main reason for success, due to the fact that the firm offers more or less the same services as many other companies: “Our offering is not a competitive advantage toward others.” Instead, there are other aspects that influence the company’s result: “What has an impact is the strategy which from the beginning was very much oriented toward the mutual basis. Otherwise, we would just have costs flying. The second thing is we have some very large companies as customers and those large companies provided the critical mass that stabilized our model. The third factor is the supplier network. It is a major difference between different e-marketplaces.”
Resources and Key Activities

With respect to internal capabilities and assets, the respondent points particularly to the “entrepreneurial mindset” as crucial to the company’s success. According to the respondent, the company manifests this approach in customer-orientation and through its ability to adapt rapidly to market change.

The firm’s activities cover processes related to e-procurement, exchange hub, and content and catalogue hub. The e-procurement activities allow companies to handle their buying process, from procurement to payment, electronically. The e-marketplace provides an operational application service that includes software resources, a technological platform, operation, maintenance, user support, and content management.

The exchange application recovers the documents generated by the buyer’s e-procurement system, converts them into standard format, and makes the documents available to suppliers. For those suppliers who prefer not to integrate their ERP with the exchange hub, the firm offers a supplier portal on the Internet that enables access to purchase order files and transmits dispatch notes and electronic invoices. Information, transmitted via the portal, is integrated automatically into the buyer’s e-procurement system.

Key activities related to the content and catalogue hub include getting suppliers on board the e-procurement system, and creating and enriching electronic catalogues, as well as managing them. Regarding content management, the company’s Web site states: “The major competitive advantage of Company A solutions is their capacity to handle the problems of content management, both for buyers and suppliers.”

Cost and Revenue Model

Company A’s revenue model has not changed since the beginning; thus, the company mainly charges fees based on transactions. The respondent states management strives for scalability and, therefore, the company focuses on transaction and derives revenue from customers’ activities. The respondent further states the customer, of course, can discuss whether the price should be a percentage of the total value or be oriented instead to the number of users. The firm, however, decided to mix entrance fee and transaction fee with a fee for

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29. Enterprise Resource Planning. An ERP software aids and controls the ERP management system, which integrates and automates business operations (e.g., planning, manufacturing, sales, marketing, inventory control, order tracking, customer service) (Tech Dictionary, retrieved 2006-01-15 from http://www.thetechdictionary.com/term/erp_software).
professional services. In this format, when a new project is started, the company charges for access to the platform and for product management costs. In addition, there is a transaction fee based on a percentage of what the buyer will buy through the platform.

The revenue model, with respect to the suppliers’ side, is constructed in a similar way, with the exception of a lower fee. The suppliers pay an access fee that allows them to receive certain services that enable them to build up content. In addition, suppliers pay a transaction fee, which is split into an annual fee and a fee based upon a percentage of the transaction. The respondent exemplifies this by stating: “A small supplier will pay an annual fee of €1,000, plus 1 or 1.2 percent on what he will sell through the platform.” The biggest suppliers pay more then €300,000 per year.

The e-marketplace differentiates the fee according to the total standing of the customer. The company deals with packaged pricing, meaning firms that want to start doing business through the platform can select among Bronze, Silver, Gold, and Platinum packages. For example, the Platinum package allows a supplier to exchange with 10 buyers in five countries and have an unlimited number of catalogues. Thus, the customers’ status determines accessibility to the number of suppliers and catalogues, and the fee they have to pay.

The company’s striving for standardization also concerns its revenue model, and having a well-established and sound revenue model, with a straightforward pricing model, is indicated to be important for the company’s performance.

5.2.6 Environmental Factors

Three issues greatly influence the company’s development. First, the customers (i.e., the buyers) that really need to align, or even force, their personnel to use their respective company’s frame contracts, because if companies allow their purchasing to be sidetracked, it will reduce the speed of Company A’s projects.

Second, the respondent sees that purchasing is becoming an increasingly important function within companies, at the same time that globalization spreads their operations worldwide. This development presents enormous challenges for companies in terms of sourcing in new markets, for example, and people need to be enabled to work together, even if they are located in different countries. Thus, the need increases for tools to handle collaborative and information exchanges. However, according to the respondent, it is not possible to meet such needs by only providing a portal with a workflow and some tools to collaborate. Therefore, Company A offers information tools that allow, for example, the person in charge
of finding the best supplier for a request to work together with the one who has to handle the negotiation and how the contract will be used by the company.

The third issue mentioned by the respondent as an environmental factor influencing the company’s business is legal pressure to provide more transparency in the way it conduct its business.

In addition to these three issues, the respondent stresses the importance of lowering the cost of technology, which is rather expensive today. Reducing the cost of technology is crucial for the success of the e-marketplace; thus, this firm considers outsourcing some technology developments as a way to reduce the cost.

5.2.7 Emerging Trends

It is predicted that within the next three years the merging and acquisition of e-marketplaces will continue, and we will also witness further failures. It is also envisaged that not more than a couple of e-marketplaces will remain in the world. However, the respondent foresees other players entering into the e-marketplace business, which could involve large corporations from other industries. For example IBM, Microsoft, or other large software providers, as well as groups like General Electric that have mega trading companies, trading platforms, and electronic trading platforms, might become very interested in the services e-marketplaces provide. Although the respondent does not think any of these “giants” are interested in taking over all B2B e-marketplaces’ services, he predicts IBM will move forward in that direction within the next few years.

Referring to the fact that suppliers are becoming more and more global, the respondent foresees that new services might be developed around aggregated purchasing. A couple of initiatives already exist in France and Germany, where companies have decided to aggregate their purchasing and buy together instead of individually, thus saving money. The respondent’s experience is that the established phenomenon of aggregated purchasing has made it much easier to approach large suppliers, such as Dell and HP, and try to reduce the number of contracts to a minimum (if possible, only one).

Besides continued consolidation of B2B e-marketplaces and the development of new services, the respondent emphasizes that the prevailing high cost of technology is an issue that must be dealt with. If the cost of technology does not decrease in the future, achieving e-marketplace success will be difficult: “We cannot stay in the market for long with such expensive technology. We need to find a way to lower those costs.” One way to lower the cost is to outsource some of the development of technology to low-cost countries. According to the
respondent, the company has to consider outsourcing of the content building, for example, since that is a very standardized task and, from an added value perspective, it does not matter in what country the task is carried out.

Although the suppliers of the technology are aware of the fact the whole industry continues to merge, and there will be only a few players left within a couple of years, they do not seem to be prepared to lower their prices. According to the respondent, the reason is that the whole e-marketplace industry is a small customer. It can be concluded the e-marketplace industry, as a whole, is not big enough to force technology providers to change their pricing structure.

5.2.8 Summary

In this section a short summary of the case is provided.

The company could be described as a horizontal e-marketplace, which mainly targets large (with more than €200 million in the purchasing budget) companies in Europe that have subsidiaries in several countries and decentralized organizations. The major types of products traded through the e-marketplace are indirect goods and services. Private investors and a number of large companies that also participate as buyers on the e-marketplace own the firm. However, the respondent states the company balances its focus with respect to buyers and suppliers and, thus, can be considered neutral in its governance. The company’s strategic position with respect to functionality currently covers the source-to-pay process. The e-marketplace’s functionality involves sourcing capabilities, e-procurement, and auctions, and facilitates the customers’ management of demand, sourcing, and contracts, as well as their matching and payment of invoices. The main content on the e-marketplace is related to the commerce of non-production goods and services, and the main collaborative tool is a portal that the company has developed to facilitate content exchange between buyers and suppliers. As for technology, the company’s trading platform is based on SAP and POET technologies and its communication platform is supported by WebMethod technology. The respondent characterizes utilized technological systems as flexible, scalable, and secure.

In summary, the following factors can be considered as critical for the e-marketplace’s success:

- A high degree of standardization
- User adoption
- Customer care (i.e., ability to meet customers’ needs and expectations)
An entrepreneurial mindset (i.e., ability to quickly adapt to market change, and to keep control of costs)

A neutral governance (i.e., not biased toward buy-side or supply-side)

Technological expertise

Concerning factors that cause the failure of e-marketplaces, the following can be summarized:

Inability to deliver expectations that are promised

Lack of sufficient funds (capital)

High consultancy costs

Inability to comply with fast pace of market change

Inability to keep the e-marketplace neutral and prevented from becoming an internal service firm for shareholders

In short, the following issues are major challenges the management must deal with:

Find enough capital to build up the business

Manage the firm in a rapidly changing business environment

Develop new services

Be highly customer-oriented

Find an appropriate pricing model for suppliers

Summarizing the various components of the company’s business model (i.e., Mission, Value proposition, Resources, Key activities, and Cost and revenue model) shows that:

A successful mission should “provide productivity increases and therefore savings to both buyers and suppliers through collaborative tools.”

Value proposition: Services provided by the firm particularly do not differ from what others are offering. Besides offering its customers three main platform functions (i.e., e-procurement system, exchange hub, and a content and catalogue hub), Company A offers value-added services such as content management, back-end connection, functional customization, consulting, technical support, and training. The company’s offerings are not regarded as the main reason for success by the respondent, who states
that services provided by Company A do not differ particularly from what many other companies offer.

- Resources: The entrepreneurial mindset in the management of the firm is considered the main resource and a major reason for success.
- Key activities: Content management activities constitute a major competitive advantage for the firm.
- Cost and revenue model: The company mainly charges fees based on transactions, and mixes entrance fee and transaction fee with a fee for professional services. Both buyers and suppliers are charged, but the suppliers’ fees are lower.

Regarding environmental impact, the following factors are considered the most influential:

- The degree of compliance with frame contracts within the buyer’s organization will affect the pace of progress of the project’s progress
- Increased globalization has increased the need for tools that enable collaboration and information exchange within and between organizations. Thus, Company A offers such information and collaboration tools
- Legal pressure to provide more transparency in conducting business
- Cost of technology

Concerning the future, the following trends can be seen:

- Mergers and acquisitions of e-marketplaces will continue within the next three years
- Mega firms from other industries (e.g., IBM, Microsoft) might move into the e-marketplace business and challenge already established e-marketplaces
- New services concerning aggregated purchasing might come up, due to increased globalization
- The cost of technology has to be reduced
5.3. Company B

5.3.1 The Company

A consortium of four large Danish corporations launched the company in the year 2000, and today is the largest B2B e-marketplace in Denmark. After a shift in ownership in July 2004, the company was reorganized, and the staff was reduced from about 70 employees to almost 25 at present. This considerable reduction was achieved through outsourcing of marketing, IT operations, and administration, whereas key functions (development, sales and implementation of solutions) are still handled internally. The company provides e-commerce solutions to more than 700 customers (i.e., private as well as public enterprises and entities). Around 250 of these customers are buying firms that jointly purchase in the region of €80.5 million annually, only through e-catalogues. About 500 suppliers are connected to the marketplace today, and these firms send electronic invoices with an approximate value of €0.5 billion per year. Company B holds more than two million commodity lines and covers various types of goods and services. Even though complex products are occasionally exchanged through the marketplace, the majority of goods traded via the company are non-strategic goods, such as office supplies, furniture, computers, and paper. Turnover for 2004 amounted to nearly €30 million.

5.3.2 Strategic Position

Focus

Company B is a horizontal e-marketplace in which buyers and suppliers from different industries, as well as the public sector, trade a wide range of goods and services. The major focus is on non-strategic products; this type of product has been identified as very interesting from an efficiency point of view because it generally represents 20 percent of companies’ aggregated purchase volume, but represents 80 percent of time spent on purchasing. Based on customers’ requests, Company B’s focus on non-strategic goods and services is, however, gradually changing toward including more and more strategic or complex products.

Geographically, Company B currently focuses on the Nordic region and has offices in Denmark, Norway, and Sweden, as well as in Finland and Iceland. But the company is also trying to increase its global presence to meet customers’ need for international trade. The firm is represented in 25 countries in Europe, Asia,

30. The remaining 80 percent of purchases are related to goods typically used in manufacturing, i.e., direct material.
and South America, as well as in the U.S.A. through its partnership with Columbus IT Partner.31

The first buyers connected to the e-marketplace were the four founders. Their main idea was to make use of scalability by sharing the system. However, it turned out that the founding companies did not use the e-marketplace since their organizations were not actually ready to handle their purchasing via the e-marketplace platform at that time. In fact, the respondent considers this as one of the e-marketplace’s main problems, and said the company’s situation would have been different if the originators had been able to convince their organizations to purchase via the e-marketplace. Therefore, the management at Company B very soon realized it had to change strategy to bring buyers and suppliers to the e-marketplace. Instead of relying on the founders to achieve a critical mass of buyers and suppliers, the company focused its sales efforts on a few key players in the Danish market. In 2001, Company B signed an agreement with the Danish Government, one of the targeted key players, and began developing a public purchasing portal. However, at present, the founding companies have also started using the e-marketplace. Today, Company B not only focuses on bringing public organizations and large corporations to the e-marketplace. The respondent compares Company B with other e-marketplaces and states “while IBX, for example, focuses on very large buying companies, we can offer e-procurement solutions for quite small firms. Although we have large buyers with about 1,000 employees, we also connect buyers with as few as 50–100 employees.” This means the span between the largest and smallest buyer connected to Company B is rather big; while a large buyer could have 15,000 connections onto the system, another one may have only two. “The size of transaction volume is the determinant and, in our case, the company with two connections purchases €80–95 million annually,” the respondent concludes.

Companies on the supply side are brought onto the e-marketplace through the buyers. This was, however, not the case from the beginning. The respondent explains: “In the “old” company, we worked a lot to build up a huge supplier base. This is not how we handle it today. Instead, the suppliers could only be connected to us through the buyer, e.g., by being the buyer’s preferred supplier.” Today, however, the buyer provides Company B with a list of its preferred suppliers, then Company B contacts the suppliers and takes care of the connection, checks the quality of the catalogue and makes it available on the e-marketplace. According to the respondent, buyers connect to suppliers in the e-sourcing module or in the e-auction module.

31. A global supplier of software for ERP, e-business, CRM, integration, etc. The company is partly owned by the same holding company that owns Company B.
Governance

As indicated, the company was founded by a consortium of four large Danish corporations, which held 25 percent each (TDC, Post Danmark, Danske Bank, and Maersk Data). In summer 2004, about €40 million had been spent without earning any money at all. As a consequence, the decision was made to actually shut down the firm. Instead, the four owners sold the firm to Consolidated Holdings, whose primary focus now is on turning the company into a profitable entity. A neutral approach with respect to buyer and/or supplier orientation was chosen. This approach is explicitly communicated on the company’s Web site, where it is stated that the firm focuses on creating the same trading conditions for both buyers and suppliers, without favoring any of these parties.

Functionality

The company’s offerings consist of a number of modules that cover various functions (i.e., catalogues, procurement, matching, e-invoices, and statistics). The customers freely select, combine, and connect the different modules, which, according to the respondent, allow the customers to join the e-marketplace and add different modules gradually.

The catalogue function is provided through the company’s marketplace solution, which is an ASP solution and thus requires no system integration. The catalogue function is based on an international standard that makes it easy for suppliers to update the catalogues and for people all over the world to understand them. For the suppliers, the solution is a basic sales system without full integration of buyers and suppliers. It is hosted and operated by the e-marketplace. Suppliers’ catalogues and prices (i.e., list prices, as well as negotiated prices) are published on the e-marketplace. However, information about an individual agreement can only be accessed by the parties that negotiated it. In addition, Company B offers a marketplace package for suppliers that prefer an inexpensive integration. This package is based on Microsoft technology and includes integration, access to content (e.g., sales statistics and Business Intelligence) and secure exchange of information within electronic documents, between supplier and buyer connected to the e-marketplace. For the buying organizations, the marketplace solution is claimed to provide an efficient workflow that complies with each buyer’s procurement strategy. For example, the marketplace solution allows the buyer to easily manage who within its organization can buy how much of what, and from whom.

32. TDC is a Danish Telco.
33. Today IBM Global Service.
34. Consolidated Holdings owns several other companies within e-business (e.g., Top Nordic, Columbus).
The offered **procurement** system of the marketplace is described to be complete since it covers the entire process from purchase order to accounting and payment of invoices. Furthermore, the procurement system offers options to purchase not only from suppliers with standardized e-catalogues, but also from those having paper-based catalogues, and from suppliers without any catalogues at all. The respondent explains that having these alternatives is important to create a point of one-stop-shopping: “For the small supplier who does not have that many items to offer, it is possible also to work with pure text. This is necessary to avoid creating a large administrative burden for the buyer, which would be the case if he could only electronically purchase those products presented on an electronic catalogue. Having the possibility to buy ‘non-catalogue’ text-based items ensures that all purchasing is done in one place, through the e-marketplace, which enables, for example, more relevant procurement statistics online.”

The **matching** function provided by Company B’s e-auction solution is highlighted on the company’s Web site. This solution is claimed to: increase competition, which leads to better price and quality; optimize price negotiations with suppliers—both with respect to general agreements and spot purchases; secure good prices and higher transparency, as well as equal treatment of suppliers; and support the EU’s regulations. The provision of e-auction services to suppliers includes the following:

- The supplier gets listed on Company B’s trade-partner register
- A short presentation of the supplier, with contact information, and reference to its homepage
- Access to an unlimited number of search words on Company B’s search function
- The supplier automatically receives electronic invitations from buyers to join an e-auction, on which the supplier can place its bid for free
- Easy and inexpensive access to many potential new customers

Concerning the **e-invoice and statistics** functionalities, the respondent explains that these lie as an external system, meaning that the customer needs neither hardware nor software: “The customer only needs a browser. They enter at one single point and there is no need for integration. When there is a match between purchase order and e-invoice, it will be forwarded to the customer’s ERP system, in an XML format—then there is nothing further to be done.” On the company’s Web site, Company B’s e-invoice solution is claimed to be simple, efficient, and
inexpensive to implement and operate. In addition, the e-invoice solution allows integration with ERP/accounting systems, regardless of what system provider the customer uses. Company B is also able to deliver electronic invoices directly into the organization’s own system, and the firm supports suppliers with the installation of a printer-driver and synchronization between the supplier’s accounting system and Company B. The main content is provided through the e-marketplace’s catalogue function, and is closely related to products traded through the e-marketplace.

Technology

Technology is not considered as a big issue today in the B2B e-marketplace industry: “What we deal with is actually quite a simple business.” Although different technologies are used within this industry, the respondent states that, “The technology is there as a fact, and it is more about how to use it properly.” However, contrary to management’s view, customers still perceive both e-marketplace business and technology to be extremely complex. This perceived complexity is one of the biggest problems that needs to be addressed. Furthermore, the respondent explains that customers’ perceptions concerning technology stems from the heavy focus on technology that prevailed in the early days of B2B e-marketplaces.

The technological platform in this firm is developed based on Microsoft Commerce technology and has undergone radical changes over time. Today, the company works on Oracle Solution and uses no more than 10 percent of the platform’s capacity. As a matter of strategy, the company’s systems are developed in cooperation with its customers: “Instead of going out to the customer with a vision and telling them how things should be done, we approach the customer with an idea, but after all, it is the customer who prioritizes what should be developed first.”

ASP Solution is also used, meaning the company runs the system centrally. Technology-wise, this requires one single connection between the customer and the company. The firm only has to handle one file format. The company’s solution is designed as a hosted solution, and contains different functionalities. According to the respondent, this allows customers to easily “click on” whatever functionalities they need, and these are then ready to be used.

The respondent regards platform flexibility, scalability, and security as important issues, and he describes the company’s platform as flexible and scalable, as well as trouble-free with respect to its functionalities. Demand for platform security is very high, given that one of the customers is the Danish Government, and hence the Danish National Defense. The company, therefore, must be able to deliver
security solutions way beyond the actual needs of the customer: “Although we know for sure that our customers do not utilize all the security systems we offer, we must have all these security systems.... Besides encrypted data, we must also be able to handle double-encrypted data, O.C. signatures, and digital signatures, if the customer so prefers. The security system is truly customized, meaning that we will deliver the level of security the customer asks for.”

**Partnership**

account managers, or via its partners. The company has agreements with several ERP system providers, such as Ementor, Columbus IT Partner, and Total ERP. Under these agreements, partners exclusively sell Company B’s solutions to their customers. An increase in efficiency has been one of the major outcomes in partnership with ERP, as indicated: “If you have a model where the customer has an ERP system which is handled by Columbus and the customer wants to have an EDI business system, the partnership between Company B and Columbus enables a much easier integration of systems compared to a situation where Columbus has to integrate the customer’s ERP system with a number of different other systems.”

In addition, customers benefit from Company B’s partnerships as it provides them with access to complete solutions and a variety of opportunities to incorporate Company B’s product technologies as components into existing software solutions. Finally, the company’s partners could benefit in various ways by partnering with Company B. For instance, they could gain access to continued innovation based on Company B’s insight into technology and market trends, and get easy and simple e-procurement, combined with existing IT systems.

Company B has already outsourced almost all functions, except sales and the implementation of customer solutions. For this reason, the respondent believes there will be no further outsourcing of tasks to partners.

**5.3.3 Critical Success/Failure Factors**

According to the respondent, a successful e-marketplace is characterized by its ability to deliver a complete solution: “You will never become successful unless you can handle the customers, the technology, the organization, and the suppliers. Then you must be able to connect all the applications and software that are going to be used in order to keep the whole thing together. Every process, from the

35. Ementor is a leading provider of infrastructure solutions in Scandinavia. The company is represented in Norway, Denmark, and Sweden ([http://www.ementor.dk](http://www.ementor.dk), retrieved 2006-03-01).
36. Total ERP is a Danish IT and management consultant company that focuses on integration of ERP systems.
purchaser’s first thought about buying a product to the registration of the invoice in the book-keeping, must be covered.”

It is indicated that achieving a critical mass of buyers is a critical factor for company success: “We are supposed to earn our living from the suppliers, but that is only possible if we have a critical mass of buyers purchasing through the e-marketplace. Therefore, for our own sake, I constantly encourage our staff to visit the customers and help them to start using the system.”

Partnership with customers is also considered important for the company’s success: “Partnership with the customers is very important; in fact, it is not only important: it is the determining factor. There are a huge number of customers that use different kinds of peculiar solutions, different types of e-marketplaces, which are not working. So, instead, we take the customers by the hand, sit down, listen to them, and develop a solution together with them. This has turned our performance from a €40 million deficit to profitability, and we have turned the entire business in one year. This was achieved by focusing heavily on the customers’ needs and processes instead of focusing on the technology.” According to the respondent, the shift in performance reflects the firm’s shift from technology focus to customer focus.

In addition to the critical success factors pointed out by the respondent, information on Company B’s Web site indicates the company’s partnership with various system providers leads to success as it is beneficial for buyers and suppliers, as well as for the e-marketplace itself. The current situation of the firm is summarized: “Today’s success is due to good partnerships, appropriate pricing model, and competent staff who implement the solutions.”

Having a sales force with procurement expertise is also perceived as a contributing factor for success.

Concerning critical failure factors, the respondent points out e-marketplaces’ lack of comprehensive service offerings, including implementation. Another factor that may lead to failure is the founders’ lack of commitment. This was the case in Company B’s early days: “The four founding companies did not turn to their respective organizations and tell them that, from then on, purchasing should be carried out through the e-marketplace.”

5.3.4 Challenges

The firm’s main challenge was, and still is, to get its key customer, the Danish Government, truly committed to the idea of purchasing via the e-marketplace.
This implies governmental organizations actually would have one option: to use Company B’s solutions for their procurement. The respondent argues that this kind of commitment is very important for the company’s ability to achieve a critical mass of buyers that in fact use the e-marketplace: “If the original founders of Company B had been committed, it would most certainly have helped achieve critical mass. To maintain and increase critical mass we changed our sales strategy by approaching top-level management and demanding their commitment.”

Another big challenge is that customers do not really understand the opportunities created by Company B. Although this challenge is connected to the sales of the company’s solutions, the respondent emphasizes that it is not product related, since “everyone can see that the idea is good.”

Reflecting upon future challenges, the following points are regarded as critical:

- Achieving and maintaining critical mass
- Getting customers to understand the real opportunities offered by Company B’s solutions
- Having a sales force capable of showing the results and effects of joining the e-marketplace.

5.3.5 Business Model Components

**Mission**

Company B’s vision is expressed as follows: “We work toward simplifying e-commerce for private companies and the public sector by creating value for dedicated buyers and suppliers, and by making trade electronic to the extent the customers are ready.”

The company’s mission is:

- That our customers think of our e-commerce as effective and that it reduces the costs in the process.
- We want to ensure that our customers quickly and effectively achieve success with the e-commerce system.
- We want our customers to rely on Company B and our e-commerce system, so they can focus on their core business.
The respondent does not believe the company’s mission has any crucial impact on the performance of the firm, given that its strategic objective is quite simple: “It is about getting the purchasers to actually use the system, deliver a system that is easy to use, offer products that fulfill the needs of enterprises and, finally, help the customers to handle their purchasing efficiently through the e-marketplace.” The company’s operation is based on a short-term strategic plan: “focusing on the next 6–12 months, rather than four to five years, since we have no idea how this market will develop.

**Value Proposition**

The company is an independent player that mediates trading information between buyers and suppliers. It develops and delivers B2B e-commerce solutions that are claimed to simplify customers’ buying, selling, and invoicing processes and increase process efficiency, which allows both buyers and suppliers to save time and money. According to the respondent, customers typically save between 15 and 30 percent of procurement volume as a result of increased efficiency and direct savings by using provided solutions. The company actually gives evidence of payback response times of less than one year.

Pondering the impact Company B’s offering has on its performance, the respondent implies the firm has a competitive advantage as it offers solutions that are comprehensive: “What we do know, in contrast to other existing e-marketplaces, is that we are able to handle all the processes between the buyer and the supplier. One of the big problems with marketplaces today is that you provide companies with the tool, but the customers are then left with all the problems; they have to activate suppliers and the suppliers, in turn, have to use a LAN network that must be connected to the buyers’ system. Electronically and technologically, they must have a server and they have to make a catalogue available. This is handled differently in our company. We join a partnership with our customers and we are not going to make any money until the customers use the system.”

Furthermore, the respondent argues that differences in types of products/services traded through various e-marketplaces have no particular impact on company performance.

**Resources and Key Activities**

Personnel’s comprehensive knowledge about purchasing processes is considered to be the company’s most important internal capability. For example, this knowledge enables the company to lead customers successfully through the change of their procurement processes: “Working in close relationship with the
customers, leading them by the hand, has a huge impact on success. Although this is costly... it is an investment from our side... it is the way to become successful, and the alternative would be to stand there with a solution that will never work.”

The company’s key activities deal with development, sales, and implementation of e-commerce solutions. Activities such as marketing, IT operations, and administration have been outsourced, which has made it possible for the company to focus entirely on its customers at the same time reducing costs. The respondent emphasizes that developing and providing solutions that present immediate cost reductions for the customers is crucial for customer retention.

**Cost and Revenue Model**

Initially, the firm’s revenue model was based on transactions only and buyers, as well as suppliers, that traded through the e-marketplaces had to pay the fees. However, the result showed this model dampened, rather than encouraged, trade: “The more a company purchased through the e-marketplace, the higher fee it had to pay, and when buyers and suppliers found out that increased business over the e-marketplace inevitably would lead to higher costs for both parties, they simply skipped using our solution.” To change such behavior and instead encourage further trade via the e-marketplace, the management decided to change the revenue model. Today, the company has a more straightforward revenue model for the buyer side as it is based solely on a fixed price. The buyers are currently charged about €27,000, regardless of what and how many modules of offered services they choose to use and implement. With respect to the competitors, the flat-fee strategy corresponds to about 10 percent of what some competitors charge their customers. The changed revenue model has substantially reduced the fee for buyers, which is perceived as a major reason for the subsequent increase of trade through the e-marketplace. The respondent explains the main idea behind the current model is that company profit should be based on suppliers’ activities: “Every time a buyer purchases something from a catalogue through the e-marketplace a percentage, let’s say 0.5 percent, of the transacted amount, goes to our company. This means that if we don’t succeed in getting the customers to buy through the e-marketplace, we will not make any money.”

It is well established fact that the company’s revenue model substantially differs compared to its competitors: “This contradicts all other e-marketplaces that sell their solution to the buyers and then leave them standing with all the problems, so trading through the e-marketplace never takes off.”

Contrary to the buyers’ fixed fee, suppliers are charged either a fixed price or a transaction fee, or a combination of both, depending on their preference. The fact that the suppliers have to pay a fee to trade through the e-marketplace might lead
to higher prices for the buyers. However, the respondent believes this is not likely to happen, considering the risk buyers might encounter by switching to another supplier.

5.3.6 Environmental Factors

Technological and organizational issues need to be dealt with when connecting a customer to the e-marketplace. Technological issues could, for example, concern customers’ access to computers and the Internet. While most technologically related issues have been resolved, organizational aspects, on the other hand, are issues that have to be addressed every day. The firm’s main organizational challenge has been resistance to change in the ways work is conducted. This is mainly because of the staff’s fear of losing their jobs, which is usually expressed through a resistance to change and the implementation of new system. According to the respondent, the company handles organizational concerns by focusing “very hard on fulfilling the customers’ needs… with respect to education, e-learning and so on.”

Moreover, the commitment of customers to use the e-marketplace is an important issue, especially when the public sector is concerned. The Danish Government is one of the largest customers; however, the Danish political system, has so far failed to move from its stated purpose of saving money into real action. The respondent further explains: “Without committed politicians, the public organizations are not likely to change their way of working. It is the same in large private corporations; if the management is not are committed to the idea, the organization will not start purchasing through the e-marketplace.”

5.3.7 Emerging Trends

Elaborating on future trends, the respondent perceives that “Time is on our side in B2B e-commerce,” meaning that people now bring their B2C e-commerce experience into their working life, and begin to understand, for example, the concept of buying electronically. For this reason, the Internet’s possibilities are increasingly used in the B2B environment. Notwithstanding, the respondent believes the market is not big enough for all currently existing B2B e-marketplaces; therefore, mergers and acquisitions of e-marketplaces will continue.

As competition gets keener and revenues decrease, firms tend to control costs, specifically the costs of direct materials. This trend could be a base for companies to invest in e-business systems to “save the last Euro.”
The demographic development is predicted to involve fewer young people entering the job market, which means fewer individuals will have to handle more processes in the future. For that reason, the respondent foresees an increased need for tools that enable fewer people to do more. For example: "When IBM Global Service shifted from its traditional way of handling their purchasing to our solution, they saved 75 percent in time, which means they are able to run through 75 percent more orders on the same number of people. Development in this direction will continue; it is, however, hard to tell whether this will take off within six months or five years."

5.3.8 Summary

As a horizontal e-marketplace owned by Consolidated Holdings A/S since July 2004, the company targets private companies as well as public enterprises and entities mainly in the Nordic countries. The company offers various solutions that facilitate trade of non-strategic goods and services between buyers and suppliers.

The firm’s neutral approach toward buyers and suppliers is formulated as an intention to create favorable trading conditions for buyers and suppliers without favoring any of them. With respect to functionality, the company’s strategic position currently involves offering solutions, like a number of modules that include catalogue, procurement, matching, e-invoicing, and statistics functions. The company’s technological platform is based on Microsoft Commerce technology and Oracle Solutions, and it is perceived to be flexible, scalable, and secure, as well as problem-free with respect to functionalities. The company partners with a number of ERP system providers; thus, additional sales channels could be obtained.

In summary, the following factors are considered critical for e-marketplace success:

- Critical mass of buyers purchasing through the e-marketplace
- Sales force expertise in procurement
- Customer focus rather than technology focus
- Partnership both with system providers and customers
- An appropriate pricing model

The following major factors are seen as a possible basis for the failure of e-marketplaces:

- A lack of comprehensive service offerings
A lack of commitment from buyers connected to the e-marketplace

Major challenges the company has to meet to succeed are:

- Achieve and maintain critical mass
- Convince the customers to commit to the idea of purchasing through the e-marketplace
- Increase customers’ understanding of the opportunities associated with Company B’s different solutions

Strategic components of the company’s business model (i.e., mission, value proposition, resources, key activities, and cost and revenue model) are mapped in the following manner:

- Mission: The company’s strategic objective involve offering products that fulfill customers’ needs, deliver solutions that are easy to use, encourage increased use of solutions, and support customers to achieve efficient purchasing.

- Value Proposition: The main values the company proposes deal with increased process efficiency and reduced costs, both for buyers and suppliers. The comprehensiveness of Company B’s offerings is perceived as a competitive advantage, and thus has an impact on the company’s performance.

- Resources: A profound knowledge about purchasing processes among the company’s personnel is perceived as the firm’s most important internal capability, which also has a great impact on the company’s performance.

- Key activities: The company’s main activities deal with development, sales, and implementation of e-commerce solutions.

- Cost and revenue model: Buyers are charged a fixed price for joining the e-marketplace and pay the same fee, regardless of the range of Company B’s solutions that are connected and used. Suppliers pay a fixed price, a fee based on transaction, or a combination of both.

Concerning environmental factors that influence the firm’s performance, Danish politicians’ decisiveness to fulfill their commitment to change the purchasing behavior within public sector organizations strongly influences Company B’s performance, bearing in mind that the Danish Government is one of the firm’s key accounts.
Regarding the future, the following trends are foreseen:

- The continuation of mergers and acquisitions of B2B e-marketplaces.
- Companies increasing their investments in e-business systems to gain further cost savings.
- An increase in companies’ demand for tools that enable fewer individuals to achieve more.
5.4. **Company C**

5.4.1 **The Company**

Company C was established in 2001 by 11 leading utility firms from eight European countries. The main idea was to form an e-marketplace that creates efficiency in the supply chain of the utility industry. At present, the company provides services, content, and technology to enable the exchange of information between buyers and suppliers within the utility industry. Presently (early 2006), the company is owned by six of its original founders and has 20 employees. Through it, about 1,700 buyers from 170 different buying entities and 10,000 suppliers are connected to the e-marketplace.

With about 1,000 events (e.g., requests for information, RFQs, and auctions) for the industry, the total value of transactions that passes through the e-marketplace is about €1 billion per year, which results in an annual turnover of approximately €1.6 million (2005).

5.4.2 **Strategic Position**

**Focus**

Company C is a vertical e-marketplace that focuses on providing services to companies in the utility industry. Although it has made some attempts to approach markets outside Europe, the main focus is still on serving the European utility industry. The initial focus was on corporate buyers of its core products (i.e., all the products involved in the production, transportation, and distribution of energy, gas, and water. Later, however, non-core products were added, due to the fact buyers in the rather mature utility industry were hesitant to purchase core products through the e-marketplace. The respondent explains: “You have to remember that we are in a 50-year-old business. You have to go slowly. Sometimes it takes me three years to get a customer just to make a tender. We learned about risk management, meaning that they wanted to limit the risk, so we advise customers that they should start with something non-core, something less important, and see how it works.” At present, it is estimated about 60 percent of e-marketplace activities deals with non-core products, and 40 percent with core products. The respondent summarizes Company C’s focus with respect to products: “We could say that we started with core, shifted very quickly into non-core and, progressively, we are growing into core. This is our focus and will also make our positioning quite clear.”
Even though the initial focus on corporate buyers was soon dropped, and Company C ended up having no particular focus with respect to buyers’ size, from 2005, small and medium enterprises (SMEs) also were identified as a target market: “The European SME market is a large fragmented market of 25 million companies not yet exposed to online tools. With our assistance they can dramatically and competitively increase their revenues. We are aiming at being their preferred online partner to boost their business.” Therefore, the company recently launched an online B2B marketplace, which facilitates business between suppliers and buyers for SMEs. The e-marketplace offers access to a global directory, and functions such as e-tendering, reverse auction, and European public tender alerts for SMEs.

Concerning the suppliers, Company C is supporting the buying process of utility firms. This means when a tender on office supplies, for example, is carried out, suppliers of such products will be logged in the e-marketplace’s directory. When it comes to sourcing activities, such as searching for suppliers or exploring the market, those services mainly involve suppliers associated with the industry’s core business.

As to service offerings, Company C started with sourcing services and all issues related to the contracts, as well as transaction services. The respondent claims Company C is one of the few e-marketplaces trying to serve the whole chain of source-to-pay services: “We try to serve the full chain, believing that it is a differentiator and that this will definitely bring value because you have a one-stop shop for customers.”

However, when management discovered customers were not really ready to carry out all source-to-pay activities through the e-marketplace, the firm decided to remove transaction services and focus only on providing sourcing services. But it was necessary for Company C to also offer transaction services. Thus, the company started a partnership with a technology provider: “What we were selling was not there anymore and so we had to reconstruct. We put all our efforts into creating a ‘real’ marketplace. We still believe that transaction makes sense, and therefore we made a partnership with Perfect Commerce37 at the beginning of 2005 to enable the customers to get this offering. Actually, transaction is not only one offering; you have several components, and customers can pick and choose the technology of Perfect Commerce and get our support.”

37. Perfect Commerce is the largest provider of On-Demand Supplier Relationship Management (SRM) solutions, and provides connectivity to trading partners (http://www.perfect.com/company/index.html, retrieved 2006–03–28).
The respondent points out that the content differentiates Company C’s offerings from solutions provided by companies such as Ariba or SAP: “I would not call Ariba or SAP a marketplace because they are just providing a tool to exchange a certain type of information, such as purchase orders, receipts of invoices, and so forth. But they don’t provide all the components needed to get the knowledge, research, and information around this process.”

**Governance**

Six large European utility companies own the marketplace. On its home page, the company is described as an independent marketplace based on neutrality, which is also open to all companies.

**Functionality**

Company C provides both buy-side and supply-side functionality, along with all the key elements of the source-to-pay process. Content, such as online market research on company and product information related to the utility industry, is also offered to both buyers and suppliers. The respondent underlines the importance of building a community that enables buyers and suppliers in the utility sector to exchange industry-specific information. The established portals (i.e., buyer and supplier communities) that are predefined according to each company’s profile currently have about 300 visitors per day searching for information. Besides value-added content, such as market research, Company C provides commerce content through, for example, a database that contains commercial supplier information, which enables the identification of new suppliers.

The company’s offerings also include functions that facilitate companies’ buying or selling leads for used, second-hand, and surplus equipment used in various industries (e.g., metalworking, the utilities industry, railways, and renewable energy).

The e-sourcing solution the firm provides facilitates buyers’ search for suppliers of equipment, goods, or services that are needed within the utility industry, and the firm’s e-tendering solution enables buyers to execute electronic tenders and reverse auctions. Suppliers also are able to list themselves on Company C’s B2B searchable online directory and to receive tender alerts, as well as maximize their exposure by advertising through Company C. Figure 5.1 illustrates how the company’s services have evolved.
As indicated previously, the company started by offering tendering and auction solutions (1) as an attempt to quickly drive traffic to the e-marketplace. In the second phase (2) the company launched e-procurement and catalogue services due to the fact that it received a contract, valued at several million euros a year, to host these new functionalities. But this contract was terminated within a year and the e-procurement and catalogue functions were abolished in 2004 as management realized these would not bring any revenue to the firm. However, shutting down e-procurement and catalogue services enabled the company to build a supplier directory (3). Sourcing, market prequalification, supplier rating, and contract management are services the company offers through different partners (4). Prequalification and rating of suppliers are particularly important in the utility industry, a fact the company emphasizes: “The industry we are in is different from the automotive industry, in terms of technology, because it is a very long-cycle industry. The plants you have for energy and water are built for 50 years, so all the cycles are extremely long. If suppliers want to do business with a utility company, they have to prove they are going to be in the markets providing spare parts for 50 years.” Although Company C already handles supplier ratings, the process is not yet dealt with robustly and consistently. Supplier ratings, as well as contract management, are carried out through partnership with Perfect Commerce, but competition from other technology providers, such as SAP, is quite fierce, and
it takes time to put these services in place. The respondent states that the market and customers’ demands push the e-marketplace to explore what new services the firm can, and will, offer.

**Technology**

Company C initially used technology provided by Commerce One and SAP. But none of the obtained technologies actually matched the firm’s needs, so the firm ended up developing its own technology, mainly within the company. Contrary to some other e-marketplaces that have provided possibilities for almost every customer and a very high level of customization, the company has created one possibility for all its customers under Company C’s brand. The company’s business applications are Web-based and cover the key elements of the source-to-pay process. The respondent states that since Company C sells its solutions as an ASP\(^\text{38}\) solution, “there is nothing to implement, and the customers can switch on the service within an hour or less.”

To be able to handle various business document formats, Company C offers a basic integration package, which is a solution by which the company provides integration services up to a trading partner's firewall. The integration services are delivered on customer demand and the integration approach is underpinned with a project-based methodology that starts with a feasibility and analysis study. The catalogues are based on a UNSPSC\(^\text{39}\) standard, which enables buyers to search and compare product data across multiple supplier catalogues. The firm’s homepage explains that Company C also has the capability to manage a variety of other standards. Security is also highlighted as one of the values on which Commerce C’s marketplace services are based.

**Partnership**

To be able to create a one-stop shop for its customers, the company had to create the ability to offer online transaction services. The firm therefore established a partnership with Perfect Commerce. While the deal provides Company C technology that enables it to offer transaction services, Perfect Commerce benefits by getting access to the European market at a reasonable cost. Thus, the partnership opened the European market to Perfect Commerce with 200 U.S.

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38. Application Service Provider (ASP) is a company that offers individuals or enterprises access over the Internet to application programs and related services that would otherwise have to be located in their own personal or enterprise computers (http://www.orafaq.com/glossary/faqglosa.htm, retrieved 2006-06-30).
39. UNSPSC (United Nations Standard Products and Services Code) is a widespread classification convention that is used to numerically identify products and services (http://www.unspsc.org/, retrieved 2006-03-28).
customers, while providing Company C with the ability to expand the portfolio for transactions.

5.4.3 Critical Success/Failure Factors

The respondent defines a successful e-marketplace as one that is user-centric. This is an issue Company C now faces: how it can become more user-centric within the two communities in which it is active (i.e., buyers and suppliers). The strategic thinking within the firm is that new communities for actors such as technicians, experts, and consultants within the utility industry might be added.

With respect to critical success factors, it is perceived that having a critical mass of buyers and suppliers that participate in the e-marketplace is a crucial factor for a firm to succeed. However, building critical mass could be done either by having powerful members that drive their organization’s buyers, as well as their suppliers, to use the e-marketplace, or having the e-marketplace build content to attract enough participants. Company C would have achieved critical mass much quicker if the founding members had told all their suppliers they would not buy directly from them anymore, and that all transactions would have to go through the e-marketplace. Why didn’t the 11 founding companies use their power to persuade their suppliers to connect to the e-marketplace? The explanation is that “while top management agreed to comply, lower-level management did not contribute to the situation.” Thus, the founding companies have never channeled all their purchasing activities toward the e-marketplace.

Additional factors, such as a secure environment, expertise in e-sourcing, and finding and analyzing manufacturers, as well as specialization in using online buying tools, such as e-Tender and e-Auction, are also indicated as important factors for the firm’s success.

As to critical failure factors, the respondent points specifically to a lack of direction, and states: “If we look at all e-marketplaces that have failed, the major reason could be identified as a lack of direction.” The initial shareholder structure with 11 equal shares made it very hard to set a clear direction for Company C, a fact underscored by the comment: “If all the 11 would have aligned on what to do and what to say, we would be very successful, and this would have been recognized by the industry.”
5.4.4 Challenges

The major challenge has been to get the 11 founding companies, which represent somewhat different cultures, to work together efficiently. The respondent describes the launching of Company C: “We were started by the eleven. We made workshops and committees, and spent a lot of time to involve them and keep them up to speed. The decision-making process was very, very long. The initiative did not come from a consortium; it came from a business and financial side.” The respondent had to handle a board of 11 members and shareholders every month, and steer a business plan for Company C. The plan was a 300-page document made by consultants and built in conjunction with some buyers and businessmen in the utility industry. Due to cultural differences among the founding companies, the respondent had to spend a lot of time solving internal conflicts, which were often derived from pure linguistic misunderstandings.

Considering the fact that the e-marketplace is developed for one industry and is determined to build a community for different players in the utility industry, it is perceived that attaining legitimacy within this industry is a major challenge for the firm. The company is very weak from a technology perspective and the respondent states that companies, therefore, have a tendency to turn to leading technology-providing firms, such as Ariba. As the marketplace cannot really compete with large technology providers, the firm focuses instead on adding value in terms of high industry-specific content in order to attract participants to the e-marketplace. The main challenge for the firm is to provide niches of services that make the company’s services fit the utility sector, for example to require technology customization for auctioning of energy losses or energy capacity of cross-border energy.

In creating a critical mass of participants on the e-marketplace, the company must deal with the major challenge of building content that becomes a reference. The firm has also had to comply with directives from the European Commission in order to succeed.

5.4.5 Business Model Components

Mission

The strategic objective of the e-marketplace is defined as: “To enable its customers to improve their purchasing performance with innovative tools and the support of an experienced and multilingual staff.”
Value Proposition

In order to meet increased competition the company aims to add value to its customers by being very industry specific in its offerings. The respondent emphasizes that the company, therefore, has to focus on: “small niches of services which makes us specific and create value for the customer.”

The value proposition that the firm is offering is seen in three different categories:

- Providing business connections (relationships)
- Reducing time
- Reducing purchasing costs

To improve business relationships between users, the firm provides:

- An online area for buyers and suppliers to meet and know more about mutual needs and capabilities.
- Services for buyers that enable them to access market research reports, request online supplier search, comply with EU regulations, run supplier prequalification online, ask for a supplier scan on industrial products (e.g., cables, transformers), execute electronic tenders, and reverse auctions.
- A marketing channel for suppliers that enables them to publish their company profile, receive daily European tender alerts in their mailbox, advertise online and auction commodities, or sell excess inventory (e.g., spare parts).
- A team that has the capability to assist in managing events, developing and implementing e-procurement tools, and meeting and winning new European customers.

Buyers and suppliers from the utility industry could gain the following benefits through e-marketplaces’ offerings:

- Source of company and contact information
- Access to a network of B2B professionals
- Increased company and product information exposure
- Time and cost savings
- Purchasing tools, such as a B2B directory, electronic requests for information, e-tenders, and reverse auctions
- Reduced lead-time to find and assess OJEU\textsuperscript{40} trade leads
- Exchange of information in public forums
- OJEU procurement notices management
- Access to market research

**Resources and Key Activities**

The firm’s comprehensive industry knowledge, as well as its sourcing experience and efficiency in searching suppliers, can be seen as internal assets and capabilities that have an impact on Company C’s performance.

The key activity is to deal with industry-specific content. Content building and online sourcing are considered to be crucial factors for the company’s success. When a buyer turns to the marketplace for help in searching for suppliers, the firm first checks its database and, within a few days, sends a list of suppliers to be considered by the buyer. However, if the database lacks information about suppliers of a certain product, the marketplace contacts the buyer and offers quick research in the matter. The existence of a high degree of competency in research can result in rapid supply searches.

**Cost and Revenue Model**

The e-marketplace charges different fees for different activities, but registration for companies on the marketplace is free of charge. Initially, only the buyers (i.e., founding members) were charged, but almost immediately the firm opened the door for hundreds of other utility companies in Europe. Currently, about 80 percent of the revenue comes from the buyer side while 20 percent comes from the supply side. But balancing the revenue from buyers and suppliers (50/50) is the company’s aim: “We are pushing to collect money from sellers, basically by offering rights services.” The e-marketplace offers different levels of membership, and suppliers can select Bronze, Silver, or Gold. The Bronze program enable members to exchange information on an industry forum, search the business directory, and promote their companies online. In addition to these services, the Silver membership provides tools that allow the member company to check and confirm its business compliance, receive tenders alerts, and some advertising services. Those who pay for a Gold program receives additional advertising services, assistance to get their prequalification data ready, and access to the marketplace’s auction tool. Currently (February 2006), the annual prices for membership programs are: Gold €1500, Silver €600, and Bronze €99.

\textsuperscript{40} OJEU - Official Journal of the European Union. The majority of supply and service procurements with an estimated value of €200,000 must be advertised in the OJEU (http://www.ojeu.com and http://www.ukaea.org.uk/contract/ojeu.htm, retrieved 2006-03-24).
Fierce competition has led to reduced prices on services. For example, five years ago, the charge for auctions was €100,000, but as a result of competition, the current price tag for auctions amounts to between €2,000 and €10,000, depending on the complexity. As seen by the firm, a revenue model that can guarantee success is a “50/50 revenue base from buyers and suppliers respectively.”

5.4.6 Environmental Factors

Concerning environmental factors, compliance with the directives from the European Commission, for the utility sector, is seen as the main factor having a major impact on the company’s strategic decisions.

5.4.7 Emerging Trends

Regarding the future, the respondent believes it will be more difficult to get into the core business as it is much more time-consuming than operating in the non-core segment. To meet this challenge in future, the company will focus even more on building content around the core business.

The firm also will develop its community building in the future. According to the respondent: “The challenge we are now facing is to be much more user-centric. Today, we have two communities, buyers and suppliers, and it is these communities we want to expand. We might actually go outside of these two communities of buyers and sellers and add, for example, technicians, experts, consultants, investors; real sets of players, who, when they come to the marketplace, immediately have an environment which fits their profile. We are also looking at how to make a profile and create an environment automatically which fits the user’s profile.”

5.4.8 Summary

Company C is a vertical e-marketplace which focuses on serving firms in the European utility industry. Services offered are related to core products that are necessary for the production, transportation, and distribution of energy, as well as non-core products. Six large European utility companies own the marketplace, which is claimed to be independent based on its neutrality.

The main focus is on providing industry-specific content associated with industry players’ core businesses, and the functionalities offered include sourcing capabilities, market prequalification, supplier directory, supplier ratings, contract management, tendering, and auctions.
As for technology, Company C has developed an ASP solution within the firm, while technology for services, such as online transactions, is provided through Company C’s partners. The company’s technological platform is described as secure and flexible.

The following factors are seen as critical for the e-marketplace’s success:

- A critical mass of buyers and suppliers participating on the e-marketplace
- Expertise in e-sourcing
- A secure environment
- Specialization of online buying tools usage

A lack of direction from an e-marketplace’s owners is perceived as a factor critical to its failure.

In summary, the following are identified as major challenges that an e-marketplace has to meet in order to succeed:

- Achieve a critical mass of participants in the e-marketplace
- Comply with industry-specific (utility) directives from the European Commission
- Attain legitimacy within the industry
- Provide niche services that make the e-marketplace specific for an industry
- Solve internal conflicts due to cultural differences among owners of the e-marketplace

In short, the different components of the company’s business model (i.e., mission, value proposition, resources, key activities, and cost and revenue model) show that:

- Mission: The company’s mission focuses on enabling customers to improve their purchasing performance.
- Value proposition: The e-marketplace proposes three main values to its customers (access to business connections, reduced purchasing time, and reduced costs).
- Resources: The personnel’s industry knowledge, sourcing experience, and efficiency in supplier search are perceived as the company’s most important internal capabilities that have an impact on company performance.
- A key activity of the firm is building industry-specific content that is used in the company’s service offerings.
- The cost and revenue model is based on service fees for both buyers and suppliers. Suppliers are offered three different levels of membership, which are differentiated as to price and the extent of services included in each package.

Regarding environmental impact, compliance with the directives from the European Commission for the utility sector is considered the most influential environmental factor.

Concerning the future, the following trends can be seen:
- Increased focus on content-building around the core business
- Increased efforts to become much more user-centric
5.5. Company D

5.5.1 The Company

Company D was established in July 2000 by three big banks in France: Credit Agricole, Societe General, and BNP Paribas, together with the IT provider Cap Gemini. About €50 million was invested in the establishment of a B2B e-marketplace as the founding banks saw the creation of a hub for transactions as an opportunity to provide financial services connected with these transactions. An additional strategic idea behind the creation of the e-marketplace was that the banks regarded this as a way to attain professional purchasing capabilities. Creating an e-marketplace would help increase the banks’ professionalism in the area of purchasing. Based on this strategy, big investments were made from the very beginning in the area of electronic invoicing. Besides electronic invoicing solutions, the company mainly provided products and services related to e-procurements, electronic catalogues, electronic documents, and business documents exchange.

One year after its establishment, the company had, at most, 45 employees. Between 2002 and 2004 the workforce had been reduced to about 25 employees. During its peak, the firm handled 200,000 transactions a year and had 12 large corporate buyers, both private companies and public organizations, connected to the e-marketplace. The total annual revenue went up to €4 million. Within a couple of years, the company was shut down due to the fact that the stakeholders found the alternative of merging with other e-marketplaces too complex a process.

5.5.2 Strategic Position

Focus

Company D was defined as a neutral electronic B2B marketplace operator that facilitated exchanges between businesses to improve performance over the long term. Indirect goods and services traded through the marketplace were the principal form of business.

Geographically, Company D focused on Europe. The international coverage was available through interoperability between several marketplaces. For example, Company D used to work with Perfect Commerce to cover the US market’s needs, and with the British Telecom marketplace to cover the UK’s needs.
The main buyers on the e-marketplace were the three founding banks which were responsible for about 70 percent of total transactions. In addition, three big public sector clients and nine large companies were connected to the e-marketplace when the firm ceased to exist. Although the main focus was on attracting large buyers to trade through the e-marketplace, at the beginning of the project the company also launched a specific offer for small companies. In this small company model the idea was that the e-marketplace would be able to provide group buying capabilities and thereby increase the possibility for small companies to obtain better prices by joining forces with other firms. One of the founding banks had the small company solution as an indirect sales model, where the bank’s sales force was reselling the solution.

**Governance**

The company’s founders and original four shareholders, Credit Agricole, Societe General, BNP Paribas, and Cap Gemini, each owned a quarter of the firm. But after one year, Cap Gemini resold half its share to French Telecom and Company D. While the owners initially shared the same views regarding governance, different opinions on strategic issues emerged and gradually a point was reached where the shareholders’ visions differed. The respondent explains that: “This was the moment when the company started being unable to function, create critical mass, and go for the growth that the main investors wanted. They never came back to a common vision.”

Despite claiming to be a neutral e-marketplace, the company leaned more towards the buyer side. Suppliers were connected to the marketplace only through the buyers. Although the business model was designed to generate 80 percent of the revenue from the buyer side and 20 percent from the supplier side, the services the e-marketplace offered were fundamentally buyer-oriented.

**Functionality**

Company D provided trading functions based fundamentally on a procurements tool, an exchange hub, and an invoicing solution. By being able to handle e-procurements, electronic invoicing, e-catalogues, electronic documents, and business documents exchange, the firm’s solutions covered all the steps of the procurement process, from setting up and consulting on-line catalogs through order approval, shipping, billing, and payment. The e-marketplace thus allowed buyers to reduce costs and procurement process lead times, and helped suppliers widen customer relations while reducing their sales and marketing costs. In addition, the e-marketplace’s solutions also included a range of value-added services. For example, Company D accompanied its clients from hook-up to deployment by
providing project management technical support and user training, as well as services from digitization to supplier catalog flow management.

With respect to commerce content and value-added content, the respondent states that Company D kept to its original strategy of mainly providing technology. Contrary to many other e-marketplaces that provide business services in the sourcing area, Company D did not provide, for example, business consulting.

**Technology**

Company D initially used Commerce One technology for the platform and PeopleSoft technology for invoicing solutions. The exchange platform was compatible with most integrated business management software (ERP), as well as e-procurement and e-selling management systems. At the very beginning Company D did not have any tools in the catalogue area and Commerce One was very weak in that respect. Therefore, Company D invested in a requisite tool in 2003. The company also lacked some tools in the auction area. However, sourcing was not within Company D’s scope. While the e-marketplace’s technological platform did not support any advanced collaboration tools, frictionless integration was enabled through the One Method platform, which was perceived to be one of the leading integration platforms on the market.

Company D’s technological platform was missing some functionalities regarding, for example, e-catalogue and non-catalogue procurement. But, as stated by the respondent: “In the same period, probably everybody in the market was missing functionality. When the market is mature, every player will have more or less the same functionality, but until this point, you need to increase functionality.”

**Partnership**

Company D used to collaborate with other e-marketplaces, such as Perfect Commerce and BT Transact, to cover its customers’ needs on the US or UK markets. Although collaborating with other e-marketplaces was perceived as a very attractive concept, it was not very efficient. While the technology did not present any obstacles, the implementation was complex and the business model differed substantially between countries.

**5.5.3 Critical Success/Failure Factors**

The main reason for success is perceived to be the e-marketplace’s ability to create a balance between value and price. Buyers have understood true values, such as visibility, compliance, and best-practice processes delivered through e-
marketplace solutions. For this reason, large companies still demand procurement tools for indirect purchasing but they want more functionality. Although delivering appropriate functionality at the right price is considered very important to achieve success, the respondent emphasizes that value, rather than price, is the main factor that guarantees success.

The e-marketplace’s ability to attract new customers, besides the initial founder companies, is considered to be another reason for success because the input from new customers creates value by impacting on the development of solutions. The respondent explains that: “The fact that the e-marketplace needs to design its solutions and services according to its customers’ needs makes is very clear that adding new clients will create some value, because, if new clients are coming, it means they recognize the value. It is a process where the e-marketplace will improve its solutions and services according to the true needs of the market.

Besides being very flexible in creating new functionalities according to customer needs, e-marketplaces have to spend invested capital wisely and slowly to achieve success. According to the respondent, this requires internal resources, as the costs become tremendously high if the e-marketplace has to rely heavily on external resources. Since Company D did not have internal expertise it relied on consultancy to develop its business and solutions, which resulted in indefensibly high costs.

Striving for a global presence or, at least, establishing international capacity is perceived as very important for e-marketplace success since large corporate companies usually need to handle procurement activities in various countries around the world. These firms see great value in connecting to an e-marketplace that can provide them with a one-stop international shop. This is perceived as one contributor to the current pattern of mergers between e-marketplaces.

Company D did not reach profitability, but it was not so far from a break-even or a cash-flow positive position. The respondent emphasizes that the profitability issue was, however, not particularly relevant to the company’s story since the main reason the shareholders stopped the project was related to the two initial strategic ideas rather than the cash-flow position. With respect to the initial idea of providing financial services connected to e-marketplace transactions, the founding banks started to question the whole idea when they realized the growth of electronic exchange was very slow and volumes were very small. Also, the second idea, which involved the banks sharing purchasing capabilities and knowledge, was found to be less relevant. This was mainly due to the fact that the founding companies were very big, and organizing purchasing processes inside their own companies was perceived to be a challenge. Consequently, sharing capabilities
with other banks became too difficult, or, as the respondent stated: "To reach a market position, the banks probably would have needed to wait a few more years, which did not match their short-term expectations."

Concerning technology’s contribution to the company’s performance, the respondent states that technology costs are extremely high, and, on the whole, the e-marketplace business is associated with high fixed costs, which make it vital for a successful business to have a large volume of transactions. A low transaction volume makes it impossible for an e-marketplace to provide value at a competitive price. This is also believed to be why the market needs to consolidate. Heavy technology investments must be based on strong customer needs to avoid investing in the wrong place or solution. Company D invested in technology before finding clients, which, according to the respondent, probably contributed to the company’s bankruptcy.

Similar to many other e-marketplaces, Company D was founded by large corporations with dual roles, as they were the company’s investors, as well as its first clients (e.g., buyers). These dual roles initiated problems within these corporations. The respondent explains: "This was one reason the e-marketplace did not prosper. Because some executives decide to invest and become clients at the same time, a situation occurs within the organization where you will have one guy who is the investor and another who is the purchaser. The purchaser does not like it at all that someone else in the company tells him what suppliers to work with. So, while we were able to achieve some business with the founding corporations, it was not pleasant and comfortable business; it was forced business."

The main factor contributing to the company’s failure is perceived to be lack of volume. The company never succeeded in creating critical mass. One major explanation is that growth was much slower than expected. Even though a market existed, the demand for e-marketplace solutions was growing very slowly and it took longer than anticipated to develop attractive solutions. The respondent states that: "Due to the fact that we are in a world of IT systems within big corporate accounts, dealing with very long project cycles, for any procurement project you would need maybe one year to make the decision and then six months for design and integration with the IT system. You would then need an additional six months to launch the solution and maybe three years to have the full power of the project." During the period of slow growth, many e-marketplaces invested a lot of capital on improving their offerings, by including more and more functionalities and lowering the price. Progressively, supply and demand of e-marketplace solutions are matching better, but e-marketplaces that failed to achieve large volume, like Company D, eventually went bankrupt.
The lack of a common vision among the shareholders resulted in an uncertain situation which had an impact on the company’s ability to function, create critical mass, and to grow, which lead to the firm’s bankruptcy.

Company D’s sales approach is perceived to have contributed to its poor performance. Instead of being IT-oriented, the sales approach was similar to the banks’ approach when selling financial services or cash management services, for example. Selling IT services and solutions requires a different approach to selling financial services because sales cycles are very different, sales people do not have the same profile, and strategic alliances are not the same. Two years after its inception, Company D’s management tried to change this sales approach accordingly.

The somewhat unbalanced correlation between the created value and the revenue base in Company D’s business model is perceived to be one of the major causes of the company’s failure. While the services the e-marketplace offered were fundamentally buyer-oriented, the business model was funded 80 percent by buyers and 20 percent by suppliers. It can even be claimed that the buyers forced their suppliers to come to the marketplace because buyers would purchase only through the e-marketplace.

5.5.4 Challenges

Winning new clients was a major challenge for the e-marketplace. The respondent explains: “At first, the company was slow in getting new clients. We won some, but not enough. We were chosen by the Finance Minister of the Swiss bank Credit Ecole to provide a public purchasing service in Canada. This was a fantastic set, but, such a project has a time cycle of between five and 10 years, and we did not have enough time to still be there when the project was working.” Despite the fact that great potential was seen in the Canadian project, which could have rescued the company, the decision was made to stop, mainly because only one of the five shareholders had an interest in the project. This situation made it impossible to maintain the momentum, and also led to a governance problem.

Time is also indicated to be a great challenge associated with the e-marketplace phenomenon. Contrary to the optimistic views that existed five years ago, indicating that firms’ adoption to solutions and services offered by e-marketplaces would only take a few years, the respondent provides a contradictory view: “It would take 10 or 20 years to build the complete model people were thinking of five years ago. It takes time for the market to mature because procurement deeply
impacts information systems and processes inside companies. When you have a company of 70,000-100,000 employees, it takes time to change processes, such as the way you procure. It is not only about the tool, it also concerns issues such as change management, purchasing organization and the way you negotiate with suppliers.

International coverage through interoperability between marketplaces was a very attractive concept, but it was not very efficient because, technically, while it was working its implementation was complex. A second, perhaps more important, reason was the fact that the business model was so different in each country.

5.5.5 Business Model Components

Mission
The company, originally designed to facilitate business-to-business exchanges⁴¹, ceased to exist in 2004. The idea was to provide a global and professional technological solution that enabled buyers and suppliers to optimize their Internet exchanges in an environment of total security and confidentiality.

Value Proposition
Initially, the value proposition was focused on process savings for buyers. But, eventually, it was realized e-marketplaces could create additional and maybe more important value, such as compliance. Large companies usually have a big, central corporate purchasing organization situated far from the company’s different sites, and all of them have big compliance problems. For this reason, Company D added improved compliance to its value proposition towards buyers.

Regarding the strategy Company D used to attract more suppliers to connect to the e-marketplace, the respondent says: “The buyers were forcing their suppliers to join the e-marketplace, although forcing is not the appropriate term. Suppliers were listed by the sourcing organization. Then the buyer would ask the marketplace to call the supplier, say they were listed, and ask them to collaborate to have electronic exchange. But, to be honest, it feels that three years ago we used to ask a lot of money from the suppliers.”

Concerning the impact of the company’s offerings on its performance, the respondent believes the strategy was correct and implies that the offerings did not contribute to the firm’s failure.

**Resources and Key Activities**

The company’s key activities dealt with providing technology related to e-procurements, electronic invoicing, e-catalogues, electronic documents, and business documents exchange.

One of Company D’s shareholders, Cap Gemini, was also the technology provider. The cost of technology was very high and it is perceived that due to the technology provider’s inability to attract others to share the cost of technology development, Company D had to pay a high cost for technology and consultancy to create and form the company’s capability, strategy, and business model. This is believed to be one reason the company did not succeed. Having internal capabilities and assets to prevent high consultancy costs is regarded as a key criterion for success. But Company D lacked the internal expertise to handle the development of the firm’s solutions. Having the expertise in-house would have been much more cost-effective, according to the respondent.

**Cost and Revenue Model**

In Company D, the revenue came mainly from the buyers. The e-marketplace had two different price strategies or pricing models, one for large companies and one for small firms. But, initially, the company also had a third strategy, which included charging the founding banks a separate fee. It was, however, agreed that in the long term the founders should pay in accordance with the same strategy as other customers.

Buyers were charged an annual fee, based on, for example, the number of transactions. In addition, buyers would pay an additional transaction fee if they exceeded a certain level. For large firms, the company had a fixed fee for renting a solution, such as procurement, and another fee for electronic catalogue services and for conduction services. Small buyers were paying a fee of about €1,000 per year.

Most suppliers were charged an annual fixed fee of €2,000-€3000. Four years ago (i.e. 2002), when a supplier was integrated Company D charged €6 per transaction or a percentage of the transaction. Today, when suppliers work in a Web portal, they do not pay any fee, and if they are integrated they pay 50 cents per transaction, meaning that in three years’ time prices are divided by 10 for the suppliers. The revenue model Company D adopted was similar to many other e-
marketplace models at that time. About 70 percent of the revenue came from the buy-side, while suppliers contributed the remaining 30 percent, which, the respondent believes, is too large a proportion to be covered by suppliers’ fees. The high suppliers’ fees are perceived as a cause of failure. A more appropriate model, which better reflects the value created through the e-marketplace, is suggested to involve revenue from suppliers to be less than 10 percent, while buyers should contribute 90 percent. Although some e-marketplaces today have a business model where suppliers contribute between 5 and 10 percent of total revenue, others still try to attain a larger share from suppliers. The respondent, therefore, believes that charging suppliers or not is a differentiator on the market, at least in Europe. Changing the revenue model in that direction is not perceived to have any impact on attracting buyers. On the contrary, buyers are concerned about having to pay a higher price if suppliers perceive they are paying too much for connecting to the e-marketplace.

5.5.6 Environmental Factors

Concerning environmental factors, no such factors are identified as having had any impact on the company’s outcome.

5.5.7 Emerging Trends

Regarding the future, the respondent believes the market will not be big enough for more than three or four e-marketplaces in Europe and about the same for the US. They will, however, not be the same companies, because in the US, for instance, the main competitors for e-marketplaces will be technology providers such as Ariba. This is due to the fact that technology providers today not only provide selling licenses; they also provide ASP models and network capabilities. It is also foreseen that large IT players, BPO\textsuperscript{42} players such as IBM and Cap Gemini, may become either clients in, or competitors to, e-marketplaces.

Local e-marketplaces are predicted to be able to serve mid-size customers because they do not require extensive international solutions, and local e-marketplaces would probably be able to charge more challenging prices.

\textsuperscript{42} Business Process Outsourcing
5.5.8 Summary

When Company D was shut down in 2004, the five shareholders had invested about €50 million in the project. The company was a horizontal e-marketplace focusing on facilitating electronic purchasing of indirect goods and services, mainly for large European buyers, although some group buying capabilities were created for small companies. Even though the company claimed to be a neutral e-marketplace, its focus was mainly on serving the buyer side.

With respect to functionality, the firm’s strategic position involved offering technological solutions enabling e-procurements, e-invoicing, e-catalogues, electronic documents, and business documents exchange. The solutions were built on technology from Commerce One and People Soft. While the platform did not support any advanced collaboration tools, frictionless integration was enabled through the One Method platform.

The following factors are considered critical for e-marketplace success:

- A critical mass of buyers purchasing through the e-marketplace
- The ability to create conjunction of value and price, i.e., deliver appropriate functionality at the right price
- The ability and flexibility to create new functionalities to respond to customer needs
- Internal expertise that manages the in-house development of business and solutions
- International capacity to be able to provide a one-stop international shop

In summary, the following major factors are regarded as possible causes for e-marketplace failure:

- Lack of viable strategic ideas
- Heavy technology investments before finding clients, and knowing customers’ real needs
- Shareholders’ inability to manage their dual roles as shareholders and buyers connected to the e-marketplace
- Lack of volume, i.e., critical mass
- Deviating visions among shareholders
- Inappropriate sales approach
Skew correlations between created value and the revenue base involving suppliers paying a fee that is high relative to the value delivered to these players.

The following issues are major challenges the management must deal with:

- Creating critical mass by winning new clients
- Managing different shareholders’ divergent strategic ideas
- Managing the slow pace of adoption of e-marketplace solutions
- Handling the complexity associated with implementing interoperability between marketplaces

Summarizing the various components of the company’s business model (i.e., Mission, Value proposition, Resources, Key activities, and Cost and revenue model) shows that:

- **Mission**: This was said to be designed to facilitate business-to-business exchanges and provide a global and professional technological solution that was secure and confident.

- **Value Proposition**: The value proposition was focused on process savings for buyers and increased compliance. The company’s offerings are perceived to have had no impact on its performance.

- **Resources**: The Company’s lack of internal expertise led to a situation where the firm had to pay high costs for consultants. These high consultancy costs are believed to have contributed to the firm’s failure.

- **Key Activities**: The company’s key activities were associated with providing technology related to e-procurements, electronic invoicing, e-catalogues, electronic documents, and business documents exchange.

- **Cost and Revenue Model**: The revenue came mainly from the buyers, who were charged an annual membership fee and a transaction fee. The e-marketplace had three different pricing models: one for shareholder companies, one for large companies, and yet another for small firms. The revenue model was quite similar to the models adopted by its competitors, meaning that suppliers contributed a proportionately large share, 30 percent, of total revenue. The high supplier fees are perceived as one of the reasons the company ceased to exist.

No environmental factors impacting on the company’s performance have been identified.
The following future trends have been identified:

- Continuing consolidation of the market.
- E-marketplaces will be increasingly challenged by competition from large IT providers or BPO providers.
- Local e-marketplaces are expected to be able to offer solutions to mid-range companies at an attractive price.
5.6. Company E

5.6.1. The Company

Company E (an e-marketplace) was established in 1999 by British Telecommunications plc (BT) as a result of a business case developed together with Commerce One. BT bought about five percent of Commerce One’s shares and licensed its buy side, which was its e-procurement engine. According to the respondent, Company E was started for dual reasons: to make BT’s procurement more efficient, and to simultaneously create a marketplace as a new business entity for BT.

Today, the company has about 15 employees located at sales offices in Ireland, Netherlands, and the UK. About 15 buyers and 250 suppliers are connected to the e-marketplace. The buyers, while not numerous, are mostly very big players (e.g., Vodafone, the City of Liverpool). The company broke even in 2004 when turnover, as well as costs, amounted to €4.4 million.

5.6.2. Strategic Position

Focus

The firm is recognized as a horizontal e-marketplace, through which buyers and sellers worldwide trade a wide variety of direct and indirect products (e.g., office equipment, computers, and food). Although the e-marketplace is open to companies globally, it focuses on traders, manufacturers, and suppliers in Europe and the UK in particular. The company’s geographical focus has changed over time. While the primary focus has been on the UK market, additional markets, such as the U.S. and most of Europe, have been added. The move into the U.S. market created a situation in which Company E’s owner ended up with two marketplaces, one in the U.S. and one in the UK. Merging these two e-marketplaces turned out to be very expensive; thus, in 2001 and 2002, Company E’s parent company (BT) dropped the U.S. focus. Consequently, the firm’s focus became very much U.K.-oriented again.

Constant change of policy by its owners dragged the firm in different directions. The main reason for that situation was that, organizationally, the e-marketplace was treated solely as a department within the parent company at that time. Therefore, although, the company had its own brand, it relied to some extent on the mother company for its marketing, sales force, and technology. The previous organizational structure could, on the one hand, be seen as a problem, while it was a benefit in terms of having a large corporate firm as support. Today, however, the
situation has changed for businesses within BT: “When a new venture is created, they are provided with capital and management capability and are treated independently. If the venture is successful and is grown to a certain size, it is brought back in-house again.”

The focus of the marketplace was to bring in large buyers, whereas suppliers were brought into the e-marketplace through these buyers. The company does not proactively gather suppliers.

**Governance**

Company E is wholly owned by British Telecommunications plc (BT), a multinational business active mainly within communications. The e-marketplace, with a turnover of about €4.4 million in 2004, constitutes a relatively small part of BT’s business; the total turnover for the group exceeded €26.5 billion for the same year. It is claimed BT’s long experience of managing its own supply chain has created an awareness of procurement challenges that large companies have to face, and this experience provides the basis for BT to operate an e-marketplace (i.e., Company E).

**Functionality**

The e-marketplace provides various functionalities through its three core modules:

- Exchange module, which facilitates content management and supplier connectivity
- Buy module, which empowers users to select, order, and authorize goods and services
- Source module, which lowers the cost and improves efficiency in sourcing new requirements

The core service covers trading functions from purchase to payment, and includes catalog publishing, catalog management services and basic procurement capability, and purchase order routine and sales order management, as well as invoice presentation and invoice management. The firm’s customers usually have some basic procurement functions on their own sites. Through the purchase order routine and sales order management, buyers can send their purchase orders, and the suppliers can view them either on the Web or through integration with their own applications.

The content the e-marketplace provides is not considered value-added. While the content includes information about the industry, it is not very extensive. However,
commerce content concerns direct and indirect products and is presented in an electronic catalog.

Unlike most vertical e-marketplaces that are building services around industry-specific content, the firm, as a horizontal entity, tries to provide services that are functional and reliable, with embedded technical excellence.

As for collaboration tools, Company E provides services such as electronic sourcing and auctions that help create a dynamic relationship between buyer and supplier; thus, they can work more efficiently.

**Technology**

Initially, the e-marketplace was developed on Commerce One technology, and BT was the first organization to launch a Commerce One marketplace outside of the U.S. However, because the firm was developed in the early days of the e-marketplace evolution, it took a lot of development, feedback, and testing of Commerce One’s technology. But, since the business was not profitable, the whole idea of operating an e-marketplace was questioned in 2001, and an evaluation was made. It was concluded, among other things, that the e-marketplace had the wrong partnership with respect to the technology. It was stated that Commerce One was not able to update its technology, and simultaneously, the ERP vendors had taken over by providing new applications for e-procurement. Oracle and SAP emerged as market leaders. Due to the fact that the owner of the marketplace already had a very strong corporate relationship with Oracle and used its technology internally, Commerce One was replaced by Oracle solutions in 2002.

Today, the technological platform is basically an Oracle solution with some gateways inside; these were developed by the e-marketplace itself to enable the pure Oracle capabilities to talk to other types of platforms. The respondent further explains: “Since the e-marketplace still has customers that use Commerce One technology, integration capability has been created; thus the gateway software allows Commerce One traffic, its translation, and applications.” The respondent explains that the telecommunication industry very much resembles the finance industry concerning security: “You don’t launch anything at the customer without very rigorous security processes being devoted. You have an audit function that keeps reviewing you every six to 12 months. The security level is very solid, and security is extremely important.” In summary, the existing platform is defined as flexible, scalable, and secure, with a capability to build new services if customers require it. Since the firm has access to engineering teams in the UK and India that possess high degrees of expertise regarding the platform, the firm has the capability to rather easily modify or develop new services.
For the development of new services the strategy is that the scope and price are set in the UK but construction is outsourced to India, due to the low cost and existing production flexibility.

**Partnership**

The e-marketplace has a strong alliance with Oracle; however, the firm has its own helpdesk and supporting environment. Technological development is outsourced to partners in India, due to cost issues (the cost for development of technology in India is about €70 per day, compared to a daily rate of approximately €1,000 for the same job in the UK).

At present the firm is evaluating different directions it can choose. The options are merging and outsourcing of major activities, by which substantial growth can be achieved. If the required growth is not achieved in due time, the business will be closed.

5.6.3. Critical Success/Failure Factors

A successful e-marketplace is one that provides services through a network and a single point of connection to which customers can easily plug in. Since not all e-marketplaces can provide easy connectivity, they have tried to compensate by adding/creating additional added-value services.

The ability to lead the market, as well as the ability to capture the attention of top-level/mid-level management within buying organizations, are considered to be critical success factors. Another factor crucial for e-marketplace success is having the technical ability to operate the platform successfully. Additional contributing factors are sales and marketing capabilities. From the management point of view, managing the relationship with Oracle is one of the critical success factors for this firm.

As to critical failure factors, the wait-and-see policy adopted by many prospective customers could be a major contributing factor to the failure of e-marketplaces. The respondent explains the UK market is not big enough for more than one or two horizontal e-marketplaces; currently, about five such firms operate in the UK. Thus, a consolidation is necessary and foreseeable. But, due to the fact that all five believe their e-marketplace is the particular one that will survive, the necessary consolidation has not occurred. Because everyone is waiting for something to happen, buyers and suppliers are afraid of selecting the wrong e-marketplace; that is, one of those that eventually may have to shut down. Instead, they do not use the service provided.
5.6.4. Challenges

The fact that Company E is a very small business unit within a very large telecom firm (BT) creates major challenges for the e-marketplace that management has to handle. While Company E certainly can modify its service offerings to meet customers’ demands, it is very difficult to get the parent company’s management to make fundamental strategic changes for the e-marketplace.

A lack of sales force and a reliance on the owners’ sales force still is one of the major challenges Company E has to deal with. Other major challenges are identified as aligning the e-marketplace’s activities to the owner’s core business, i.e., telecommunications, and getting sales and accounting people to understand the e-marketplace concept and sell it. Basically, the e-marketplace gets neither attention nor money, as it does not truly fit into the structure of a large telecom company. Weak customer demand and finding an appropriate partnership structure are other issues the firms had to deal with.

Company E’s initial strategy to achieve critical mass was to have the agreement of a few large early adopters (firms) and bring their suppliers onto the e-marketplace. The strategy failed due to the fact that the e-marketplace totally misunderstood the internal dynamic within each of those organizations. While the idea was that large buyers would use their power to urge their suppliers to trade through the e-marketplace, in reality, on the technical and strategic level, the buying companies were simply not ready to do it. Their procurement departments and finance departments were not motivated to force their suppliers to use the e-marketplace.

5.6.5. Business Model Components

Mission

In an October 2002 press release published on the owner company’s Web site, it is stated that the company’s B2B e-commerce strategy was taken into a new phase through its partnership with Oracle. The aim of the firm’s strategy is formulated as “Driving the adoption of e-procurement and overcoming some of the major challenges faced by companies—technical complexity, integration, and supplier adoption.”

The firm’s mission is to provide complementary services to enterprise application providers like Oracle. While Oracle builds at an enterprise level and is very good at facilitating finance, human resources and procurement applications, e-marketplaces such as Company E’s aim at enabling activities on an inter-enterprise level (e.g., procurement and sale).
Value Proposition

The e-marketplace ensures efficient project management, as well as offering proven connections, content, and trading services, and maintains the latest standards through the following values\(^43\):

- *Fast and accurate communication*: ensures that buyers can work effectively with their suppliers and maximize the benefits of e-commerce.
- *Open trading*: offering a variety of value-added services, including consultancy and technical support, which could free buyers’ procurement professionals from time-consuming manual processes. It also offers immediate access to a trading community with more than 450 suppliers.
- *More control and less risk*: offering core service as modules that are built on a common platform. The buyers could introduce the service gradually, which gives greater control and enables the buyers to expand their commitment in line with the benefits achieved.
- *A managed service for peace of mind*: the marketplace manages all activities on behalf of the buyer, meaning that the buyer can achieve a procurement solution that maximizes service quality, minimizes risk, reduces maintenance, and cuts costs.

By using the e-marketplace, customers are said to gain such benefits as\(^44\):

- *Lower net prices*
- *Reduction of process costs*: electronic transactions reduce the need for manual intervention
- *Elimination of negotiation and order management cycle* through electronic catalogs, online auctions and electronic communications
- *Reducing need for working capital*: no need to invest in in-house procurement systems
- *Improved access to management information*: e-procurement and a common database of information facilitates faster and more effective gathering of information
- *Achieving a low-cost, low-risk entry solution* through a managed service and the ability to introduce Company E’s solutions module by module
- *Gaining the most appropriate supplier relationships* through Company E’s open-trading network

\(^{43}\) Extracted from the company’s official Web site
\(^{44}\) Extracted from the company’s official Web site
With respect to services, the firm claims to offer a very functional product set rather than focusing on value-added content.

**Resources and Key Activities**

While being owned by a large corporation can be problematic, as was indicated before, it also could be seen as a great asset. The e-marketplace can benefit from having access to a large company’s marketing, sales force, and technology to some extent. The fact that the respondent perceives sales and marketing as critical success factors indicates that having access to the parent company’s sales and marketing capabilities and assets impacts on company performance. Having a large corporate owner also provides a business environment characterized as being more patient and with a long-term focus, compared to a small firm environment; the e-marketplace, therefore, will have more time to achieve success.

As indicated on Company E’s Web site, the firm’s key activities include e-procurement and exchange and sourcing processes. E-procurement activities consist mainly of streamlining and automating the purchasing process, which allows authorized buyers to access a single, up-to-date, electronic catalog containing approved products.

Exchange solution is a trading network which enables customers to extend their procurement processes to suppliers. It provides an open platform that numerous procurement and supplier applications can access. Additionally, a managed supplier engagement program ensures that suppliers are introduced to the new systems in a structured way.

The sourcing solution, which is provided on a common procurement platform, facilitates the online sourcing of goods and services and includes two key elements: online auctions and RFQs. The Web-based auction solution offers a fully integrated bidding system operating in real time. The RFQ solution provides online tools that automate workflow to help customers manage the communication process related to competitive sourcing.

**Cost and Revenue Model**

Initially, the revenue model was based on a combination of different fees. Buyers were charged a fee for the software (i.e., the Commerce One application), a monthly connection fee, and a transaction-based fee. Besides paying a fee for connecting to the e-marketplace, suppliers also paid a transaction fee. The idea was that the e-marketplace would handle activities more efficiently and thus be
able to charge buyers and suppliers fees that amounted to 10 percent of their traditional cost. In reality, it turned out to be quite difficult to motivate buyers and suppliers to pay those fees, since existing purchasing operation costs are very invisible in a company, as they are typically treated as overhead charges. Thus, the suggested revenue model was not successful. Suppliers were also reluctant, and were not prepared to pay €1,400 up front plus €0.15 per transaction, despite the projected cost savings. The revenue model was subsequently changed and the current model is said to be much more efficient. Today, Company E charges the buyer a base amount, a quarterly fee, and additional fees based on the use of services. For suppliers, the service is now free.

After the adoption of a new revenue model, resistance to the fee structure has declined, and the firm’s performance has improved dramatically, which has resulted in attracting new customers.

5.6.6. Environmental Factors

With respect to environmental factors, the government’s increased expenditure on IT and e-procurement has helped the market. While IT budgets have been squeezed generally over the past few years, governments have simultaneously realized there is a need for the e-enablement of government operations. The respondent believes Company E would have been forced to close down due to a decrease in corporate spending if government spending had not been increased at the same time. At the end of 2004, there was a major opportunity within e-government due to a UK initiative to select a single electronic marketplace for the whole of the UK Government operation, and Company E was short-listed for that. Although the company did not win the contract, it has received smaller regional government initiatives to work with.

5.6.7. Emerging Trends

Anticipated emerging trends are that technology providers such as Oracle will try to depart from the application solutions, while telecom companies may still come up with a solution at a network proposition level, similar to what EDI once was.

E-marketplaces themselves are expected to become more value-added service providers or consultants, since they are not actually interested in the technology.

Regarding the future of Company E, it is believed the company will stay as it is for now, without doing anything dramatic. The firm could move away from the
Oracle application stack and become involved within the owner company's telecom network.

5.6.8. Summary

Company E is a horizontal e-marketplace, mainly targeting European companies and offering services to facilitate their trade of a wide variety of direct and indirect products. The e-marketplace has been established and is wholly owned by BT, a large telecommunications company. Although the e-marketplace relies on its owner for marketing, sales, and technology, it operates fairly independently with its own budget and management team. Rather than focusing on providing value-added content, the main focus is on building a functionally great and technically excellent e-marketplace. The firm provides functionalities through three core modules that cover trading functions from purchase to payment and includes such services as basic procurement capability, management of catalogs, sales orders, and invoices, as well as e-sourcing and auction tools. The company’s technological platform is described as flexible, scalable, and secure. The following factors are perceived as critical for the successful performance of e-marketplaces:

- Ability to lead the market
- Ability to capture the attention of buying organizations’ management
- Technical skills
- Sales and marketing abilities
- Ability to manage relationship with partners

The wait-and-see policy adopted by many prospective e-marketplace customers is perceived as a major factor contributing to the failure of e-marketplaces.

In short, the following issues are perceived as major challenges the e-marketplace has to meet in order to succeed:

- Carry out fundamental strategic changes when the e-marketplace is governed as a small business unit within a large telecommunications company
- Be obliged to rely on the owners’ sales force to get to the market
- Align e-marketplace activities to the owner’s core business
- Weak customer demand for e-marketplace services
- Find appropriate partner
Keep a proper degree of freedom and a balance between the diverse interests of large owners, large customers, and the e-marketplace.

Summarizing the various components of the company’s business model (i.e., Mission, Value proposition, Resources, Key activities, and Cost and revenue model) indicates that:

- **Mission** – is defined as providing complementary services to enterprise application providers, and the e-marketplace aims at enabling activities on an inter-enterprise level.

- **Value Proposition** – the e-marketplace offers proven connection, content, and trading services and maintains the latest standards; it also ensures efficient project management and functionality. The company’s value proposition includes values such as fast and accurate communication, open trading, more control and less risk, and a managed service.

- **Resources** – The backing of a large corporate owner is regarded as a major asset for the e-marketplace. This provides access to the owner company’s marketing, sales force, and technology, as well as a business environment characterized by a long-term focus.

- **Key activities** – the firm’s key activities deal with e-procurement, exchange, and sourcing processes.

- **Cost and revenue model** – Company E charges the buyer a base amount, a quarterly fee, and additional fees based on the use of services. The suppliers’ connection to the e-marketplace is free. The revenue model is perceived as important for the company’s performance.

Governmental organizations’ increased expenditure on IT and e-procurement is considered the most influential environmental factor.

Concerning the future, the following trends can be seen:

- The need to trade more efficiently will remain; thus, there will be a market for enabling trade in the future.

- It is not obvious which players will dominate this business. Technology providers, such as Oracle, might expand into offering typical e-marketplace services, and telecom companies are predicted to develop new network solutions.

- E-marketplaces are predicted to become more value-added service providers or consultants.
5.7. Company F

5.7.1. The Company

Company F (the e-marketplace) was founded in 2000 by a group of natural resource businesses, representing leaders in the global mining, metal, and mineral industries (i.e., metal and mining). The company is a global e-marketplace with locations in Australia, Brazil, Canada, Chile, France, Mexico, The Netherlands, Peru, Singapore, South Africa, and the United States. The membership profile includes buyers and suppliers from a variety of industries (e.g., metal and mining; consumer package goods; oil and gas).

The marketplace provides e-business solutions that connect more than 400 buyers and about 25,000 suppliers, and handles more than €5.8 billion in order throughput annually (2005). In 2005, which was the first cash-flow positive calendar year, about 1.5 million purchase orders were processed through the e-marketplace. It is estimated that for 2006 the total value of transactions will exceed €6.8 billion and that about 500 buyers and 34,000 suppliers will be connected to the e-marketplace.

The company has achieved global reach, profitability, and the capability to offer several functionalities, which brings growth within the industry as an issue. Merging with other e-marketplaces is a major alternative the company is evaluating.

5.7.2. Strategic Position

Focus

Being the only e-marketplace in the metal and mining industry provides an unchallenged position for the company, since most of the exchanges (about a dozen) that emerged within this industry are now gone. Instead, the company’s biggest competitors are internal systems of customers that in some cases decided to have in-house expertise, rather than invest in new technology (i.e., being connected to an e-marketplace). At the beginning, the firm had an ambition to create 149 different functionalities so it could have a unique strategic position, but this soon proved to be unrealistic. Thus, the firm started to connect the buyers to their most important suppliers; thereafter, the next most important suppliers were connected, and so on. Expenditures within the metal and mining industry can be divided into four categories: strategic goods, MRO (maintenance, repair, and
operations) goods, indirect material, and services (Table 5.2). Company F focuses mainly on MRO and indirect material, although some services and strategic goods are traded through the e-marketplace as well.

### Table 5.2 Type of Expenditure within the Metal and Mining Industry

<table>
<thead>
<tr>
<th>Type of expenditure</th>
<th>Percentage of total expenditure</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic goods</td>
<td>15</td>
<td>Mission-critical suppliers; people who provide explosives or people who provide heavy equipment.</td>
</tr>
<tr>
<td>MRO</td>
<td>30</td>
<td>“Blue collar” MRO, e.g., belts, bearings, pumps, filters, and safety equipment. MRO is almost everything that is involved in running machinery or heavy equipment that is a part of a maintenance program.</td>
</tr>
<tr>
<td>Indirect material</td>
<td>30</td>
<td>“White collar” MRO, anything you probably consume in the process, e.g., office equipment, software, safety goggles, safety equipment.</td>
</tr>
<tr>
<td>Services</td>
<td>25</td>
<td>Related to, for example, blasting, drilling, and construction.</td>
</tr>
</tbody>
</table>

Due to the relatively small size of the industry, solution providers such as SAP did not create a platform. Thus, the e-marketplace, with the help of consultants, developed its own technological platform.

Today, suppliers join the e-marketplace solely through the buyers. Nevertheless suppliers initially could join the e-marketplace, and some marketing efforts were created in that respect. However, the result was poor and the outcome was that not more than 50–100 suppliers joined. Company F’s focus, which is presented in Figure 5.2, illustrates the distribution of suppliers in the metal and mining industry. The global metal and mining industry includes about 35,000 suppliers—and approximately 200 of them, which are the major firms, are focused on strategic goods (e.g., Caterpillar, Komatsu, Shell). Then there are around 8,000 suppliers (e.g., 3M) offering MRO goods or services that are specific to the industry. The remaining 27,000 are suppliers of indirect material. However, few buyers wanted to connect all their strategic suppliers to the e-marketplace, while others wanted to start by connecting only their suppliers of indirect material. But, due to the fact that the large number of suppliers of indirect material represents only about 20 percent of total spending within the industry, the marketplace advice to the buyers is that suppliers of strategic goods should be connected first, followed by MRO suppliers and service providers. The company’s aim was to connect about 5,000–10,000 suppliers within the first three years.
Regarding geographical focus, the firm had to start globally, unlike other e-marketplaces, due to the fact the buyers were global players. According to the respondent, the company’s board debated whether to start up in North America for a year before going global with the e-marketplace concept. But since Company F’s consortia came together with 20 leading companies in the industry from all over the world, some of these probably would not accept standing aside and watching the development only in the U.S. The respondent states that a probable alternate scenario was that some of these firms would start their own initiative. Since Company F’s management did not want the industry to fracture, it had to have the entire industry at the table and keep it there, which could be achieved only by going global from day one. Another reason to go global from the start was that MRO and service suppliers are dispersed all over the globe—surrounding the top 50 mine sites of the world, and located in places like the Andes, South Africa, Australia, Indonesia, and Peru.

**Governance**

The marketplace is owned by a group of 20 companies, which represents the leading firms in the global metal and mining industry. Several of the company’s shareholders are listed in the Global Fortune 500. The shareholders invested about €105 million in the e-marketplace to solve their supply chain problems and create standards, as well as achieve supplier enablement and global reach, etc. The ownership structure is quite similar to most other e-marketplaces, and it has hardly been changed since the launch of the company.
Functionality

As an e-marketplace that provides services for buyers and suppliers, solutions are built upon supplier-generated, content-rich, electronic catalogues that cover industrial MRO products and services. The content in these catalogues is standardized so that product attributes and classifications are normalized; this, in turn, facilitates rapid and effective search in the catalogues.

For the buy-side companies, the e-marketplace provides an integrated e-procurement solution that enables seamless system-to-system transactions between these companies and their suppliers. This solution connects the e-marketplace to the buyers’ own ERP\textsuperscript{45} or e-procurement system. Usually, orders are created in the buyers’ ERP system; thereafter, they are formatted and routed to the e-marketplace platform, which automatically forwards the orders to suppliers, regardless of their location. Through this solution, the following procure-to-pay documents are digitized:

- Request for Quote (RFQ)
- Quote
- Purchase Order
- Change Order
- Order Status Result/Response
- Order Response
- Service Entry Sheet
- Vendor Held Stock/Shipping Instructions
- Advance Shipping Notice
- Goods Receipt Notice
- Invoice
- Remittance Advice
- Technical Message Acknowledgement

This solution is particularly appropriate for high-volume buyers that need to standardize procure-to-pay processes across multiple sites. As an alternative e-procurement solution, the marketplace offers a hosted application that enables streamlining of the buyers’ processes for procurement of stocked materials, bulk materials, catalog items, and consignment or vendor-held stock and services. Because this solution is hosted and does not require integration, the buyer can transact electronically with its trading partners within a few days. Other services offered are strategic sourcing solutions that, for example, streamline buyers’ RFQ/RFP/RFB\textsuperscript{46} processes and include bid analysis tools that facilitate their decision-making process. In addition, buyers are provided access to various

\textsuperscript{45} ERP—Enterprise Resource Planning

\textsuperscript{46} Request for Quotation/ Request for Proposals/ Request for Bid
reports, including bids shown by item or supplier, bid history, side-by-side comparison of bids, and comparison of suppliers.

Besides e-procurement and sourcing functionalities, the e-marketplace offers reporting tools as well as various content and asset services to buyers. Reporting tools give buyers access to critical business information and enable them to analyze their e-marketplace transactions. Buyers could, for example, track all e-marketplace transactions, measure spending volume, and identify supplier redundancies and off-contract spending. All content services that the e-marketplace offers are identified in Table 5.3. These services are provided to buyers regardless of whether the content resides on a hosted catalogue or within buyers’ ERP systems.

Table 5.3 Content Services the e-Marketplace Provides

<table>
<thead>
<tr>
<th>Content Service</th>
<th>Includes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consulting services</td>
<td>Analysis of current content. Creates a plan for optimization, classification, and implementation. Assistance with supplier adoption and ongoing support.</td>
</tr>
<tr>
<td>Schema selection and customization services</td>
<td>Support in selection, customization, and enhancement of classification, cataloguing, and codification schemas.</td>
</tr>
<tr>
<td>Data creation, maintenance, and manipulation</td>
<td>Realigning of legacy content to the adopted standard. Creation of new content as needed.</td>
</tr>
<tr>
<td>Data enhancement</td>
<td>Providing catalogue items with information required to describe them in line with adopted schema.</td>
</tr>
<tr>
<td>Translation services</td>
<td>Translation of catalogue and related information.</td>
</tr>
<tr>
<td>Data syndication</td>
<td>Enabling access to a central repository of catalogue content.</td>
</tr>
<tr>
<td>Content maintenance support</td>
<td>Service to create and maintain content.</td>
</tr>
</tbody>
</table>

Besides commerce content that is mainly provided through the reporting tool, Company F also provides industry-specific value-added content. For example, industry-specific information and case studies are presented on the company’s Web site and it is possible to search for buyers and suppliers in a member directory.

As a response to customers’ demand for asset services, the marketplace recently entered into a partnership with a global provider of capital asset auction and
valuation services. Through this partnership, the marketplace offers such additional services as:

- Various auction functionalities (Webcast auctions, online auctions, traditional on-site auctions)
- Global asset-based valuation services
- Asset redeployment software

Solutions offered for suppliers deal with order management, content management, new business relationships, data warehouse, and financial settlement. The order management solution enables the suppliers to reduce operating costs, standardize transactions, and streamline fulfillment across all their customer relationships. The e-marketplace can also integrate with the suppliers’ order management systems to automate the entire supply chain process. The catalogue automation tool allows suppliers to easily publish, update, and manage their catalogues in many different ways, but the company loads and manages the content as part of its core offering, regardless of how suppliers choose to prepare their content. The company’s sourcing solution provides opportunities for suppliers to discover new business relationships as it offers a single access point to a global pool of buyers. Company F also offers a Web-based data warehouse solution that allows suppliers to analyze their e-marketplace transactions and thereby improve areas such as forecasting, order acceptance, and marketing. Company F’s financial settlement service is an on-demand financial service for suppliers that radically improves the payment process and facilitates faster access to cash. Through financial institution partners, this solution basically offers next-day payments at no cost to suppliers.

**Technology**

The adopted technology platform was originally developed on Commerce One, but the solution did not work as anticipated. The reasons were identified as:

- The application was not what Commerce One promised.
- It was very basic and could not really function in a local environment.
- Some of the suppliers in Africa and South America could barely use it.
- Commerce One was not making the necessary changes.
- Scalability was an issue with the platform.

The e-marketplace business processes required applications that were somewhat specific to the metal and mining industry, and it was necessary to find technology that allowed e-marketplace customers to download information very fast, very
easily, and with high functionality. The technological solution also had to be able
to operate in low dynamic environments. But, the company’s management learned
it was almost impossible to find a manageable solution that could comply with
existing technological conditions, for example, in Africa. The company’s efforts
to find an appropriate technological platform were unsuccessful so the
marketplace ended up building its own; thus, the technological platform was
changed in 2002.

Company F’s current technological platform is developed within the company but
is built on Microsoft’s dot.net framework. This change of technology solved the
scalability issue and enhanced the functionality. Contrary to the previous
situation, technological changes today can be made faster, cheaper, and more
easily, since Company F controls the source.

In short, the created technological platform is scalable, flexible, and secure, and
supports the development of advanced collaboration tools, as well as integrated
procurement tools and all other applications of the metal and mining industry.

**Partnership**

To enhance offered solutions, the e-marketplace entered into strategic alliances
and interoperability agreements. For example, a strategic alliance with Endorsia, a
supplier-owned B2B e-marketplace, enables an end-to-end connection between
the two e-marketplaces’ platforms and facilitates cross-community transactions.
Another example is PrimeRevenue, a provider of global platforms to process
supply chain financial transactions. This strategic alliance created the possibility
to provide financial solutions to the customers. Company F’s partnership with
Trade World, a large provider of electronic RFQ services in South Africa, was
established to provide small and medium-sized suppliers in that region with an
electronic sourcing service. The alliance brings together the e-marketplace
sourcing functionality and buyer base with Trade World’s supplier database and
support infrastructure. An agreement with WEBB, a large provider of specialized
e-business services and solutions in Latin America, is another example of a
strategic alliance formed to carry out regional solutions. Through WEBB’s e-
business services, Latin American companies of all sizes can be connected to the
e-marketplace. Besides establishing various strategic alliances, the marketplace
established partnerships with some of the leading providers of technological
solutions in the e-business industry (e.g., SAP, Accenture, Requisite
Technologies, TechSoft Systems Inc., WebMethods). These partnerships provide
continuous backup and support; thus, reliable and quality services to buyers and
suppliers trading on the e-marketplace can be assured.
For expansion, the firm is seeking “high-performing e-marketplaces with a strong customer base and/or strong technology platform.”

5.7.3. Critical Success/Failure Factors

A successful e-marketplace is one that is profitable with a sustainable value proposition: “The e-marketplace must be able to solve real problems for its customers: it has to have a sustainable value proposition.” Pantellos47 was one of the first e-marketplaces to go cash positive, but the company failed since it lacked a sustainable value proposition, due to its heavy emphasis on auctions which could easily be created by customers.

Embedding e-marketplace solutions in customers’ business processes is important to achieve success. Because it is troublesome for individual buyers to keep track of systems’ complexity, the e-marketplace focuses on managing the system for its customers: “The e-marketplace is handling two million purchase orders and five million transactions per year, and has about 25,000 suppliers connected. Since some of the buyers are conducting about 89 percent of their procurement through the e-marketplace, the switching cost will be enormous to take it in-house, thus dealing with the involved complexity.”

Technological engineering capability is also considered a critical success factor. The technological team at the marketplace uses its considerable skills and ability to understand customers’ needs, which is believed to contribute significantly to the e-marketplace’s success.

In addition, the e-marketplace benefited from the fact that companies in the metal and mining industry are used to collaborating with each other, even if they are competitors. This meant that when buyers joined the e-marketplace, they collectively signaled to their suppliers that this was the way procurement should be handled in the industry.

The shareholders pushed for a strong focus, especially during the first years, which is claimed to have contributed substantially to the e-marketplace’s success: “Our key success factor is that we have a laser-like focus on doing only a few things: we are going to be global, and focus on supplier enablement and e-procurement integration. We did not get into logistics, payment, or collaboration, call-off systems, or demand forecasting.” To illustrate some of the main differences in approach between various e-marketplaces, the respondent compares Company F and Covisint, an e-marketplace in the automotive industry that is

47. Pantellos was a utility industry e-marketplace that was sold to Perfect Commerce in 2004.
commonly regarded as a failure case (Table 5.4). Covisint\(^48\) had 22 different products, an office with almost 500 people and, three years after launch, still engaged 20 full-time consultants. "Combining technology that does not work and consultants that build and start a lot of different business lines, without anyone talking to the customers about what they really want, is not a successful approach." Company F began with three different products, engaged consultants for about three months, added products progressively and today focuses on six specific product lines. While Covisint eventually had to shut down its e-marketplace, Company F is still in business.

| Table 5.4 Comparison between Covisint and Company F |
|-----------------|-----------------|
| **Industry**    | **Covisint**    | **Company F**   |
| Industry        | Automotive      | Metal & Mining  |
| Number of employees | 500            | 160             |
| Number of product lines | 22             | 6               |
| Utilized consultants’ time | > 36 months | 3 months        |
| Present situation | Bankrupt       | In operation    |

Besides having strategic clarity, technological skills, and the ability to focus on customers’ needs, the respondent points out it was essential for the e-marketplace’s success that the firm started small and developed its functions gradually. This was due to all the early technology-related problems, and the fact that the e-marketplace had to become a global entity from the start. Instead of following the patterns that were used by other e-marketplaces, i.e., spending an enormous amount of money on appointing a large number of consultants in order to develop a large number of functionalities, and starting too many lines of business without getting real traction, the e-marketplace decided to focus only on some (40 or 50) of the 149 identified e-marketplace functionalities.

5.7.4. Challenges

The biggest challenge the e-marketplace initially had to face was to become a global entity over a short period of time, which was necessary due to the nature of the metal and mining industry. While companies generally start in a region and go into new markets stepwise over a period of 10–12 years, Company F “literally started with no business and now, four-and-a-half years later, it has more than 25,000 customers in 43 countries, with only 160 employees handling five million transactions amounting to €5.5 billion.”

By its nature, the metal and mining industry has a specific characteristic that most other industries do not share: The firms within this industry do not control the price of their products, as most of the products are extracted from the ground and sold to a determined market; for example, aluminum is sold on the aluminum metal exchange. As a result, and out of necessity to survive and become successful, metal and mining companies have to control their costs. Consequently, these companies apply the best practices in the world to reduce costs and, generally, have excellent procurement processes. Companies in the metal and mining industry basically view the e-marketplace as a supplier and it is a challenge just to try to sell anything to them.

The company’s strategy for creating critical mass is based on creating value for both buyers and suppliers. The management firmly believed the company had to build value by creating solutions for both buyers and suppliers; thus, much effort was applied to build a sales process, concerning the value proposition and convincing suppliers: “During the first two years a lot of time was devoted to understanding the customers, their pain point, and building value propositions so they very clearly understood the value proposition of e-sourcing, clean content, search engine boarding, catalog purchasing process, integrated procurement, and so on.”

During the first couple of years, the e-marketplace experienced resistance from procurement staff in buying companies, who feared they would lose their jobs. This was particularly challenging for shareholder companies, where an investment decision was usually followed by statements implying that since the company was now a shareholder, the e-marketplace was the company’s entity for procurement. Due to this resistance, the e-marketplace had to put a lot of emphasis on trying to get the buyers to change their incentive systems. For example, the president of a buying company was convinced to attend an on-line reverse auction; when he saw the price had fallen far below what he could ever imagine, he turned to his team and announced a corporate goal of doing 12 on-line auctions during one year. The buying company created a corporate metric as part of its bonus system. The fact
that the buyer created incentives for its staff heavily decreased the resistance against using the e-marketplace, and the buyers who were really successful were those who built change-management programs.

5.7.5. Business Model Components

Mission
The e-marketplace was launched with a global vision—to simplify and streamline business practices. To turn the vision into reality, the company created solutions that decreased the costs for both buyers and suppliers by “digitizing” the buying and selling processes. The idea was that the marketplace’s Web-based solutions would improve business-to-business transactions, as well as creating profits for customers.

Value Proposition
The e-marketplace streamlines every aspect of purchasing, which implies that customers gain enterprise-wide visibility, compressed cycle times, and lower operational costs. It is claimed the e-marketplace excels in global implementations. By connecting to the e-marketplace, buyers are claimed to benefit financially due to centralization of sourcing and procurement, while employees are simultaneously empowered to quickly get the products and services they need. In addition, the company offers a community of more than 24,500 industrial suppliers, superior supplier recruitment, training, and support to onboard customers’ entire supply base. In summary, the following values are proposed to buyers that become customers of the e-marketplace:49

- Reduced operational costs and complexity by establishing one business process for all inbound supply chain activities
- Standardized pricing and enterprise-wide contract compliance
- Lower costs by eliminating repetitive manual processes and paperwork
- Reduced order errors for faster materials and service delivery
- Improved inventory management and cycle times
- Reduced order and invoice reconciliation issues
- Improved supplier relationships due to shorter accounts receivables cycles and ensured contract compliance

49. Extracted from the company’s Web site.
Empowerment of employees to focus on high-value sourcing activities rather than transaction processing

Strategic sourcing and evaluation of the total cost of ownership, thus ensuring the buyers are working with the best mix of suppliers

Identification of relevant new suppliers from a global database

Reduced accounts payable inquiries and processing costs, and assistance to distressed suppliers

Concerning value proposition to suppliers, the e-marketplace enables streamlining of time-consuming processes. The e-marketplace delivers transaction speed, order accuracy, and new business opportunities for suppliers by listing their products in the e-marketplace’s global electronic catalogues and joining the company’s sourcing community.

The following values are proposed to suppliers that become customers of the e-marketplace:

- Creation of new business using a single access point to a global pool of buyers
- Ability to generate and submit more RFQ responses in less time—and achieve higher win rates
- Reduced transaction, marketing, and sales costs by streamlining complex and long processes and improving order accuracy
- Improved cash flow as suppliers receive payments quicker due to fewer reconciliation issues
- Increased sales by improving customer service and e-catalogue quality
- Differentiation of products and services beyond price
- Stronger customer relationships by aligning processes and transaction methods
- Ability to observe approved payments online, and increase working capital by getting paid earlier

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50. Extracted from the company’s Web site.
**Resources and Key Activities**

The company’s main internal resources include expertise in technology and procurement process, as well as industry knowledge. This is the result of a very strategic and purposely designed human resource plan.

Company F’s key activities deal with supply chain automation and related technologies, such as sourcing, content improvement services, and financial supply chain management. The company’s activities cover the entire purchase-to-pay process, which is delivered either through a hosted buyer solution or a solution that integrates the e-marketplace with buyers’ internal ERP or e-procurement system. As to content improvement, the e-marketplace carries out activities such as analyzing customers’ current content and creating plans for optimization, classification, and implementation. The company also assists with selection, customization, and development of classification, cataloguing, and codification schemas. In addition, the e-marketplace handles community-building tasks, such as recruiting, training, and supporting buyers’ preferred suppliers as they move to online transacting. The e-marketplace is claimed to have a proven process for bringing suppliers aboard quickly. Other activities involve handling integration of the e-marketplace with suppliers’ order-management systems to automate the entire supply chain process, and developing comprehensive electronic cataloguing solutions that allow suppliers to easily publish, update, and manage their catalogues in various ways. The firm loads and manages the content as part of its core offering, no matter how suppliers choose to prepare their content.

The key activities handled by the e-marketplace involve embedding e-marketplace solutions in customers’ business processes, which makes it complicated, expensive, and less attractive for customers to switch to another e-marketplace. This indicates the firm’s key activities are an important contributor to its success.

**Cost and Revenue Model**

The company’s revenue model is very simple and balanced: the e-marketplace charges both buyers and suppliers a membership fee, transaction fee, and additional fees for extra services. According to the respondent, the company’s strategy from the beginning was to deliver value to suppliers also and, consequently, charge them as well as the buyers. In fact, charging the suppliers too is seen as one reason why Company F survived.
5.7.6. Environmental Factors

Concerning environmental factors, no particular issue of an economic, social, technological, political, or legal nature has been identified as critically impacting the company’s performance.

5.7.7. Emerging Trends

Concerning the future of e-marketplaces, it is expected that:

- Consolidation within the industry will continue until only a handful of current e-marketplaces survive: “We could easily end up having one e-marketplace per region.”
- The e-marketplaces will change to e-procurement service firms
- Consulting firms, such as Accenture, IBM, and JS, are emerging as competitors by developing business process outsourcing (BPO) and procurement solutions
- It is conclusively predicted that e-marketplaces that are performing well today will survive, but maybe not in their current form

5.7.8. Summary

Twenty natural resources companies, representing the leaders in the global metal and mining industry, founded a vertical e-marketplace in the year 2000. The firm is a global e-marketplace that targets buyers and suppliers of all sizes in industries such as metal and mining, consumer package goods, and oil and gas. Although some services and strategic goods are traded through the e-marketplace, the main focus is on providing solutions that facilitate trade for MRO products and indirect material.

Concerning functionality, the company’s strategic position involves offering buyer solutions either as an integrated e-procurement solution or as a hosted application. Buyers are also offered strategic sourcing solutions, reporting tools, content services, and asset services (e.g., auction functionalities). Supplier solutions deal with order management, content management, new business relationships, data warehouse, and financial settlement.

The company’s platform was originally developed on Commerce One technology but was changed in 2002; the present technological platform was developed
within the company, using Microsoft’s dot.net framework. The platform is perceived as scalable and flexible, and it supports the development of advanced collaboration tools, as well as integrated procurement tools and all other applications that are special for the metal and mining industry.

As to partnerships, the e-marketplace has strategic alliances and interoperability agreements with a number of companies and associations in the B2B area, mainly to enhance offered solutions.

The following factors are stated as critical for the e-marketplace’s success:

- Strategic clarity
- Solutions that are embedded in customers’ business processes
- Ability to focus on customers’ needs
- Technological engineering capability
- Appropriate value propositions
- Collaborative approach in the industry

Major challenges that the company has to meet in order to succeed are:

- Going global from the start
- Tackling specific industry characteristics
- Achieving critical mass
- Forming a balanced model that creates value for both buyers and suppliers
- Dealing with resistance that emerges among customers’ personnel

Strategic components of the company’s business model (i.e., mission, value proposition, resources, key activities, and cost and revenue model) are mapped as:

- Mission: The e-marketplace’s global vision is to simplify and streamline the business of doing business.

- Value Proposition: As the e-marketplace streamlines every aspect of purchasing, customers gain enterprise-wide visibility, compressed cycle times, and lower operational costs. For suppliers, the e-marketplace enables streamlining of time-consuming processes and delivers transaction speed, order accuracy, and new business opportunities. The company’s value proposition model is perceived as an important contributor to its success.
- Resources: The personnel’s expertise in technology, change management, and procurement process, as well as its industry knowledge, is described to be the company’s main internal resource, which is also indicated to have a direct impact on the firm’s performance.

- Key activities: The e-marketplace’s main activities deal with supply chain automation and related technologies, such as sourcing, content improvement services, and financial supply chain management, and cover the entire purchase-to-pay process.

- Cost and revenue model: Buyers, as well as suppliers, are charged membership, transaction, and service fees.

Regarding environmental factors, nothing in particular of an economic, social, technological, political, or legal nature is identified as critically impacting the company’s performance.

Emerging future trends are:

- Continued consolidation of B2B e-marketplaces, which will leave few in existence.

- Some e-marketplaces will be transformed into companies specializing in e-procurement services.

- E-procurement marketplaces will be replaced and/or transformed by e-procurement solution providers or transaction data networks.

- Consulting firms, such as Accenture and IBM, that are developing business process outsourcing, will handle some tasks that today are handled by e-marketplaces.
CHAPTER SIX
ANALYSIS

6.1 Introduction

This chapter, on the one hand, presents cross-case analysis on the basis of the five components of the conceptual framework: Strategic position (Section 6.2), Critical factors (Section 6.3), Challenges (Section 6.4), Business model components (Section 6.5), and Environmental Factors (6.6) to illustrate and discuss similarities and differences. On the other hand, gathered data will be matched against the conceptual framework, so differences can be identified. This chapter ends with a discussion concerning emerging trends related to the e-marketplace phenomenon (Section 6.7). The characteristics of all cases are summarized in Table 6.1.

Table 6.1 Summary of Case Features

<table>
<thead>
<tr>
<th>Cases: Business-to-Business e-marketplaces</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present sit.</td>
<td>In operation</td>
<td>In operation</td>
<td>Bankrupt</td>
<td>Bankrupt</td>
<td>In operation</td>
<td>In operation</td>
</tr>
<tr>
<td>Industry</td>
<td>Multiple industries</td>
<td>Multiple industries</td>
<td>Utility</td>
<td>Multiple industries</td>
<td>Multiple industries</td>
<td>Metal &amp; mining</td>
</tr>
<tr>
<td>Main direction of trade</td>
<td>Horizontal</td>
<td>Horizontal</td>
<td>Vertical</td>
<td>Horizontal</td>
<td>Horizontal</td>
<td>Vertical</td>
</tr>
<tr>
<td>Products traded via the e-marketplace</td>
<td>Indirect goods &amp; services</td>
<td>Indirect goods &amp; services</td>
<td>Direct and indirect goods &amp; services</td>
<td>Indirect goods &amp; services</td>
<td>Direct and indirect goods &amp; services</td>
<td>MRO and indirect goods &amp; services</td>
</tr>
<tr>
<td>Geographical focus</td>
<td>Europe</td>
<td>Northern Europe</td>
<td>Europe</td>
<td>Europe</td>
<td>Europe</td>
<td>Global</td>
</tr>
<tr>
<td>Employees</td>
<td>200</td>
<td>25</td>
<td>60</td>
<td>25</td>
<td>15</td>
<td>160</td>
</tr>
<tr>
<td>Suppliers</td>
<td>12,000</td>
<td>500</td>
<td>7,000</td>
<td>N.A.**</td>
<td>250</td>
<td>25,000</td>
</tr>
<tr>
<td>Buyers *</td>
<td>50</td>
<td>250</td>
<td>170</td>
<td>12</td>
<td>15</td>
<td>400</td>
</tr>
<tr>
<td>Annual transaction volume</td>
<td>€1.5 billion (2005)</td>
<td>€0.5 billion (2005)</td>
<td>€1 billion (2005)</td>
<td>N.A.**</td>
<td>N.A.**</td>
<td>€5.8 billion (2005)</td>
</tr>
</tbody>
</table>

* Refers to number of buying entities, each usually having a large amount of users at different sites

** Information not available

199
6.2 Strategic Position

The strategic position of B2B e-marketplaces varies, according to Bruun et al. (2002), who also emphasize that these e-marketplaces have to create a strong and clear strategic position to become successful. Five elements that constitute strategic position were identified in the frame of reference as focus, governance, functionality, technology, and partnership.

6.2.1. Focus

*Focus* refers to the identification of which specific buyer and seller segments to target with respect to size, geographical location, and industry, for example. Focus also involves deciding what type of products to trade through the e-marketplace, and the main direction of trade (i.e., horizontal or vertical). Table 6.2 presents a description of the empirical findings regarding focus of the six e-marketplaces included in this study.

All six e-marketplaces initially aimed at connecting large companies (i.e., companies with sufficient transaction volume), to their respective e-marketplace. However, Company C and Company D changed their focus to also include small and medium-sized companies, and Company F recently entered into a partnership with a provider of electronic RFQ services in South Africa to provide e-sourcing services to small and medium-sized suppliers in that region. Multiple-industry e-marketplaces, typically referred to as horizontals (i.e., companies A, B, D, and E) share the same strategic view concerning what buyers and suppliers to target, i.e., they turn to *buying* organizations with their offerings, and *suppliers* can connect to e-marketplaces solely through the buyers by becoming one of their preferred suppliers. However, the industry-specific e-marketplaces in this study have adopted two different approaches: while Company F follows the pattern of a multiple-industry e-marketplace and focuses its sales efforts only on buyers within its industry, Company C targets both buyers and suppliers. While most of the e-marketplaces in this study focus geographically on specific regions (e.g., Scandinavia and Europe), Company F is the only e-marketplace that had a global focus from the beginning. Although Company F’s board discussed trying out the e-marketplace concept in North America, the decision was to start globally, mainly to avoid fracturing the industry on several e-marketplaces. With the exception of Company E, the e-marketplaces that focus on particular regions appear, however, to look for a global presence. Company E started by focusing on the UK market, then included the U.S. and Europe, but then reverted to its UK orientation again. Bearing in mind that Company E’s owner constantly changed its policy, and consequently pushed the company in different directions indicates a lack of clear focus concerning the geographical reach of the e-marketplace.
<table>
<thead>
<tr>
<th>MEASURE: Description of:</th>
<th>FOCUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The main targeted segments of buying and selling organizations and their geographical location</td>
<td>A. Large buying companies with subsidiaries or sites in several countries that have decentralized organizations and overall purchasing budgets &gt; €200 million. The main focus is on Europe but the firm is active in 42 countries around the world. Suppliers join the e-marketplace solely through buyers.</td>
</tr>
<tr>
<td>2. The major types of products traded through the e-marketplace</td>
<td>B. Indirect material/non-strategic goods (e.g., office supplies, spare parts, and electronic components)</td>
</tr>
<tr>
<td>3. The main direction of trade (as perceived by respondents)</td>
<td>C. Horizontal – not industry-specific.</td>
</tr>
</tbody>
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<table>
<thead>
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<tbody>
<tr>
<td>A</td>
<td>1. Large buying companies with subsidiaries or sites in several countries that have decentralized organizations and overall purchasing budgets &gt; €200 million. The main focus is on Europe but the firm is active in 42 countries around the world. Suppliers join the e-marketplace solely through buyers.</td>
</tr>
<tr>
<td></td>
<td>2. Indirect material/non-strategic goods (e.g., office supplies, spare parts, and electronic components)</td>
</tr>
<tr>
<td></td>
<td>3. Horizontal – not industry-specific.</td>
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<tbody>
<tr>
<td>B</td>
<td>1. Private or public buying organizations from the Nordic countries of any size, but with sufficient transaction volume. Suppliers join the e-marketplace solely through a buyer.</td>
</tr>
<tr>
<td></td>
<td>2. Indirect material/ non-strategic goods and services.</td>
</tr>
<tr>
<td></td>
<td>3. Horizontal – not industry-specific.</td>
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<table>
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<tbody>
<tr>
<td>C</td>
<td>1. Changed from large corporate buyers in the European utility industry to currently also include SMEs. Main targeted segment of sellers includes suppliers within the utility sector.</td>
</tr>
<tr>
<td></td>
<td>2. Changed from purely focusing direct/strategic products to a current mix of indirect material/ non-strategic products (60%) and direct/strategic products (40%).</td>
</tr>
<tr>
<td></td>
<td>3. Vertical – specific to utility industry.</td>
</tr>
</tbody>
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<table>
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<th></th>
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</thead>
<tbody>
<tr>
<td>D</td>
<td>1. Large corporate buyers in Europe. Also provided solutions for small firms. Suppliers were brought into the e-marketplace through buyers.</td>
</tr>
<tr>
<td></td>
<td>2. Indirect material/non-strategic goods and services.</td>
</tr>
<tr>
<td></td>
<td>3. Horizontal – not industry-specific.</td>
</tr>
</tbody>
</table>

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<table>
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</thead>
<tbody>
<tr>
<td>E</td>
<td>1. Large traders, manufacturers, and suppliers in various industries in Europe, particularly in the UK. Suppliers are brought into the e-marketplace through buyers.</td>
</tr>
<tr>
<td></td>
<td>2. Direct and indirect products (e.g., office equipment, computers, and food).</td>
</tr>
<tr>
<td></td>
<td>3. Horizontal – not industry specific.</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>F</td>
<td>1. Large global buyers in the metal and mining industry. Suppliers join the e-marketplace solely through the buyers.</td>
</tr>
<tr>
<td></td>
<td>2. MRO goods and services (e.g., belts, pumps, filters) and indirect material.</td>
</tr>
<tr>
<td></td>
<td>3. Vertical and industry specific (metal &amp; mining, consumer packaged goods, and oil and gas).</td>
</tr>
</tbody>
</table>

Generally, goods and services traded through e-marketplaces are defined as direct/strategic or indirect/non-strategic. While horizontal e-marketplaces generally focus on providing procurement solutions for indirect/non-strategic products to multiple industries, verticals typically serve a particular industry with solutions for direct/strategic products. However, the anticipated blurring of the distinction between vertical and horizontal e-marketplaces as e-marketplaces
evolve (Popovic, 2002), is clearly supported by this study’s findings. Of the multiple-industry e-marketplaces, Company A sticks to its initial focus on indirect goods and services, while companies B and E provide solutions for both direct and indirect products. Also, the industry-specific e-marketplaces (i.e., companies C and F) seem to move toward providing solutions covering both direct and indirect goods and services.

6.2.2. Governance

With respect to governance, Bruun et al. (2002) suggest that e-marketplace operators should decide the e-marketplace’s degree of neutrality; that is, if it should be neutral or biased toward buyers or suppliers. Maintaining commercial neutrality is, however, suggested to be critical to the success of e-marketplaces (e.g., Chung et al., 2001; Raisch, 2001; Sculley & Woods, 2001). Table 6.3 summarizes empirical findings concerning governance of the six e-marketplaces included in this study.

Table 6.3 Comparison of the e-Marketplaces’ Governance

<table>
<thead>
<tr>
<th>GOVERNANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEASURE: Description of ownership structure</td>
</tr>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>D</td>
</tr>
<tr>
<td>E</td>
</tr>
<tr>
<td>F</td>
</tr>
</tbody>
</table>

Companies A, B, C, and D are/were explicitly expressed to be neutral. But, bearing in mind that all e-marketplaces were established by and/or are owned by, buy-side companies, and that suppliers get connected to the e-marketplaces only through the buyer in companies A, B, D, E, and F, it is questionable whether actual neutrality could be achieved.
6.2.3. Functionality

Table 6.4 provides a comparison of empirical findings regarding the functionality of the e-marketplaces. Several researchers (e.g., Bakos, 1991 and 1998; Grieger, 2003; Kaplan & Sawhney, 2000) consider aggregation and matching to be basic trading functions with great potential to create value for e-marketplace participants. Accordingly, all six companies in this study are providing aggregation and matching functions. The aggregation function is commonly provided through e-catalog services (also expressed as content) and is provided by all companies except company C, which has closed down its catalog function. Matching of demand and supply is typically carried out through various types of e-auctions in all cases. Of the six cases, all e-marketplaces, except Company C, provide procurement solutions that cover the entire source-to-payment process. In fact, Company C abolished its e-procurement solution at the same time as it shut down its e-catalog function.

In line with the notion that e-marketplaces need to go beyond serving their customers with basic functions and add value by providing additional services (Bygdeson & Gunnarsson, 2001; Choudhury et al., 1998; Kathawala, Abdou & von Franck, 2002; Raisch, 2001), some e-marketplaces offer solutions that, for example, address management needs. Company A offers solutions that facilitate contract management and workflow management; Company C’s solutions also facilitate contract management; and Company F offers reporting tools that provide critical business information and enable analyses of transactions. Regarding content provided by the case companies, commerce content is commonly presented in e-catalogs and, consequently, related to products traded through e-marketplaces. Value-added content is provided by the two industry-specific e-marketplaces (i.e., companies C and F) as they offer content that concerns mainly industry-specific information. In terms of functionalities, Company C’s offerings deviate from those of the other e-marketplaces. While, for example, Company A could be considered relatively transaction-oriented, Company C is more content-oriented as it does not provide e-procurement and e-catalog solutions, but, instead, seems to focus on providing industry-specific content, such as online market research. In addition, the firm provides online portals for its buyer and supplier communities to facilitate the exchange of industry-specific information.
Table 6.4 Comparison of the e-Marketplaces’ Functionality

<table>
<thead>
<tr>
<th></th>
<th>FUNCTIONALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>DESCRIPTION OF:</td>
</tr>
<tr>
<td></td>
<td>1. Trading function facilitated by the e-marketplace</td>
</tr>
<tr>
<td></td>
<td>2. Main features of commerce content</td>
</tr>
<tr>
<td></td>
<td>3. Main features of value-added content</td>
</tr>
<tr>
<td></td>
<td>4. Main collaboration tools (as perceived by respondents)</td>
</tr>
<tr>
<td>A</td>
<td>1. Solutions within the areas of procurement, exchange, and content, which cover the entire source to</td>
</tr>
<tr>
<td></td>
<td>payment process, and facilitate functions such as demand, sourcing, and contract management,</td>
</tr>
<tr>
<td></td>
<td>sourcing capabilities, auctions, e-procurement with workflow reporting, and invoice matching and</td>
</tr>
<tr>
<td></td>
<td>payment.</td>
</tr>
<tr>
<td></td>
<td>2. Commerce content is related to non-production purchases.</td>
</tr>
<tr>
<td></td>
<td>3. N.A*</td>
</tr>
<tr>
<td></td>
<td>4. Main collaborative tool is a portal that facilitates content exchange between buyers and suppliers.</td>
</tr>
<tr>
<td>B</td>
<td>1. Modules that cover various functions: <em>Catalogue</em> function is provided through the company’s</td>
</tr>
<tr>
<td></td>
<td>marketplace solution, which is an ASP solution. <em>Procurement</em> system covers the entire process,</td>
</tr>
<tr>
<td></td>
<td>from purchase orders to accounting and payment of invoices. <em>Matching</em> function is provided as an e-</td>
</tr>
<tr>
<td></td>
<td>auction solution. The <em>e-invoice and statistics</em> functionality lies as an external system, and thus</td>
</tr>
<tr>
<td></td>
<td>requires no integration.</td>
</tr>
<tr>
<td></td>
<td>2. Commerce content concerns indirect products and is provided mainly through the catalogue function</td>
</tr>
<tr>
<td></td>
<td>3. N.A*</td>
</tr>
<tr>
<td></td>
<td>4. N.A*</td>
</tr>
<tr>
<td>C</td>
<td>1. After the abolition of e-procurement and catalogue services in 2004, the following trading functions</td>
</tr>
<tr>
<td></td>
<td>were facilitated through the e-marketplace: Tendering, auctions, supplier directory, sourcing, market</td>
</tr>
<tr>
<td></td>
<td>pre-qualification, supplier rating, contract management.</td>
</tr>
<tr>
<td></td>
<td>2. Database with commercial supplier information.</td>
</tr>
<tr>
<td></td>
<td>3. Online market research on company and product information with the main feature of being industry</td>
</tr>
<tr>
<td></td>
<td>specific.</td>
</tr>
<tr>
<td></td>
<td>4. Portals (i.e., buyer and supplier communities) that enable buyers and suppliers in the utility sector</td>
</tr>
<tr>
<td></td>
<td>exchange industry-specific information.</td>
</tr>
<tr>
<td>D</td>
<td>1. Solutions related to e-procurements, electronic invoicing, e-catalogues, electronic documents, and</td>
</tr>
<tr>
<td></td>
<td>business documents exchange.</td>
</tr>
<tr>
<td></td>
<td>2. Concerns indirect products and is provided mainly through the catalogue function.</td>
</tr>
<tr>
<td></td>
<td>3. N.A*</td>
</tr>
<tr>
<td></td>
<td>4. Lacked collaborative tools (e.g., e-sourcing and auction tools).</td>
</tr>
<tr>
<td>E</td>
<td>1. The core service covers trading functions from purchase to payment, and includes: catalog</td>
</tr>
<tr>
<td></td>
<td>publishing, catalog management services, basic procurement capability, purchase order routine and</td>
</tr>
<tr>
<td></td>
<td>sales order management, invoice presentation and management.</td>
</tr>
<tr>
<td></td>
<td>2. Concerns direct and indirect products and is presented in an e-catalog.</td>
</tr>
<tr>
<td></td>
<td>3. Does not provide value-added content.</td>
</tr>
<tr>
<td></td>
<td>4. Electronic sourcing and auction solutions are regarded as the company’s main collaboration tools.</td>
</tr>
<tr>
<td>F</td>
<td>1. Trading function facilitated by the e-marketplace includes: e-procurement (either as an integrated</td>
</tr>
<tr>
<td></td>
<td>or hosted application solution), strategic sourcing, e-auctions, order management, financial settlement</td>
</tr>
<tr>
<td></td>
<td>services, reporting tools, and content services.</td>
</tr>
<tr>
<td></td>
<td>2. Reporting tools provide commerce content that is critical business information and enables</td>
</tr>
<tr>
<td></td>
<td>transactions analyses.</td>
</tr>
<tr>
<td></td>
<td>3. Industry-specific value-added content, such as industry-specific information and case studies are</td>
</tr>
<tr>
<td></td>
<td>presented on the company’s Web site and it is possible to search for buyers and suppliers in a member</td>
</tr>
<tr>
<td></td>
<td>directory.</td>
</tr>
<tr>
<td></td>
<td>4. N.A*</td>
</tr>
</tbody>
</table>
6.2.4. Technology

For e-marketplaces to be successful, it is very important for them to build their offerings on appropriate technology that, for example, supports integration capabilities, integrated procurement tools, and advanced collaboration tools (e.g., Bruun et al., 2002; Kathawala et al., 2002; Weill & Vitale, 2001). Construction of technological platforms for e-marketplaces should be outsourced to technology experts so e-marketplace operators can focus on their core competencies (Sculley & Woods, 2001). Getting proper technology in place has evidently been a troublesome task for e-marketplaces. Companies C, D, E, and F initially based their platforms on Commerce One technology, but that solution did not work as anticipated. Therefore, their efforts to build suitable platforms made them change their technology, except for Company D, which shut down its business in 2004. The other three e-marketplaces decided to develop their platforms within the respective companies. Company B also changed its platform, but contrary to the other e-marketplaces, the firm decided to shift to another technology provider (Oracle), instead of developing its technology in-house. Table 6.5 presents a description of the empirical findings regarding the technology of the six e-marketplaces.
<table>
<thead>
<tr>
<th></th>
<th>TECHNOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MEASURE:</strong></td>
<td>Description of technological platform with respect to:</td>
</tr>
<tr>
<td></td>
<td>1. Platform’s ability to support the development of advanced market-making tools, integrated procurement tools, and advanced collaboration tools.</td>
</tr>
<tr>
<td></td>
<td>2. Possibility of frictionless integration with the ERP systems of participating buyers and suppliers.</td>
</tr>
<tr>
<td></td>
<td>3. Ability to adapt to shift of e-marketplace’s focus or to increased or changed demands for functionality.</td>
</tr>
<tr>
<td></td>
<td>4. Security (i.e., ensuring trust of buyers and sellers in the e-marketplace).</td>
</tr>
<tr>
<td><strong>A</strong></td>
<td>The platform is based on SAP and POET technologies, and the network is supported by WebMethod technology. Used technologies offer:</td>
</tr>
<tr>
<td></td>
<td>1. Large integration capabilities</td>
</tr>
<tr>
<td></td>
<td>2. High interoperability with the buyers’ and suppliers’ IT systems</td>
</tr>
<tr>
<td></td>
<td>3. Flexibility and scalability</td>
</tr>
<tr>
<td></td>
<td>4. High level of security</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>Platform is developed on Microsoft Commerce technology but has been radically changed and, today, the company works on Oracle Solutions. It is designed as a hosted solution.</td>
</tr>
<tr>
<td></td>
<td>1. N.A*</td>
</tr>
<tr>
<td></td>
<td>2. The E-invoice solution allows integration with ERP/accounting systems, regardless of what system provider the customer uses.</td>
</tr>
<tr>
<td></td>
<td>3. The platform is perceived as flexible and scalable, as well as,</td>
</tr>
<tr>
<td></td>
<td>4. Secure and trouble-free with respect to its functionalities.</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>The platform was changed from originally being built on Commerce One and SAP technology into a platform developed within the company. The company’s business applications are Web-based and cover the key elements of the source-to-pay process.</td>
</tr>
<tr>
<td></td>
<td>1. N.A*</td>
</tr>
<tr>
<td></td>
<td>2. N.A*</td>
</tr>
<tr>
<td></td>
<td>3. Does not allow any customization.</td>
</tr>
<tr>
<td></td>
<td>4. The company’s platform is perceived as secure.</td>
</tr>
<tr>
<td><strong>D</strong></td>
<td>The platform was built on Commerce One and PeopleSoft technology but was missing some functionality.</td>
</tr>
<tr>
<td></td>
<td>1. Did not support advanced collaboration tools</td>
</tr>
<tr>
<td></td>
<td>2. Frictionless integration was enabled through the One Method platform</td>
</tr>
<tr>
<td></td>
<td>3. N.A*</td>
</tr>
<tr>
<td></td>
<td>4. Secure technology</td>
</tr>
<tr>
<td><strong>E</strong></td>
<td>In 2002 Company E replaced the original Commerce One technology by Oracle solutions and some gateways inside, developed by the e-marketplace itself.</td>
</tr>
<tr>
<td></td>
<td>1. N.A*</td>
</tr>
<tr>
<td></td>
<td>2. N.A*</td>
</tr>
<tr>
<td></td>
<td>3. The company has the capability to build new services if required by customers. The platform is perceived as flexible and scalable, and has a high level of security.</td>
</tr>
<tr>
<td><strong>F</strong></td>
<td>The initial platform, developed on Commerce One technology, was changed in 2002 and the current technological platform has been developed within the company and built on Microsoft’s dot.net framework.</td>
</tr>
<tr>
<td></td>
<td>1. Supports development of advanced collaboration tools, integrated procurement tools, and all other applications of the metal and mining industry.</td>
</tr>
<tr>
<td></td>
<td>2. Integrated e-procurement solution allows seamless integration with ERP-systems.</td>
</tr>
<tr>
<td></td>
<td>3. The platform is perceived to be scalable, flexible, and secure.</td>
</tr>
</tbody>
</table>
6.2.5. Partnership

With regard to partnerships, e-marketplaces, like other firms, should concentrate on their core competencies and outsource other tasks to partners with complementary skills (Bruun et al., 2002). According to this notion, the empirical findings, which are presented in Table 6.6, show that all e-marketplaces have formed strategic alliances for different reasons, such as access to technology (i.e., companies A, C, E, and F), partners’ sales channels (Company B), geographical expansion (Company A), and the creation of solutions for specific regions due to the characteristics of the area (Company F) or to satisfy customers’ needs in other markets (Company D).

Table 6.6 Comparison of the e-Marketplaces’ Partnership

<table>
<thead>
<tr>
<th>PARTNERSHIP</th>
<th>MEASURE: Identification of the main areas of partnership (as perceived by respondents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Technology&lt;br&gt;- Integration solutions&lt;br&gt;- Accesses geographical reach through interoperability agreements with other marketplaces.</td>
</tr>
<tr>
<td>B</td>
<td>Accesses sales channels through partnership with ERP system providers.</td>
</tr>
<tr>
<td>C</td>
<td>Partnership to access technology that enables the e-marketplace to offer transaction services.</td>
</tr>
<tr>
<td>D</td>
<td>Collaborates with other e-marketplaces, to cover its customers’ needs on various markets.</td>
</tr>
<tr>
<td>E</td>
<td>Partnership to access and develop technology.</td>
</tr>
<tr>
<td>F</td>
<td>To enhance offered solutions, partnerships are established with:&lt;br&gt;- supplier-owned B2B e-marketplaces to facilitate cross-community transactions,&lt;br&gt;- providers of global platforms to process supply chain financial transactions,&lt;br&gt;- providers of electronic RFQ services to provide e-sourcing services for SMEs,&lt;br&gt;- providers of specialized e-business services and solutions to carry out regional solutions, and&lt;br&gt;- technology providers.</td>
</tr>
</tbody>
</table>

In addition, it is suggested vertical and horizontal e-marketplaces become partners with each other to facilitate one-stop shopping for buyers (Dou & Chou, 2002). Four of the companies investigated (i.e., companies A, C, D and F) collaborated with other e-marketplaces. However, the main reason for these partnerships was to access geographical reach (Company A), specific technology (Company C), or to facilitate transactions between supplier communities and buyer communities, rather than to create one-stop shopping for buyers. The exception was Company D, which collaborated with other e-marketplaces to cover its customers’ needs in markets where the e-marketplace did not operate. The empirical data indicates that
e-marketplaces strive to meet buyers’ demand for one single access point for all their purchases by broadening their focus to include both direct and indirect goods and services. For example, Company B, which started by focusing on indirect/non-strategic products, is gradually moving into the area of direct/strategic products to satisfy customers’ demands. Interestingly, e-marketplaces broadened their focus due to a lack of demand as well; Company C started by focusing on direct/strategic products for the utility industry but decided to bring on indirect/non-strategic products in an attempt to entice hesitant buyers to start trading through the e-marketplace.

6.3 Critical Success/Failure Factors

This section covers an analysis of data concerning factors critical to the failure or success of e-marketplaces. The literature related to critical success and/or failure factors discusses a variety of issues crucial for the outcome of e-marketplace operation. Our empirical data also confirms that what constitutes critical success and failure factors varies considerably among different e-marketplaces. Differences, as well as similarities, concerning critical factors seem also to cut across the traditional classification of horizontal and vertical e-marketplaces. A summary of the empirical findings regarding critical success factors, derived from a review of the literature, is presented in Table 6.7, whereas Table 6.8 comprises additional findings relating to critical success factors. Critical failure factors, derived from the literature review, are matched against empirical data and the outcome is summarized in Table 6.9, whereas Table 6.10 presents additional findings concerning critical failure factors. Evidence of perceived critical success or failure factors from each case (companies A, B, C, D, E, and F) is matched against the critical factors that emanated from the literature review. Evidence from each case that supports any of the critical factors is cross-marked in the respective table.

6.3.1. Critical Success Factors

While a number of researchers emphasize the importance of getting a critical mass of buyers and suppliers to join the e-marketplace (e.g., Andrew et al., 2000; Bruun et al., 2002; Dou & Chou, 2002; Fairchild et al., 2004; Kaplan & Sawhney, 2000; Kathawala et al., 2002; Kearney, 2000; Laudon & Traver, 2002; Lucking-Reiley & Spulber, 2001; Raisch, 2001; Ramsdell, 2000; Rayport & Jaworski, 2002; Skinner, 2000; Tumolo, 2001; Turban et al., 2002; Weill & Vitale, 2001; Wise & Morrison, 2000), only three of the e-marketplaces (i.e., B, C and D) pointed out critical mass as crucial for the success of e-marketplaces. Although critical mass is considered as a context-related success factor beyond the control of e-
marketplace operators (Fairchild et al., 2004), the empirical data indicates that process-related success factors, which the operators can usually control, may well impact on the e-marketplaces’ ability to achieve critical mass. For example, whereas companies B and C do not control the factor “critical mass,” both firms benefit from having domain expertise, which is also regarded as a critical factor for success (Andrew et al., 2000; Dou & Chou, 2002; Kearney, 2000; Raisch, 2001; Skinner, 2000; Turban et al., 2002), and which is generally under the control of the e-marketplace operator.

Contrary to the view of several authors who suggest that having the appropriate technology is crucial for the success of e-marketplaces (e.g., Bloch & Catflolis, 2001; Bruun et al., 2002; Kathawala et al., 2002; Weill & Vitale, 2001), none of the e-marketplaces’ representatives perceived appropriate technology to be a critical success factor. This finding might be perceived as somewhat peculiar considering that nearly all e-marketplaces in this study experienced difficulties relating to the establishment of technological platforms, as previously discussed in Section 6.2.

Researchers such as Bruun et al. (2002), Dou and Chou (2002), and Fairchild et al. (2004) consider focus and functionality to be critical success factors. But while researchers emphasize the importance of having a clear focus with respect to what market to serve and what products to offer, the only empirical evidence of that opinion was found in Company F. In accordance with the view of Bruun et al. (2002), for example, that e-marketplaces must often focus on the industry-specific needs of buyers and sellers, Company F’s management considered strategic clarity and a sharp focus on customers’ needs to be crucial to the e-marketplace’s success. Having a distinct focus enabled Company F to identify and address key inefficiencies within the metal and mining industry. Focusing on customers’ needs, the firm started by developing the most important functionalities, from the customer’s perspective, and could then gradually develop additional functionalities.

Customization of e-marketplace services is considered a critical success factor (e.g., Andrew et al., 2000; Dou & Chou, 2002; Skinner, 2000). Companies A and F confirm this view as customization was very important, particularly in the initial phases of establishing the e-marketplaces. However, in Company A, a shift towards standardization is indicated as the firm strives to discard customization and instead focuses on simplicity and standardization of solutions.
Table 6.7 Critical Success Factors, Derived from the Literature Review

<table>
<thead>
<tr>
<th>Measure: An assessment of major factors that B2B e-marketplace managers perceive as critical to the success of B2B e-marketplaces (as perceived by respondents)</th>
<th>e-marketplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical mass/Liquidity</td>
<td>X</td>
</tr>
<tr>
<td>Understanding stakeholders’ motives to be able to clearly communicate the value the EM creates</td>
<td></td>
</tr>
<tr>
<td>Dominance – first mover</td>
<td></td>
</tr>
<tr>
<td>Right owners</td>
<td></td>
</tr>
<tr>
<td>Ability to exploit economies of scope</td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td>X</td>
</tr>
<tr>
<td>Domain expertise</td>
<td>X</td>
</tr>
<tr>
<td>Ability to capture value through an appropriate revenue model</td>
<td>X</td>
</tr>
<tr>
<td>Appropriate technology</td>
<td></td>
</tr>
<tr>
<td>Strategic partnerships</td>
<td>X</td>
</tr>
<tr>
<td>Functionality: Blend content, community (or collaboration), and commerce</td>
<td>X</td>
</tr>
<tr>
<td>Focus: targeting the right industries; targeting inefficient (industry) processes; focus on non-complex products with low asset specificity</td>
<td>X</td>
</tr>
<tr>
<td>Governance: Maintaining commercial neutrality</td>
<td>X</td>
</tr>
<tr>
<td>Learning cost/Adoption</td>
<td>X</td>
</tr>
<tr>
<td>Openness</td>
<td></td>
</tr>
<tr>
<td>A full range of services/Complete solutions</td>
<td></td>
</tr>
<tr>
<td>Catalogue content management</td>
<td></td>
</tr>
<tr>
<td>Brand building and brand strength</td>
<td></td>
</tr>
<tr>
<td>Management of channel conflict</td>
<td></td>
</tr>
<tr>
<td>Transparency and integrity</td>
<td></td>
</tr>
<tr>
<td>Flexibility</td>
<td>X</td>
</tr>
<tr>
<td>Ease of use</td>
<td></td>
</tr>
<tr>
<td>Interoperability</td>
<td></td>
</tr>
<tr>
<td>Standard setting</td>
<td>X</td>
</tr>
<tr>
<td>Customization</td>
<td>X</td>
</tr>
<tr>
<td>Creation of value for both suppliers and buyers</td>
<td>X</td>
</tr>
<tr>
<td>Ownership of customer relationship and customer data</td>
<td></td>
</tr>
</tbody>
</table>

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Besides the critical success factors identified in our review of the literature, the empirical data shows evidence of an additional set of factors critical to the success of e-marketplaces. These seven additional critical success factors in our study are presented in Table 6.8.

Table 6.8 Critical Success Factors, Additional Findings

<table>
<thead>
<tr>
<th>CRITICAL SUCCESS FACTORS</th>
<th>e-marketplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure: An assessment of major factors that B2B e-marketplace managers perceive as critical to the success of B2B e-marketplaces (as perceived by respondents)</td>
<td></td>
</tr>
<tr>
<td>A. Technological expertise</td>
<td>X X X X</td>
</tr>
<tr>
<td>B. Customer focus rather than technology focus</td>
<td>X</td>
</tr>
<tr>
<td>C. Specialization of the use of online buying tools</td>
<td>X</td>
</tr>
<tr>
<td>D. Ability to capture the attention of buying organizations’ management</td>
<td>X</td>
</tr>
<tr>
<td>E. International capacity to be able to provide a one-stop international-shop</td>
<td>X</td>
</tr>
<tr>
<td>F. Sales and marketing abilities</td>
<td>X</td>
</tr>
<tr>
<td>G. Ability to manage relationships with partners</td>
<td>X</td>
</tr>
<tr>
<td>H. Collaborative approach in the industry</td>
<td>X</td>
</tr>
</tbody>
</table>

Although the empirical data in this study does not support that having appropriate technology is crucial to company success, it shows that having technological expertise is regarded as a critical success factor (companies A, D, E, and F).

6.3.2. Critical Failure Factors

Of the critical failure factors identified in the literature review (Table 6.9), the empirical data from the six cases only supports three factors (i.e., Insufficient financial resources, Unable to achieve critical mass, and Incomplete service offerings).

In line with views presented by Tumolo (2001), Company A’s representatives perceive a lack of sufficient funds as one important reason why e-marketplaces fail. While having critical mass and liquidity is considered critical to the success of an e-marketplace, several authors (e.g., Chen, 2003; Daniel et al., 2003; Ganesh & Madanmohan, 2003) identify lack of critical mass and liquidity as a critical failure factor. In the case of Company B, it was explained that a lack of...
commitment from the founding companies had made it really difficult to achieve critical mass, and had nearly caused the e-marketplace to go bankrupt. Empirical data from Company B confirms the viewpoints of Daniel et al., (2003) that incomplete service offerings could cause e-marketplace failure.

Table 6.9 Critical Failure Factors, Derived from the Literature Review

<table>
<thead>
<tr>
<th>CRITICAL FAILURE FACTORS</th>
<th>e-marketplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure: An assessment of the major factors that B2B e-marketplace managers perceive as critical to the failure of B2B e-marketplaces (as perceived by respondents)</td>
<td>A</td>
</tr>
<tr>
<td>1. Insufficient financial resources</td>
<td>X</td>
</tr>
<tr>
<td>2. Unable to achieve critical mass and maintain liquidity</td>
<td>X</td>
</tr>
<tr>
<td>3. Supplier enablement and participation</td>
<td></td>
</tr>
<tr>
<td>4. Path dependency</td>
<td></td>
</tr>
<tr>
<td>5. Asset specificity</td>
<td></td>
</tr>
<tr>
<td>6. Partnerships and relationships</td>
<td></td>
</tr>
<tr>
<td>7. Privacy issues</td>
<td></td>
</tr>
<tr>
<td>8. Technology adoption</td>
<td></td>
</tr>
<tr>
<td>9. Price competition and commoditization</td>
<td></td>
</tr>
<tr>
<td>10. Antitrust issues</td>
<td></td>
</tr>
<tr>
<td>11. Incomplete service offerings</td>
<td>X</td>
</tr>
<tr>
<td>12. Management’s lack of right entrepreneurial mindset</td>
<td></td>
</tr>
</tbody>
</table>

None of the factors that Ganesh and Madanmohan (2004) found as key reasons for failure in their case study (factors number 3 to 9 in Table 6.9 above) is directly supported by our study’s findings. However, the above-mentioned researchers state that these reasons lead to a lack of supplier and buyer participation. Having too few participants making use of an e-marketplace will naturally impact on its ability to achieve critical mass and maintain liquidity.

Management’s lack of appropriate entrepreneurial mindset, which Bloch and Catfolis (2001) consider to be factors probably leading to the failure of e-
marketplaces, is not perceived as a critical failure factor in any of the studied cases. But the inverted factor, that is, having an entrepreneurial mindset (i.e., the ability to quickly adapt to market changes and control costs), is identified as one essential reason why, for example, Company A survived the shakeout.

In addition to the few critical failure factors that emerged from the literature review, and were also identified in this study, empirical data provides further factors that could possibly cause the failure of e-marketplaces. The occurrence of these twelve additional critical failure factors in respective cases is presented in Table 6.10.

Table 6.10 Critical Failure Factors, Additional Findings

<table>
<thead>
<tr>
<th>CRITICAL FAILURE FACTORS</th>
<th>e-marketplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure: An assessment of major factors that B2B e-marketplace managers perceive as critical to the failure of B2B e-marketplaces (as perceived by respondents)</td>
<td>A</td>
</tr>
<tr>
<td>Inability to deliver expectations that are promised</td>
<td>X</td>
</tr>
<tr>
<td>Inability to comply with fast pace of market change</td>
<td>X</td>
</tr>
<tr>
<td>High consultancy costs</td>
<td>X</td>
</tr>
<tr>
<td>Inability to keep the e-marketplace neutral and prevented from becoming an internal service firm for shareholders</td>
<td>X</td>
</tr>
<tr>
<td>Lack of direction from the e-marketplace’s owners</td>
<td>X</td>
</tr>
<tr>
<td>Lack of viable strategic ideas</td>
<td>X</td>
</tr>
<tr>
<td>Heavy technology investments without knowing the real needs of customers</td>
<td>X</td>
</tr>
<tr>
<td>Shareholders’ inability to manage their dual roles as shareholders and buyers</td>
<td>X</td>
</tr>
<tr>
<td>Differing visions and goals among shareholders</td>
<td>X</td>
</tr>
<tr>
<td>Inappropriate sales approach</td>
<td>X</td>
</tr>
<tr>
<td>Inappropriate correlation between created value and the base for revenue</td>
<td>X</td>
</tr>
<tr>
<td>The wait-and-see policy adopted by many prospective e-marketplace customers</td>
<td>X</td>
</tr>
</tbody>
</table>
6.4 Challenges

A comparison between empirical data and the frame of reference is summarized in Table 6.11 and shows in what cases empirical data supports challenges suggested by the literature. Table 6.12 presents the 15 activities that were identified as additional major challenges in this study. In addition, Table 6.13 contains a comparison of critical success and/or failure factors and related challenges identified in each case company.

As shown in Table 6.11, six challenges are supported by gathered data. In contrast to Rayport and Jaworski’s (2002) argument that catalog content management presents challenges for e-marketplace operators, the six cases provide no evidence to support this contention, despite the fact that several of the e-marketplaces studied provide catalog functions.

Table 6.11 Activities Perceived as Major Challenges

| Measure: An assessment of activities identified as major challenges by B2B e-marketplace managers | e-marketplace |
|---|
| Finding an appropriate business model | X |
| Capturing value | X |
| Creating liquidity | X | X | X | X |
| Adoption | X | X | X |
| Catalogue content management | |
| Internationalization | X |
| Developing and creating high-value-added services | X | X |

According to Bruun et al. (2000), one of the greatest challenges facing e-marketplaces is to come up with a business model that offers enough value for the e-marketplace members to justify the cost of participating. Company F’s management found it challenging to create a balanced model that offered value to both buyers and suppliers. Company F met this challenge by applying efforts to build value propositions that could be clearly communicated to, and understood by, the customers. The need for such efforts is also indicated by Company B’s experience that customers do not really understand the value proposed by the e-marketplace.
Creating value for companies connected to the e-marketplace is followed by the challenge of capturing some of that value through appropriate revenue models (Bruun et al., 2002). It is only shown in Company A that having the right revenue model with respect to the supplier side is perceived as a major challenge for the e-marketplace. Company A’s revenue model is based on the approach that revenues should come from both buyers and suppliers, but it was found difficult to motivate the supply side to pay any transaction fees at all. Company A met the challenge by charging suppliers a fairly low fee.

As discussed in Chapter Two, one of the most commonly cited major challenges B2B e-marketplaces must address is the creation of liquidity. Achieving critical mass and, consequently, creating liquidity, is essential. According to Bruun et al. (2002), for example, this is due to the fact that critical mass supports economies of scale and scope, which are key drivers of the e-marketplace business model. Although four e-marketplaces (i.e., companies B, C, D and F) directly identify achieving critical mass (i.e., creating liquidity) as a major challenge, all e-marketplaces have experienced challenges, at least related to the creation of liquidity. Challenges such as adoption (Company B) or developing and creating high-value-added services (companies A and C) push e-marketplaces to strive for creating liquidity in the short-term. In addition, some of the challenges presented in Table 6.8 must also be dealt with in order to achieve liquidity (i.e., being highly customer-oriented (Company A); dealing with weak customer demand of e-marketplace services (Company E); increasing customers’ understanding of the opportunities associated with e-marketplace solutions (Company B); and dealing with resistance that emerges among customers’ personnel (Company F). By meeting these types of challenges appropriately, an e-marketplace is more likely to attract many buyers and suppliers to connect to the e-marketplace, and thus create liquidity. The e-marketplaces included in this study have adopted various strategies for achieving and maintaining critical mass. Both companies B and E initially thought either the founders of the e-marketplace (Company B) or a few large early adopters (Company E) would be committed to handle most of their purchasing through the respective e-marketplace and thus convince their suppliers to connect to the e-marketplace. However, in both cases, this strategy failed and had to be changed. While Company B already has changed sales strategy to meet the challenge of achieving critical mass, Company E is about to decide upon future strategy, which involves deciding whether to merge, outsource or close down the e-marketplace. The two vertical e-marketplaces in this study, C and F, have adopted quite different strategies to create liquidity. While Company C applies its efforts toward building key content, Company F focuses on building a sales process that clearly demonstrates the value proposition for both buyers and suppliers.
Getting buying or selling companies to join the e-marketplace does not guarantee the creation of liquidity. E-marketplaces also have to deal with the challenge of adoption (Rayport & Jaworski, 2002), meaning that they have to ensure that employees of their customers’ organizations adopt and use the marketplace. Likewise, Company B had to deal with the challenge of convincing customer organizations to commit to the idea of purchasing through the e-marketplace. Company B dealt with this challenge mainly by helping customers to start using the e-marketplace once they had been connected. Also, Company F had to deal with a resistance to change that emerged among customers’ procurement personnel. This challenge was met by the e-marketplace attempting to get the buyers to change their incentive systems. Company F’s management also found that those buying organizations that built change management programs were particularly successful in decreasing resistance against using the e-marketplace.

According to Rayport and Jaworski (2002), internationalization presents challenges for e-marketplace operators since they have to enable the use of multiple languages and currencies to facilitate transactions across geographical boundaries. Although all e-marketplaces included in this study operate in several countries, only Company F perceived internationalization to be a major challenge, mainly due to the nature of the metal and mining industry that requires quick global establishment. The main strategy to meet this challenge includes forming strategic alliances and interoperability agreements with other B2B e-marketplaces, providers of IT solutions for specific regions.

In the case of companies A and C, creating new, customer-oriented or industry-oriented services was perceived as a major challenge. This challenge is comparable to the challenge of developing and creating high-value-added services, discussed by Andrew et al. (2000). Company A handles this challenge by developing new services in close collaboration with its customers, while Company C focuses on adding value in terms of high industry-specific content.

Besides the above-listed challenges, empirical data shows that e-marketplaces perceive a number of additional activities as major challenges (Table 6.12). As opposed to the mainly horizontal e-marketplaces (companies A, B, and E), the verticals (companies C and F), naturally, are exposed to industry-specific challenges. Whereas Company C finds activities such as complying with industry-specific directives from the European Commission and attaining legitimacy within the industry challenging, Company F has to tackle another challenge, which is highly specific to the metal and mining industry. Contrary to firms in most industries, companies in the metal and mining industry do not control the price of their products and, as a consequence, these firms have become experts in reducing costs. This, in turn, makes it tough for the e-marketplace to sell its solutions to metal and mining companies.
Table 6.12 Activities Perceived as Major Challenges, Additional Findings

<table>
<thead>
<tr>
<th>CHALLENGES</th>
<th>e-marketplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure: An assessment of activities identified as major challenges by B2B e-marketplace managers</td>
<td>A  B  C  D  E  F</td>
</tr>
<tr>
<td>Finding enough capital to build up the business</td>
<td>X</td>
</tr>
<tr>
<td>Managing the firm in a rapidly changing business environment</td>
<td>X</td>
</tr>
<tr>
<td>Being highly customer-oriented</td>
<td>X</td>
</tr>
<tr>
<td>Dealing with weak customer demand of e-marketplace services</td>
<td>X</td>
</tr>
<tr>
<td>Increasing customers’ understanding of the opportunities associated with e-marketplace solutions</td>
<td>X</td>
</tr>
<tr>
<td>Complying with industry-specific directives from the European Commission</td>
<td>X</td>
</tr>
<tr>
<td>Attaining legitimacy within the industry</td>
<td>X</td>
</tr>
<tr>
<td>Managing internal conflicts due to cultural differences or divergent strategic ideas among owners of the e-marketplace</td>
<td>X X</td>
</tr>
<tr>
<td>Handling the complexity associated with implementing interoperability between marketplaces</td>
<td>X</td>
</tr>
<tr>
<td>Carrying out fundamental strategic changes when the e-marketplace is governed as a small business unit within a large telecommunications company</td>
<td>X</td>
</tr>
<tr>
<td>Being obliged to rely on the owners’ sales force to get to the market</td>
<td>X</td>
</tr>
<tr>
<td>Aligning the e-marketplace’s activities to the owner’s core business</td>
<td>X</td>
</tr>
<tr>
<td>Finding appropriate partners</td>
<td>X</td>
</tr>
<tr>
<td>Keeping a balance between the different stakeholders’ interests</td>
<td>X X</td>
</tr>
<tr>
<td>Tackling specific industry characteristics</td>
<td>X</td>
</tr>
</tbody>
</table>

Both companies C and E identified the existence of challenges related to the ownership and governance of their respective e-marketplaces. Company C had to manage internal conflicts that emanated from cultural dissimilarities among the e-
marketplace’s owners. Company E differs from the other case companies with respect to ownership. Since the e-marketplace is governed as a small business unit within a large telecommunications company, activities such as carrying out fundamental strategic changes, relying on the owners’ sales force, and aligning the e-marketplace activities to the owners’ core business, are perceived as major challenges.

The findings confirm Rayport and Jaworski’s (2002) view that e-marketplaces commonly face business-related, rather than technical, challenges. Companies B, C, E, and F have all had difficulties getting appropriate technology in place for their e-marketplace platform and even had to change their technology platform. Despite this fact, none of the respondents perceived technology to be a major challenge.

As one would expect, a comparison between critical factors and perceived challenges shows that not all critical success and/or failure factors constitute a challenge for an e-marketplace. For example, in both companies B and C, having domain expertise was considered crucial for e-marketplace success, although these firms did not identify it as a challenge. Similarly, in companies A, E, and F, having technological expertise was perceived to be a critical factor for success, but was not recognized as challenging.

On the other hand, analysis of data also provides evidence that everything e-marketplace managers perceive as challenging does not necessarily represent factors critical to the success and/or failure of the e-marketplace. For example, although keeping a balance between different stakeholders’ interests is perceived as challenging in both cases E and F, governance (i.e., maintaining commercial neutrality) is not considered to be a factor critical to company success. However the empirical data indicates that in some cases major challenges correspond to critical success and/or failure factors. Logically, such correlations point out extremely important challenges, which e-marketplace operators must meet to achieve company success.

Table 6.13 shows a comparison of critical success and/or failure factors and related challenges identified in each case company. In Company A, flexibility is perceived as a critical success factor, whereas the contrasting inability to adapt to quick market changes is held to cause e-marketplace failure. Related to these factors, the management of Company A identified the activity of managing the e-marketplace in a rapidly changing business environment as a major challenge. In addition, insufficient financial resources were recognized as a factor leading to e-marketplace failure, and, in the case of Company A, finding sufficient funds was a major challenge. In companies B, C, and D having liquidity is perceived to be a
critical success factor, and creating liquidity is identified as a major challenge. In Company E, sales and marketing abilities are recognized as factors highly important for successful business performance. In this respect, Company E had to carry out some activities identified as major challenges (i.e., dealing with weak customer demand for e-marketplace services and relying on the owner’s sales force). In Company E, the ability to manage relationships with partners is seen as a critical success factor and finding appropriate partners is identified as a major challenge for the firm.

Table 6.13 Comparison between Critical Factors and Related Challenges

<table>
<thead>
<tr>
<th>e-Marketplace</th>
<th>Critical success factor</th>
<th>Critical failure factor</th>
<th>Related Challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Flexibility</td>
<td>Inability to comply with fast pace of market change</td>
<td>Managing the firm in a rapidly changing business environment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Insufficient financial resources</td>
<td>Finding enough capital to build up the business</td>
</tr>
<tr>
<td>B</td>
<td>Critical mass/liquidity</td>
<td>Unable to achieve critical mass and maintain liquidity</td>
<td>Creating liquidity</td>
</tr>
<tr>
<td>C</td>
<td>Critical mass/liquidity</td>
<td>Lack of volume, i.e., critical mass</td>
<td>Creating liquidity</td>
</tr>
<tr>
<td>D</td>
<td>Critical mass/liquidity</td>
<td>Lack of volume, i.e., critical mass</td>
<td>Creating liquidity</td>
</tr>
<tr>
<td>E</td>
<td>Sales and marketing abilities</td>
<td>Dealing with weak customer demand. Being obliged to rely on owner’s sales force.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ability to manage partner relationships</td>
<td></td>
<td>Finding appropriate partners</td>
</tr>
<tr>
<td>F</td>
<td>Creation of value for both buyers and suppliers</td>
<td></td>
<td>Finding an appropriate business model</td>
</tr>
</tbody>
</table>

In Company F, creation of value for both buyers and suppliers is recognized as a factor crucial for company success. Another major challenge for the firm is to form a balanced business model that creates value for buyers and suppliers.
6.5 Business Model Components

Literature related to business studies discusses a range of different approaches as well as varying components of business models. As Afuah and Tucci (2001) stated, business models play a central role in the performance of companies’ business, and thus, developing an appropriate business model is crucial for any firm aiming to succeed (Rayport & Jaworski, 2002). Five concepts representing business models were identified by the frame of reference, i.e., Mission, Value proposition, Resources, Key activities, and Cost and revenue model. Table 6.14 (pages 222 - 225) summarizes the empirical findings concerning components of the e-marketplaces’ business model included in the conceptual framework, and shows their identified impact on company performance. The different colors of cells (i.e., white, red, and blue) in the table represent different findings concerning each component’s perceived impact on the respective e-marketplace’s business performance. The blue cell stands for a business model component perceived by each company’s representative as having a strong impact on its company’s business performance. The red cell represents a business model component perceived as having limited or no impact on business performance. Finally, the white cell corresponds to those cases where the impact on company performance could not be well established.

6.5.1. Mission

Despite the fact that the missions of the e-marketplaces included in this study are stated differently, common bases have been identified. For example, although Company B is principally considered to be a horizontal e-marketplace, and Company C is generally regarded as a vertical e-marketplace, both firms emphasize supporting customers to achieve efficient purchasing in their respective mission statements. Similarly, the mission statements of companies A and F involve elements of efficiency since they offer productivity increases (i.e., Company A) and simplify and streamline the business of doing business (i.e., Company F). This implies that, unlike in companies B and C, the missions of companies A and F are not limited to the purchasing process. In literature relating to the e-marketplace phenomenon, mission is pointed out as a highly important element of the business model. For example, in their discussion concerning mission, Alt and Zimmermann (2001, p. 5) suggest that e-marketplaces should develop a “high-level understanding of the overall vision, strategic goals and the value proposition...” and create a vision guided by the potential of the Internet. However, in the cases of companies A, C, E, and F, the mission’s impact on company performance could not be well established, and in Company B the stated mission is not perceived to significantly impact on the e-marketplace’s business performance.
6.5.2. Value Proposition

A number of authors agree that the value proposition is a vital component of the business model (e.g., Alt & Zimmermann, 2001; Chesbrough & Rosenbloom, 2002; Osterwalder & Pigneur, 2002; Weill & Vitale, 2001). By outlining the value proposition, a company can, for example, better compare its situation to those of its competitors, which enables the firm to achieve competitive advantages through innovation and differentiation (Osterwalder & Pigneur, 2002). Concerning the impact of e-marketplaces’ value propositions, empirical findings provide us with varying indications. In companies B, C, and F value proposition is considered to contribute to e-marketplace success. In contrast to this finding, the value proposition is not perceived as a competitive advantage in the case of Company A, and was not perceived to have any particular impact on firm performance in Company D. Although Company E presents a comprehensive value proposition, which includes values such as fast and accurate communication, open trading, more control and less risk, and a managed service, the impact on company performance could not be well established.

6.5.3. Resources

In order to provide its value proposition, a firm must bring together a number of capabilities and assets (Osterwalder & Pigneur, 2004; Pateli & Giaglis, 2004). These capabilities comprise a set of resources of various kinds (e.g., tangible, intangible, people-based skills), according to Osterwalder and Pigneur (2004). Analysis of empirical data on the e-marketplaces’ internal capabilities and assets (i.e., resources) shows a similarity that exists in all cases. Although resources differ among the companies, these are identified to have an impact on e-marketplaces’ business performance in all the companies studied. For example, Company A’s main resource is the entrepreneurial mindset of the firm’s management, and Company E has access to its parent company’s sales and marketing capabilities, whereas companies B, C, and F possess domain expertise (e.g., knowledge about the industry or the procurement process). These resources are, in their respective cases, identified as contributors to e-marketplace success. In one case (Company D) the importance of having sufficient internal resources was emphasized.

A comparison between the two industry-specific e-marketplaces (i.e., companies C and F) shows that both these vertical firms have access to personnel with industry knowledge and that is indicated to have a direct impact on the respective companies’ performance. But, while both vertical e-marketplaces are alike, in terms of resources and their impact on company success, the horizontal firms differ in that respect.
<table>
<thead>
<tr>
<th>Business Model Component</th>
<th>Mission</th>
<th>Value proposition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measure:</strong> (as perceived by respondents)</td>
<td>Identification of the impact of strategic objectives for the success and/or failure of the e-marketplace.</td>
<td>Identification of the impact of the product/service offering for the success and/or failure of the e-marketplace.</td>
</tr>
<tr>
<td><strong>Company A</strong></td>
<td>A successful mission should “provide productivity increases and, therefore, savings to both buyers and suppliers through collaborative tools.” (The impact on company performance could not be well established.)</td>
<td>The company’s value proposition provides no competitive advantage, as it is similar to other firms’ offerings.</td>
</tr>
<tr>
<td><strong>Company B</strong></td>
<td>The company’s strategic objective involves offering products that fulfill customers’ needs, delivering solutions that are easy to use, encouraging increased usage of solutions, and supporting customers to achieve efficient purchasing. Strong impact on business performance could not be identified.</td>
<td>The firm’s comprehensive offerings are perceived as competitive advantages and thus have an impact on the company’s performance.</td>
</tr>
<tr>
<td><strong>Company C</strong></td>
<td>The company’s mission focuses on enabling customers to improve their purchasing performance. (The impact on company performance could not be well established.)</td>
<td>The e-marketplace proposes three main values to its customers (access to business connections, reduced purchasing time, and reduced costs). Stresses the importance of adding value by offering industry-specific services, which is also indicated to impact on company performance.</td>
</tr>
<tr>
<td>Resources</td>
<td>Key activities</td>
<td>Cost and revenue model</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Identification of the impact of internal capabilities and assets for the success and/or failure of the e-marketplace.</td>
<td>Content management activities constitute a major competitive advantage for the firm.</td>
<td>Charges fees based on transactions, and mixes entrance fee and transaction fee with a fee for professional services. Both buyers and suppliers are charged, but the suppliers’ fees are lower. Having a well-established revenue model, with a straightforward pricing model, is indicated to be important for the company’s performance.</td>
</tr>
<tr>
<td>The entrepreneurial mindset of a firm’s management is considered the main resource and a major reason for success.</td>
<td>The company’s main activities deal with development, sales, and implementation of e-commerce solutions. Activities such as marketing, IT operations, and administration have been outsourced, which allows the firm to focus on its customers. This is indicated as important for the company’s performance.</td>
<td>Buyers are charged a fixed price for joining the e-marketplace and pay the same fee, regardless of the range of Company B’s solutions that are connected and used. Suppliers pay a fixed price, a fee based on transactions, or a combination of both. The revenue model has been changed because transaction fees impacted negatively on buyers’ usage of the e-marketplace, and thus had a negative impact on Company B’s performance.</td>
</tr>
<tr>
<td>A profound knowledge about purchasing processes among the company’s personnel is perceived as the firm’s most important internal capability, which also has a great impact on the company’s performance.</td>
<td>Building industry-specific content that is used in the company’s service offerings. Content building and online sourcing activities are considered very important for the company’s performance.</td>
<td>Based on service fees for both buyers and suppliers. Suppliers are offered three different levels of membership, which are differentiated according to price and the extent of services included in each package. Out of total revenue, 80% derives from buyers and 20% comes from suppliers. The firm is striving for a 50/50 model, which is indicated as a factor for successful performance.</td>
</tr>
<tr>
<td>The personnel’s industry knowledge, sourcing experience, and efficiency in supplier search are perceived as the company’s most important internal capabilities that have an impact on company performance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Model Component</td>
<td>Mission</td>
<td>Value proposition</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------</td>
<td>------------------</td>
</tr>
<tr>
<td>Company D</td>
<td>The e-marketplace was designed to facilitate business-to-business exchanges and provide a global and professional technological solution that is secure. (The impact on company performance could not be well established.)</td>
<td>The firm focused on process savings for buyers and increased compliance. The company’s offerings are perceived to have had no impact on its performance.</td>
</tr>
<tr>
<td>Company E</td>
<td>Mission is defined as providing complementary services to enterprise application providers, and the e-marketplace aims at enabling activities on an inter-enterprise level. (The impact on company performance could not be well established.)</td>
<td>Offers proven connection, content, and trading services, maintains the latest standards, and ensures efficient project management and functionality. The company’s value proposition includes values such as fast and accurate communication, open trading, more control and less risk, and a managed service. (The impact on company performance could not be well established.)</td>
</tr>
<tr>
<td>Company F</td>
<td>The global vision is to simplify and streamline the business of doing business. (The impact on company performance could not be well established.)</td>
<td>The value proposition model, which promises visibility, transaction speed, order accuracy, new business opportunities, and lower operational costs, is perceived as an important contributor to its success.</td>
</tr>
<tr>
<td>Resources</td>
<td>Key activities</td>
<td>Cost and revenue model</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Company’s lack of internal resources contributed to the failure of the firm.</td>
<td>Key activities deal with e-procurements, e-invoicing, e-catalogues, electronic documents, and business documents exchange. (The impact on company performance could not be well established.)</td>
<td>Company D charged both buyers and suppliers. Suppliers contributed to about 30% of total revenue. The relatively high supplier fees are perceived as one of the reasons why the company ceased to exist.</td>
</tr>
<tr>
<td>Being backed up by a large corporate owner is regarded as a major asset for the e-marketplace. This provides access to the owner company’s marketing, sales force, and technology, as well as a business environment characterized by a long-term focus. Having access to the parent company’s sales and marketing capabilities and assets is indicated to impact on company performance.</td>
<td>Key activities deal with e-procurement, exchange, and sourcing processes. (The impact on company performance could not be well established.)</td>
<td>Company E charges the buyer a base amount, a quarterly fee, and additional fees based on use of services. Suppliers’ connection to the e-marketplace is free. The revenue model is perceived as important for the performance of the company.</td>
</tr>
<tr>
<td>The personnel’s expertise in technology, change management, procurement process, as well as its industry knowledge, are the main internal resources, which also are indicated to have a direct impact on the firm’s performance.</td>
<td>Key activities deal with supply chain automation and related technologies, such as sourcing, content improvement services, and financial supply chain management, and cover the entire purchase-to-pay process. The key activities handled by the e-marketplace are indicated to be important contributors to the company’s success.</td>
<td>Buyers, as well as suppliers, are charged membership, transaction, and service fees. The company’s strategy to charge both buyers and suppliers is perceived as having impacted on the company’s performance.</td>
</tr>
</tbody>
</table>
6.5.4. Key Activities

To create value customers are willing to pay for, a company must undertake a number of inside and outside activities and processes, which are defined by the company’s value proposition (Osterwalder & Pigneur, 2004: Pateli & Giaglis, 2004). Company A’s main activities involve content management, while Company B’s key activities concern development, sales, and the implementation of e-commerce solutions. Similar to Company A, Company C also handles content management activities. Furthermore, the empirical data presents some similarities between the two vertical e-marketplaces (C and F). These industry-specific companies both deal with activities related to content management and sourcing. Key activities for Companies A, B, C, and F are all identified as important for, and having direct impact upon, company performance. In the case of companies D and E, however, the impact on company performance could not be well established.

6.5.5. Cost and Revenue Model

A number of authors (Bruun et al., 2002; Chung et al., 2001; Sculley & Woods, 2001) have stressed the importance of setting up an appropriate revenue model. Empirical findings in this regard show that a cost and revenue model is perceived to be important for successful business performance in all the companies studied. Table 6.15 presents a comparison of cost and revenue models adopted by the e-marketplaces in this study.

Concerning what party to charge (i.e., buyers or suppliers), the literature suggests that the revenue model should charge both parties, based on who benefits from the value created through the e-marketplaces (e.g., Bruun et al., 2002; Chung et al., 2001). As shown in Table 6.15, Company E charges only the buyers; all the other e-marketplaces in this study (i.e., companies A, B, C, and F) have adopted a model that includes charging both buyers and suppliers.

The literature discusses various types of fees, such as transaction fees, license fees, membership fees, services fees, and advertising fees (e.g., Skinner, 2000; Bruun et al., 2002). The empirical findings show (Table 6.15) that the e-marketplaces in this study mainly charge membership (or entrance) fees and fees based on transactions or on what services the customers use.
Table 6.15 Comparison of Cost and Revenue Model

<table>
<thead>
<tr>
<th>Company</th>
<th>Who is (was) charged?</th>
<th>Type of fee</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Buyer</td>
<td>Supplier</td>
</tr>
<tr>
<td>A</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>B</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>C</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>D</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>E</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>F</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The empirical data does not indicate the existence of advertising fees or license fees. To create a more accurate correlation between the value an e-marketplace creates and its revenue model, Bruun et al., (2002) suggest that the e-marketplace should combine different fees. In accordance with this suggestion, the revenue models of companies A, B, C, and D are structured on a combination of fees (i.e., membership fee, transaction fee, services fee). In Company E, the revenue model is a mix of membership fees and services fees. Company C is the only e-marketplace in this study that bases its revenue model on one single fee, a services fee. However, Company C offers suppliers three different levels of membership, including three different sets of services with different prices.

6.6 Environmental Factors

Representatives of two of the e-marketplaces (D and F) explicitly stated that they could not identify any environmental factors (i.e., economic, social, technological, political, or legal) impacting on e-marketplaces’ business performance. The environmental factors other respondents mentioned were mostly associated with market conditions rather than with the environment itself. However, in two cases (A and C) legal issues impacting on company performance were identified. Both firms operate on the European market, which requires firms to comply with legislation and directives from the European Commission.
6.7 Emerging Trends

Analysis of empirical data shows that existing processes in the e-marketplace industry are dynamic, with e-marketplaces experiencing constant and rapid changes. To provide a picture of emerging changes, this section presents analyzed data about future trends related to B2B e-marketplaces, gathered through interviews with three top experts in the field.

The following market dynamics, currently perceived to be underway in the e-marketplace sector, are expected to affect the future of e-marketplaces:

- A continued consolidation and relatively slow progression of e-marketplaces. Mergers will, however, become more commonplace within countries and perhaps at a regional level. In the U.S., for example, much of the consolidation of B2B e-marketplaces is complete and these e-marketplaces have established a global presence with dynamic differences. These e-marketplaces have grown organically and continue to acquire additional market share through acquisition and by growing stronger relationships with ERP\textsuperscript{51} vendors. Although the e-marketplace industry goes through a period of “shakeouts,” or of significant industry consolidation, the idea of having one giant global e-marketplace ultimately will probably not become a reality as it would simply be too difficult for all suppliers around the world to be connected to a single global e-marketplace.

- Software companies are merging with sourcing solution providers that create complementary offerings to e-marketplaces, such as Ariba\textsuperscript{52}, which provides customers with a supplier network, spend management software solution, and outsourcing capabilities.

- ERP software companies are establishing partnerships with e-marketplaces, which offer broader supplier network capabilities than had been previously available.

- Increasing competitive pressures. Given the consolidation of e-marketplaces, there is increasing competitive pressure from hosted software companies, i.e., firms that provide hosted applications alone, without the trading community aspect. However, these services only provide enterprises with access to an application, and questions arise as to how enterprises can access typical e-marketplace services, such as supplier content, standards, and connectivity.

\textsuperscript{51} Enterprise Resource Planning

\textsuperscript{52} Ariba is a leading provider of spend management solutions.
Current market dynamics, as defined above, indicate that the competitive landscape of service-provider categories will change and B2B e-services may be offered by a number of different service providers (e.g., e-marketplaces, software companies, consultancy firms) in the future. The type of B2B services enterprises choose is expected to change over time, as are the roles of B2B e-marketplaces. Therefore, when predicting the future from an e-marketplace perspective, it is important to consider what options customers will have in selecting their service providers. For example, companies in the telecommunications industry (e.g., BT, French Telecom and AT&T) offer data management services that revert to the notion of subscribing to a business process via their firms. Consulting companies, such as IBM and Accenture, are moving in a similar direction; developing business process outsourcing (BPO) services.

As e-marketplaces are also moving into the business-outsourcing arena, they are expected to meet fierce competition from companies such as IBM, Accenture, and A. T. Kearney. In addition, future value-added services offerings will likely bring e-marketplaces into increased competition with companies that have traditionally been procurement service providers and also with software companies, such as Oracle and SAP. Software companies are expected to encourage individuals to turn to shared service centers, using, for example, Oracle’s e-business suite rather than joining an e-marketplace. In addition, as software companies build more functionality into their solutions, pressure on marketplace operators will inevitably increase.

Due to the predicted changes in the competitive landscape, many e-marketplaces are trying to determine what Web services integration would actually mean to their business model. One of the new opportunities for e-marketplaces is to use their technological assets differently, based on those services for which customers are truly prepared to pay. For example, many companies are interested in buying help to consolidate their existing ERP systems, to further simplify their application portfolios, which are generally over-invested in software. Companies often have multiple and conclusive ERP systems and strive to find simplified ways of unifying their software behind a firewall. As a result, they look for data synchronization solutions. The ability to synchronize data (e.g., product, customer, or supplier data) attributed uniquely either by a business community or by trading partners, constitutes the foundation for process collaboration. In fact, many e-marketplaces were established based on the idea of process collaboration. However, now all has been reborn in the context of the software industry, the demand of enterprises, and the open-standards’ technology wave. As a consequence, it is in the interests of e-marketplaces to focus on solving those problems, because large companies worldwide are expected to spend large amounts of money in this area.
In addition to using their technological assets in a different way, e-marketplaces are advised to differentiate themselves to create a competitive advantage. Such differentiation should be based on the relevant e-marketplace’s comprehensive knowledge about procurement within a specific geographical area or industry. In this way, e-marketplaces could become niche players, offering unique services based on their expertise.

Due to their specific sourcing expertise, some vertical, often regional, e-marketplaces consider offering business process outsourcing services involving sourcing and procurement to global multinationals that seek to expand into emerging regions. For example, in Asia, opportunities are emerging in the Chinese market for e-marketplaces that have local sourcing expertise. European and American companies moving into China typically lack such local expertise and, consequently, need to collaborate with regional suppliers. New e-marketplaces are expected to emerge in the area of logistics and transportation, particularly in China, because of the process of rapid modernization. Presently, logistics companies in China and manufacturers that are coming in from Europe and the U.S. are building what could be perceived as a physical hub for trade within China. However, the ability to handle this trade in the context of B2B e-commerce represents a new frontier for these firms. GM, for example, is interacting with most of its Chinese suppliers today by employing personnel that are placed in these logistics companies to handle inbound supply. As an alternative, this role could be assigned for hosted document exchange.

While the market consolidation is taking place, many regional e-marketplaces are trying to determine how to interact with each other and, for example, start sharing overlapping supplier information. Currently, regional e-marketplaces are also trying to understand how big “big enough” is. Despite the fact that some of these firms have grown to become profitable companies, there are only a few million-dollar businesses in the industry. Therefore, one concern facing these e-marketplaces is how to expand the market and continue to grow the demand for e-marketplace services. The prediction is that regional e-marketplaces will remain small, unless they can differentiate themselves in the sourcing arena, providing unique sourcing capabilities, especially if they have links to the Asian-Pacific region. However, in the European scenario, it is more likely that e-marketplaces will differentiate themselves by developing a unique industry differentiator around the vertical business process. To overcome threats to the success of regional e-marketplaces, it is suggested these e-marketplaces implement as many interoperability agreements as possible within the marketplaces of neighboring countries.
The future value proposition for global, horizontal e-marketplaces is predicted to become particularly important due to the trend of global, multinational, companies moving into developing countries. These firms seek access to supplier content with a global footprint. For example, a U.S.-based company that moves into China hopes to gain access to supplier content from office suppliers there; approaching local suppliers, perhaps, through one of the global, horizontal e-marketplaces.

Despite the prediction that some current e-marketplace services will be provided by other entities in the future, it is difficult to foresee any clear alternative to the e-marketplace platform. However, a future substitute for e-marketplaces could possibly be to offer a network whereby all suppliers have e-catalogues, which can easily be configured or adapted to different customers’ needs. In this scenario, one would simply have to go to a network, like a telephone line, and dial a number to be connected. In fact, it is expected that within five years one will probably see extensive marketplace connectivity, which could be compared with current mobile phone networks. In the mobile phone network example, it does not necessarily matter which cellular phone company one chooses; it is possible to phone everybody using any network. When you buy a cellular phone, a network comes with it. Similarly, it is foreseen that when you buy an e-procurement solution, you will receive the corresponding e-marketplace bundled in it. This marketplace would become seamless with the product, and have a high degree of supplier match to most organizations.

The concept of roaming, such as that offered by network providers in the mobile phone industry, is also expected to become part of future e-marketplaces. Although roaming is considered inevitable, and system providers believe appropriate technology is in place, it requires a more mature industry to tackle the commercial challenges associated with the roaming idea.

In addition to predicted changes in the competitive landscape, e-marketplaces will likely face new challenges related to technology in the future. Because providing e-marketplace platforms is a very small part of technology providers’ businesses, it is foreseen that these firms will gradually abandon specific e-marketplace platform development. Consequently, e-marketplaces may find it harder to find providers of appropriate technology.

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53 Roaming is described as a “Facility, supported by commercial arrangements between operators and/or service providers, which enables a subscriber to use his/her radio telephone equipment on any other network which has entered into a roaming agreement in the same or another country for both outgoing and incoming calls.” ([http://europa.eu.int/ISPO-infosoc/legreg/docs/greenmob.html](http://europa.eu.int/ISPO-infosoc/legreg/docs/greenmob.html), retrieved 2006-12-08)
The story of e-marketplaces is certainly not over yet; experts agree that e-marketplaces have a role to play in B2B e-commerce, as there are still issues around standardization of data and business processes that companies continue to struggle with. E-marketplaces are likely to continue providing this business in the future; however, they must re-brand themselves around a value proposition that has more to do with what enterprises need than just perceiving themselves to be an alternative to the next generation of EDI. While some e-marketplaces could easily transform into hosted application providers, source-to-pay gates, or sourcing companies, others may well become BPO providers. Some e-marketplaces might develop into pure content management businesses or supplier networks, as opposed to buyer-focused procurement exchanges.

In summary, the following are existing trends in the e-marketplace sector:

- Many e-marketplaces, as well as telecommunication and logistics companies, consider their future roles will most likely change to that of service providers.
- Large companies are spending more and more capital on consolidating existing ERP systems and simplifying their application portfolios. They are also focusing more on data synchronization solutions. These efforts are believed to present significant opportunities for e-marketplaces in the future.
- Where enterprises will go to have their needs met is predicted to change over time; this implies that the competitive landscape of service provider categories will change. Thus, e-marketplaces are expected to re-brand to become re-categorized as different types of companies (e.g., hosted application providers, source-to-pay gates, sourcing companies, and BPO providers).
- Some vertical, or regional, e-marketplaces may consider offering BPO services around sourcing and procurement to global multinationals that are trying to expand into emerging regions.
- Regional e-marketplaces are seeking interoperability, especially in Europe. However, regional e-marketplaces are expected to stay small, unless the e-marketplaces can properly differentiate themselves.
- Global, horizontal, e-marketplaces are expected to become increasingly important as providers of supplier content to global multinational groups seeking to move into developing countries.
- As e-marketplaces move into the business outsourcing space, they will meet with fierce competition from companies such as IBM and A. T. Kearney, and from software companies such as Oracle and SAP.
In the future, e-marketplaces are expected to find it more difficult to gain technology providers’ attention in the development of e-marketplace solutions.

Continued consolidations and a relatively slow progression of e-marketplaces are forecast, but the predicted emergence of just one giant worldwide e-marketplace, serving all industries, is unlikely. As the e-marketplace sector goes through a time of industry consolidation, some e-marketplaces will fail.

Similar to the cellular phone infrastructure, in which a network that can access anyone comes with the phone, it is foreseen that when buying an e-procurement solution, an e-marketplace solution will soon be bundled with it.

Experts agree that e-marketplaces also have a future role to play in B2B e-commerce, particularly since companies will always require services related to data and the standardization of business processes.
CHAPTER SEVEN
FINDINGS, CONCLUSIONS AND CONTRIBUTIONS

7.1. Introduction

The purpose of this final chapter is to provide the main findings and conclusions from the analysis that was presented in the previous chapter. The focus of this research has been on the assessment of B2B e-marketplaces and the research problem for this thesis has been formulated as: How, in a holistic view, can the business performance of a B2B e-marketplace be analyzed?

Based on literature review and a pilot study, four research questions were formulated:

1. How can the strategic position of B2B e-marketplaces be characterized?
2. What are the major factors that determine the success and/or failure of B2B e-marketplaces?
3. What are the major challenges that B2B e-marketplaces encounter?
4. What is the critical impact of the components of business models on the success and/or failure of B2B e-marketplaces?

7.2. Findings and Conclusions

7.2.1. Strategic Position

In order to characterize the strategic position of B2B e-marketplaces, the holistic approach suggested by Bruun et al. (2002) has been adapted and tested. Accordingly, strategic position refers to elements such as focus, governance, functionality, technology, and partnership. The composition of the strategic position was identified and described in order to pinpoint and analyze possible differences in business performance. The analysis of the empirical data in this study points out that:
differences exists between B2B e-marketplaces in several aspects of strategic positioning

relationship between the differences among e-marketplaces and the business performance of investigated companies could not be well established

the gap between the vertical and horizontal approaches is becoming narrower

This challenges the taxonomy of B2B e-marketplaces, suggested by Kaplan and Sawhney (2000). According to this widely recognized taxonomy, e-marketplaces are classified in four categories based on what businesses buy (direct/strategic products for manufacturing or indirect/non-strategic for operation) and type of sourcing (systematic or spot sourcing). However, findings of this study do not support such classification of B2B e-marketplaces. Instead, up to some extent similar to the approach suggested by Popovic (2002) and Stockdale and Standing (2002), it was found out that these types overlap as e-marketplaces offer trading mechanisms to support more than one of the four categories, presented by Kaplan and Sawhney. As presented in Figure 7.1, the findings show that e-marketplaces are moving in a direction where:

- the horizontal (i.e., multiple-industry) e-marketplaces, which generally focus on offering services and solutions related to indirect/non-strategic products, increasingly offer solutions and services concerning also direct/strategic products.
- the vertical (i.e., industry-specific) e-marketplaces, which generally focus on direct/strategic products, increasingly offer solutions and services related to also indirect/non-strategic products.
- e-marketplaces may provide solutions for both systematic and spot sourcing.

This emerging trend (Figure 7.1) could possibly be explained by customers’ demand. Evidently, companies prefer to be connected to one single point (e.g., one e-marketplace) for handling all their procurement. The approach of purchasing both direct and indirect products through one e-marketplace might lower the customers’ cost.
Although it can be concluded that e-marketplaces differ in some aspects of their focus, some patterns have been identified:

- B2B e-marketplaces appear to approach large buying firms, while suppliers are usually connected to the e-marketplace only through these buyers. E-marketplaces turn to large companies due to their purchase volume, which creates critical mass and will bring many suppliers to the e-marketplaces. One consequence could be that suppliers could themselves become buyers.

- Although some e-marketplaces have sought solutions for small- and medium-sized buyers, the evidence does not indicate that marketplaces are, in a real term, shifting their focus to these type firms.

- Suppliers are typically connected to the e-marketplace through the buyers mainly because the founders of e-marketplaces themselves; as the largest buyers, they force their suppliers to be connected to the same e-marketplace. The large buyers seem to have direct power over a group of suppliers. Such a structure could also result in a situation where the power of the buyers affects the prices drastically.

The importance of having a clear focus is stressed by authors (e.g., Bruun et al., 2002). Without a clear focus, e-marketplaces run the risk of trying to sell...
everything to everybody. This could backfire, with no one selling anything to anybody, as buyers and sellers are likely to prefer services and solutions that are directly relevant to their often industry-specific needs. Being focused enables the e-marketplace to fit its business model to its target market. Gathered data indicates that having a focus during the establishment-phase of the firm is a must, while for surviving, a gradual addition of services and products is definitely needed. Data confirms the fact that e-marketplaces that did not add services and product went bankrupt within few years of their establishment.

As stated by Bruun et al., (2002): “Choosing an appropriate form of governance can help ensure a rapid adoption of the e-marketplace by both sellers and buyers.” Strongly biased e-marketplaces run the risk of deterring the non-biased party from using the e-marketplace. Therefore it is in most cases advantageous for the e-marketplace to choose a neutral form of governance that is equally attractive to buyers and sellers (Sculley and Woods, 2000). Findings in this study indicate a pattern of buyer-owned B2B e-marketplaces that nevertheless claim to be neutral. But, is it truly possible for the e-marketplace operator to be neutral, and not buyer-oriented, when major owners are buyers, and when they are the ones deciding what suppliers should be connected to the e-marketplace? It could be that the emerging patterns (see Figure 7.1) within the industry help to create a situation which strengthens the neutrality concept. This means that new e-service providers lack the connectivity to a specific industry; it could very well be buyer-seller ownerships. Thus, neutrality could be practiced much more effectively.

As to functionality of e-marketplaces, the findings of this study indicate that competition and customer demand push e-marketplaces to explore what new services to develop and offer. In line with views presented by Bruun et al., (2002), it can be concluded that it is important for e-marketplace operators to understand how to combine elements such as commerce, content and collaboration and, thereby create a compelling value proposition. Although claiming to provide services beneficial for both buyers and suppliers, a majority of the e-marketplaces in this study turn to buyers with their offerings and connect to suppliers only through buyers that in many cases also are owners. Consequently, it is hardly surprising that these e-marketplaces offer trading functions that focus on procurement, covering an entire source-to-pay solution. The analysis of cases indicates that value-added content is offered mainly through industry-specific e-marketplaces. Even though few companies provide portals for buyers and suppliers where they, at least to some extent, may collaborate, this study concludes that the development of e-marketplace services and solutions apparently has not yet reached the maturity level that includes collaboration tools.
The emerged pattern within the investigated e-marketplaces reveals change of technology provider after some initial struggle and partial in-house development. This apparently provided the e-marketplaces with technological platforms, which are perceived to be scalable, flexible and secure and also facilitate integration with customers’ ERP solutions. Empirical data also indicates that e-marketplaces changed over time and became more customer- and less technology-focused. With respect to technology, problems might arise in the future as large system providers probably will not prioritize developing e-marketplace solutions. This is mainly because e-marketplaces represent a relatively small part of the large system providers’ customer base. In a long-term perspective e-marketplaces should thus be prepared either to join forces or create an in-house expertise for development of new technology. This could, however, contradict the views expressed by e-marketplace operators implying that the cost of technology must decrease to enable them to offer value-added services at attractive prices.

In this research, technology and market reach have been identified as B2B e-marketplaces’ main areas of partnership, while little evidence was found that e-marketplaces become partners with each other to facilitate one-stop shopping for buyers, as suggested by Dou and Chou (2002).

7.2.2. Critical Success/Failure Factors

Gathered data show that several factors are critical to the success and/or failure of B2B e-marketplaces. Particularly three of these factors (i.e., liquidity, domain expertise and technological expertise) are fundamental for e-marketplace success. In B2B e-marketplaces, liquidity is achieved by having a critical mass of buyers and suppliers that are not only connected to the e-marketplace, but, also utilize its services and solutions. Lacking a critical mass of buyers and suppliers that trade through the e-marketplace, will undoubtedly move the e-marketplace fast towards bankruptcy, thus, creating liquidity by achieving critical mass is a major challenge to many e-marketplace managers (see Section 7.2.3).

Domain expertise consists of the capabilities and knowledge about, for example, industry structure, business processes and industry players. B2B e-marketplaces that have such knowledge will logically have a competitive advantage over competitors that do not. Bearing in mind the notion that B2B e-marketplaces will have to face competition not only from other B2B e-marketplaces in the future but also from BPO companies, ERP providers, large providers of IT solutions such as IBM and even from large consulting firms, domain expertise could be a more critical factor in the future.

54 Business Process Outsourcing
Results from this study shows that technological expertise is perceived as a critical success factor. Having technological skills within the organization enables the e-marketplace to adapt technology to the needs of the company and its customers. Around year 2000 when many e-marketplaces were establishing their businesses, the few technological platforms that were on the market all had flaws and it was necessary for many e-marketplaces to have access to people with extensive knowledge of technology. As stated in the previous section, at that time need for in-house expertise on technology could be even more important in the future as the large system providers become less interested in developing e-marketplace solutions.

In addition to the three critical success factors, the result suggests a number of other factors that could have an effect on the e-marketplace’s liquidity, at least indirectly. Following the proposal presented by Fairchild et al. (2004), some of these factors could be considered as context-related, beyond the control of e-marketplace management, while other factors are process-related, which e-marketplaces usually control. For example, some of the identified factors (e.g., strategic partnerships, domain or technological expertise, customer focus, ability to capture managements’ attention and, sales and marketing abilities) appear to be process-related, and having these factors in place might improve marketplaces’ ability to achieve critical mass/liquidity.

Concerning the adoption factor, findings show that e-marketplaces might experience problems with convincing buyers who are already connected to the e-marketplace, to take advantage of the e-marketplace solutions. Evidently, employees in companies that can connect to the e-marketplace do not necessarily adopt this new way of purchasing. One reason is that the e-marketplace approaches people at the “wrong” level in the buyer’s organization. Thus, it is crucial to draw the attention of management and persuade it to use the services and solutions offered by the e-marketplace. This shows that implementation of e-marketplace solutions requires that e-marketplace sales representatives knows whom to approach in the organization of a potential customer. It also implies that deep knowledge about industrial buying behavior combined with great sales skills would be highly important for successful performance of an e-marketplace.

Besides critical success factors, this study also points out major factors that determine the failure of B2B e-marketplaces. Evidence from the investigated B2B e-marketplaces, which eventually closed down their business, shows that following factors were major contributors to their failure:

- Lack of direction from the e-marketplace’s owners
- Lack of viable strategic ideas
- Heavy technology investments without knowing the real needs of customers
- Shareholders’ inability to manage their dual roles as shareholders and buyers
- Differing visions and goals among shareholders
- Inappropriate sales approach
- Inappropriate correlation between created value and the base for revenue

This study identifies some major determinants of the success and/or failure of B2B e-marketplaces that have not been addressed in previous research. Table 7.1 presents a list of these critical success and failure factors.

### Table 7.1 Major Determinants in the Success and/or Failure of B2B e-Marketplaces (not identified by previous research)

<table>
<thead>
<tr>
<th>Conceptual Area</th>
<th>Findings</th>
</tr>
</thead>
</table>
| Critical Success    | o Technological expertise  
| Factors             | o Customer focus rather than technology focus  
|                     | o Specialization of the use of online buying tools  
|                     | o Ability to capture the attention of buying organizations’ management  
|                     | o International capacity to provide a one-stop international-shop  
|                     | o Sales and marketing abilities  
|                     | o Ability to manage relationships among partners  
|                     | o Collaborative approach in the industry  |
| Critical Failure     | o Inability to deliver expectations that are promised  
| Factors             | o Inability to comply with fast pace of market change  
|                     | o High consultancy costs  
|                     | o Inability to keep the e-marketplace neutral  
|                     | o Lack of direction from the e-marketplace’s owners  
|                     | o Lack of viable strategic ideas  
|                     | o Heavy technology investments without knowing the real needs of customers  
|                     | o Shareholders’ inability to manage their dual roles as shareholders and buyers  
|                     | o Differing visions and goals among shareholders  
|                     | o Inappropriate sales approach  
|                     | o Inappropriate correlation between created value and the base for revenue  
|                     | o The wait-and-see policy adopted by many prospective e-marketplace customers  |

Efforts have been made to cover literature relevant to this study, thus, findings is based on literature listed in reference list.
7.2.3. Challenges

In line with literature, the findings from this study confirm several major challenges that e-marketplaces have to face in order to achieve successful business performance. This study has identified both similarities and dissimilarities among these cases. On the whole, these results support Rayport and Jaworski’s (2002) view that e-marketplaces face business-related, rather than technical, challenges.

While this study does not support the notions suggested by previous research that catalog content management is a major challenge, it supports the existence of other challenges identified by the literature (i.e., finding an appropriate business model, capturing value, creating liquidity, adoption, internationalization and developing and creating high-value-added services), in addition to the challenges that previous research does not mention. Table 7.2 provides a list of these challenges that B2B e-marketplaces encounter.

**Table 7.2 Major Challenges that B2B e-Marketplaces Encounter (not identified by previous research)**

<table>
<thead>
<tr>
<th>Conceptual Area</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Challenges</td>
<td>o Finding enough capital to build up the business</td>
</tr>
<tr>
<td></td>
<td>o Managing the firm in a rapidly changing business environment</td>
</tr>
<tr>
<td></td>
<td>o Being highly customer-oriented</td>
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<tr>
<td></td>
<td>o Dealing with weak customer demand of e-marketplace services</td>
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<tr>
<td></td>
<td>o Increasing customers’ understanding of the opportunities associated with</td>
</tr>
<tr>
<td></td>
<td>e-marketplace solutions</td>
</tr>
<tr>
<td></td>
<td>o Complying with industry-specific directives from the European Commission</td>
</tr>
<tr>
<td></td>
<td>o Attaining legitimacy within the industry</td>
</tr>
<tr>
<td></td>
<td>o Managing internal conflicts due to cultural differences among owners of</td>
</tr>
<tr>
<td></td>
<td>the e-marketplace</td>
</tr>
<tr>
<td></td>
<td>o Handling the complexity associated with implementing interoperability</td>
</tr>
<tr>
<td></td>
<td>between marketplaces</td>
</tr>
<tr>
<td></td>
<td>o Carrying out fundamental strategic changes when the e-marketplace is</td>
</tr>
<tr>
<td></td>
<td>governed as a small business unit within a large telecommunications company</td>
</tr>
<tr>
<td></td>
<td>o Being obliged to rely on the owners’ sales force to get to the market</td>
</tr>
<tr>
<td></td>
<td>o Aligning the e-marketplace’s activities to the owner’s core business</td>
</tr>
<tr>
<td></td>
<td>o Finding appropriate partners</td>
</tr>
<tr>
<td></td>
<td>o Keeping a balance between the different stakeholders’ interests</td>
</tr>
<tr>
<td></td>
<td>o Tackling specific industry characteristics</td>
</tr>
</tbody>
</table>
Concerning the challenge of finding an appropriate business model, empirical data stress the importance of building a value proposition that could be clearly understood by the buyers and suppliers involved in e-marketplaces.

As to the challenge of capturing value, which is closely associated to the e-marketplaces’ revenue model, findings show that the strategy of charging pure transaction fees is less common today. Instead, a combination of fees is adopted. In general, both buyers and suppliers seem to be charged, although the suppliers generally have to pay a much lower fee.

As indicated by the results of this study, having large buyers connected to the e-marketplace does not automatically create liquidity, not even when these companies are the owners and have the power to force their preferred suppliers to join the same e-marketplace. Results suggest several strategies for bringing a critical mass of participants to the e-marketplace and, thus, achieve liquidity:

- Creating a value proposition that attracts both buyers and suppliers.
- Developing sales processes that clearly demonstrate this value proposition for both buyers and suppliers.
- Adopting a sales strategy that ensures that the right people at the potential customers’ organizations are approached.
- Requiring real commitment from buyers, meaning that the management of a buying organization has to make the e-marketplace their main channel for purchasing.
- Balancing the interests of all stakeholders, such as owners, buyers and suppliers.

The challenge of adoption, as well as some of the other activities identified as challenging (e.g., “increasing customers’ understanding of the opportunities that are associated with e-marketplace solutions” and “dealing with resistance that emerge among customers’ personnel”), indicate that e-marketplace operators clearly saw the e-marketplace potential and thought that prospective customers did the same. Apparently, e-marketplace operators underestimated the resistance to change within organizations and the strength of already established relationships and patterns of behavior. Thus, to meet such challenges, e-marketplaces need to have a business model that offers enough value to their customers to justify the cost of participating. But, e-marketplaces also have to put a great effort into educating the market on the benefits of joining a B2B e-marketplace. This study finds that helping customers to start using the e-marketplace’s solutions, once they have been connected, speeds up the adoption of the solutions. E-marketplaces could also enhance the adoption by influencing
the buyers to reduce resistance to change within their organization by offering appropriate incentive systems and creating change management programs.

The results of this study indicate that while e-marketplaces that are operating within global markets see internationalization as a major challenge, B2B e-marketplaces that are operating only in Europe rarely share the same view. This could be explained by the fact that Europe is a relatively homogenous market. One way to overcome the challenges of entering new markets could be to partner with companies that already have competencies which the e-marketplace lacks.

This study shows that e-marketplaces may face the challenge of developing and creating high-value-added services. This challenge can be met by collaborating closely with customers for the development of new services. Industry-specific e-marketplaces could also focus on delivering highly relevant content for the particular industry.

### 7.2.4. Business Model Components

Afuah and Tucci (2001) assert that business models play a central role in companies’ performance. In this research, the point of departure for the investigation of business model components was the framework for e-business models developed by Pateli and Giaglis (2004). The results from this research show that the impact of the five components investigated in this research (i.e., mission, value proposition, resources, key activities, and cost and revenue model) on the success and/or failure of B2B e-marketplaces are perceived differently by different firms.

The literature on business models and strategy emphasize the importance of having a clear mission. However, this study found no evidence that the e-marketplaces’ missions have a significant impact on their business performance. Instead, it was even indicated in one case that company mission had no major impact on the firm’s performance. This finding should, however, be seen in the light of the circumstances under which most e-marketplaces were launched and developed. Many e-marketplaces had rather vague strategic objectives when they were established, thus, what they intended to do at the beginning differed completely from what they actually did later. Most of the e-marketplaces had some idea of being the connectivity hub for buyers and suppliers. But, in reality, they spent their first two years running auctions, mainly because the technology for that function was in place and because it was a rather uncomplicated way to generate capital. Many e-marketplaces lacked focus from the beginning, which could at least partly, be explained by the sheer novelty of the e-marketplace phenomenon and the lack of established business models. However, the creation
of a well-understood mission as suggested by Alt and Zimmermann (2001) may have significance in the future, particularly as e-marketplaces are challenged by technology providers and consulting firms, as they enter the same competitive arena as B2B e-marketplaces. Having a clearly articulated mission would enable the firm to keep a clear focus on what services to provide and to whom.

The research mainly confirms the notion in literature that value proposition is an important component of the business model. An outlined value proposition could facilitate benchmarking and serve as a foundation for innovation and differentiation contributing to e-marketplace success.

Findings also confirm that internal capabilities and assets certainly influence the success and/or failure of B2B e-marketplaces. Resources such as internal competency are an imperative when and if an e-marketplace decides to diversify its activities from purely horizontal to vertical, or vice versa. In addition, the findings indicate that an entrepreneurial mindset within the B2B e-marketplace can improve company performance. An entrepreneurial approach might allow the e-marketplace to adapt rapidly to market change. Findings show that having insufficient internal resources may well contribute to the failure of e-marketplaces; in fact, the major reason for the bankruptcy of one of the investigated B2B e-marketplaces was the lack of internal resources.

As suggested by Bruun et al. (2002), e-marketplaces should focus on their core competencies and outsource non-core tasks in order to achieve success. Findings confirm the existence of outsourcing and show that e-marketplaces could focus on their key activities by outsourcing tasks related to, for example, IT operations, marketing and administration.

Findings also show that B2B e-marketplaces’ cost and revenue model have an impact on the success and/or failure of the firms. Researchers such as Bruun et al. (2002) and Chung et al. (2001), suggest that B2B e-marketplaces should charge both buyers and suppliers and that a combination of fees should be adopted. In line with this, the findings confirm that most e-marketplaces today utilize a combined model consisting of subscriptions, service fees and transaction fees.

7.2.5. Emerging Trends

Based on this study’s findings, it can at first be concluded that B2B e-marketplaces certainly have a future role to play within e-commerce. But the main question is: what is that role? Our findings suggest that e-marketplaces need to offer more value-adding services. The demand is there: while companies still need typical e-marketplace services, large firms are also increasingly looking for
help to consolidate their existing ERP systems, simplify their applications, and handle data synchronization, which presents substantial future opportunities for B2B e-marketplaces. This study’s results indicate that B2B e-marketplaces could move in many different directions (e.g., hosted application providers, source-to-pay gates, sourcing companies, BPO providers, pure-content management businesses, supplier networks). However, while the future offers various opportunities, e-marketplaces will most certainly face increased competition. This competition will be the result of the continued consolidation of e-marketplaces and because e-marketplaces and other players are operating more and more in the same field. For example, new entries in this industry, i.e., B2B e-marketplaces, will include:

- **Software companies** that merge with sourcing solution providers:
  Firms of this type are increasingly offering supplier networks, spend-management software, solutions for outsourcing capabilities, and shared service centers. However, they usually do not provide value-added content (e.g., industry-specific content). They can manage this by buying out e-marketplaces.

- **Hosted software companies:**
  While providing hosted applications, these firms generally do not offer trading communities, supplier content, standards, and connectivity, which can be solved by buying out e-marketplaces.

- **Consultancy firms:**
  Large consultancy firms are developing business process outsourcing (BPO) services. Additional services could be offered by acquiring e-marketplaces.

- **Telecom firms:**
  Companies in the telecommunications industry offer BPO services based on data management services. However, other complementary services can be provided by buying out e-marketplaces.

Considering that some of these software providers and consultancy firms are big corporations presents the possibility that some of them might acquire B2B e-marketplaces. This would provide these firms with the necessary assets and capabilities to add specific e-marketplace solutions to their service portfolios. The question is how far this development might go. Will we witness how most B2B e-marketplaces eventually merge with big players from various arenas? This remains to be seen.
The introduction of new products by existing and new players is changing the competitive landscape and raises another important question: What values are created by different actors?

7.3. Contributions

7.3.1. Theoretical Contributions

Although this research’s findings are based on only six case studies, theoretical contributions could be made. Even a single case can confirm, challenge, or extend theory (Yin, 2003). As pointed out in previous sections (i.e., 2.2 and 7.2.1), the taxonomy of B2B e-marketplaces suggested by Kaplan and Sawhney (2000) has been theoretically criticized by Popovic (2002), Rayport, and Jaworski (2001), and Stockdale and Standing (2002) mainly because it fails to describe the variety of business models that have emerged within the field of e-marketplaces. The findings of this study validate this criticism empirically, as presented in Figure 7.1 (page 237).

Despite the existence of rich literature on e-business models, there is an evident lack of studies concerning business model components specifically related to B2B e-marketplaces (see Table 2.18, page 56). To tackle the situation, the components of business models within B2B e-marketplaces have been studied, and the results of this research clarify existing components (i.e., mission, value proposition, resources, key activities, and cost and revenue model) and their possible critical impact on the success and/or failure of B2B e-marketplaces, which can contribute to the body of knowledge in that respect. Results from this study show that to understand the B2B e-marketplace phenomenon it is more constructive to emphasize the components of business models rather than to focus on definitions of business models.

Research conducted in the B2B e-marketplace area suggests various factors that are crucial for the success of e-marketplaces, as well as factors that might lead to failure. However, the literature review reveals that critical success and failure factors are mainly discussed conceptually, whereas there is a lack of empirical studies dealing with these issues (Fairchild et al., 2004). Thus, besides confirming the existence of some of the factors the literature identified as critical to the success and/or failure of B2B e-marketplaces, this study identifies additional sets of factors which have been presented previously.
Apart from confirming that e-marketplaces usually tackle business-related, rather than technical, challenges, this study also identifies a set of additional challenges that could be considered as contributing to the existing literature.

In short, the presentation of a comprehensive and holistic perspective of the B2B e-commerce phenomenon, including such issues as change in taxonomy, identification of additional challenges, and success and failure factors, could be considered as a theoretical contribution of this study.

7.3.2. Managerial Implications

Based on the findings of this study, a number of managerial recommendations can be identified that may be useful to B2B e-marketplaces and companies that use their services and solutions.

- B2B e-marketplace managers can use the emerged framework of this study to achieve a better understanding of the business structure, which could serve as a basis for deciding on the selection of an appropriate business model. Since the landscape of the industry (entries and exits, competition structure, level of maturity of business models, regional and international progress/development etc.) has not yet been shaped, managers of B2B e-marketplaces should continuously revise the company’s strategic position and the components of the relevant business model, as the environment and other conditions change. This could possibly increase the e-marketplace’s awareness of new challenges and opportunities that arise as a result of such developments, thus enabling the firm to react more rapidly to change and make the necessary modifications.

- B2B e-marketplaces are advised to strive for strategic clarity and to focus sharply on the industry-specific needs of buyers and suppliers, as this enables the e-marketplace to identify and address key inefficiencies within an industry, which, in turn, facilitates the development of the most important functionalities, from the customers’ perspective.

- B2B e-marketplaces are also advised to choose a neutral form of governance to attract both buyers and suppliers. This would increase the likelihood of buyers and suppliers adopting the e-marketplace solution fast. This is particularly important when influential shareholders of an e-marketplace are also large buyers connected to the same e-marketplace. In such cases, it is critical that shareholders distinguish between their dual roles as owners and buyers.
Many B2B e-marketplaces operated on the notion that there was no need to develop functionality and additional services, and this attitude led to a large number of bankruptcies. This implies that it is vital B2B e-marketplaces focus on supplying the most important functionalities when they are in their early stages. It is also important for them to change strategy very quickly (due to the fact that the number of entries into, and exits from, the industry is extremely high) and develop and add high-value-added services and solutions.

With respect to partnerships, regional e-marketplaces in Europe are advised to implement as many interoperability agreements as possible with e-marketplaces in neighboring countries to grow their business.

B2B e-marketplaces could handle challenges associated with entering new markets by partnering companies with complementary competencies.

B2B e-marketplaces should create value for both buyers and suppliers, which will give them good reasons to join the e-marketplace. Attracting companies to connect to the e-marketplace today requires more than just the provision of typical e-marketplace functionalities such as e-auctions and e-catalogues.

As competition increases, it becomes more and more important to really understand the needs of buyers and suppliers and develop services and solutions that respond to their needs. Thus, it is suggested that B2B e-marketplaces collaborate closely with their customers to develop new high-value-added services.

B2B e-marketplaces could adopt several strategies for achieving liquidity (e.g., create attractive value propositions for both buyers and suppliers, adopt a sales strategy that clearly communicates these values, require commitment from buyers, and balance conflicting stakeholder interests).

B2B e-marketplaces need to be aware of the customers’ preference for being connected to one single point (e.g., one e-marketplace) to handle all their purchasing.

Some B2B e-marketplaces could use their technological assets to create new services based on customers’ needs. This could, for example, concern services that facilitate the consolidation of companies’ existing ERP systems.
B2B e-marketplaces could differentiate themselves to create a competitive advantage, that is, become niche players offering unique services based on their expertise (e.g., knowledge about procurement within a specific geographical area or industry).

Horizontal e-marketplaces, especially, need to achieve differentiation because focusing on indirect commodity products is expected to leave such e-marketplaces with the ability to scale as the only differentiation. One possible way to differentiate and expand is to move into the area of providing solutions for procurement of direct material (e.g., strategic goods and services).

B2B e-marketplaces should recognize the opportunity to focus on solving problems related to data synchronization, since that is an area in which large companies are expected to spend much capital in the future.

Based on increased globalization, opportunities arise for regional, industry-specific B2B e-marketplaces to offer BPO services around sourcing and procurement to global companies that are trying to expand into emerging regions. In a similar way, global, horizontal e-marketplaces could become important providers of supplier content to global firms intending to move into developing countries.

B2B e-marketplaces must have a profound knowledge of both the buying and selling processes. Possessing expertise in procurement facilitates the development of value-adding solutions and services, while selling capabilities allow companies to communicate their value propositions accurately so customers are willing to connect to the e-marketplace.

As technology providers are expected to gradually abandon the development of e-marketplace platforms, B2B e-marketplaces need to decide how to ensure the future supply of appropriate technology. This could be achieved through collaboration with other e-marketplaces or by creating internal expertise on technology development.

Concerning business model components, it is recommended B2B e-marketplaces create clearly articulated missions and attractive value propositions. In addition, e-marketplaces need to have sufficient internal capabilities and assets to focus on core activities by outsourcing non-core tasks. Finally, the e-marketplace should develop an appropriate revenue model.
With respect to the composition of the fee structure, it is recommended that a combination of fees should be utilized. B2B e-marketplaces are also advised to charge buyers and suppliers fees that truly reflect the value offered to the respective party, as it could increase the possibility of the companies attracting both buyers and suppliers to use their solutions and services.

Connecting to an e-marketplace is a long-term and rather heavy investment, which makes the decision of what e-marketplace to join, crucial. The fact that this is a fairly new industry, without general business models and that it is still developing rapidly implies that buyers intending to connect to an e-marketplace need to put efforts into evaluating different B2B e-marketplaces. The conceptual framework developed in this study could possibly serve as a base for such an evaluation.

The implementation of e-marketplace solutions naturally involves changes in a firm’s buying processes, even though the personnel do not necessarily welcome the idea of changing their practices and behaviors. To decrease resistance to change and, thus increase compliance with the new way of purchasing (i.e., through the e-marketplace), a buyer company intending to join a B2B e-marketplace should consider building a change-management program and reflect upon its ability to change incentive systems. The findings of this study also indicate that it is crucial that managers on different levels are truly committed to the idea of handling the company’s purchasing mainly via the e-marketplace. Having committed managers would almost certainly make it easier to achieve a high level of compliance.

7.4. Suggestions for Future Research

The first point which could be recognized as a continuation of this research is a deeper investigation of the four major components of the emerged frame of reference (i.e., strategic position, critical success/failure factors, challenges, and business-model components) and the relationship between these components and the impact they have on each other. This means that a bigger sample size should be used for the investigation.

Since there is still no general consensus among researchers with respect to the composition of business models and business model components related to B2B e-marketplaces, further research is proposed in this area.
To be able to confirm this study’s finding, we suggest a quantitative approach, using a larger sample size.

Another extension of this research would be to investigate the perspectives of customers of successful B2B e-marketplaces (i.e., buyers and suppliers). Such an investigation could possibly lead to the identification of additional critical success factors.
REFERENCES


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Thesaurus.com, 2004 http://thesaurus.reference.com


## Findings of the Pilot Study

### 1. Demographic Characteristics of the Companies

<table>
<thead>
<tr>
<th></th>
<th>Company One</th>
<th>Company Two</th>
<th>Company Three</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Owner</strong></td>
<td>A group of large firms (i.e., buyers)</td>
<td>A large telecom operator</td>
<td>An independent private firm</td>
</tr>
<tr>
<td><strong>Direction of trade</strong></td>
<td>Horizontal</td>
<td>Horizontal</td>
<td>Vertical</td>
</tr>
<tr>
<td><strong>Geographic focus</strong></td>
<td>Global with European</td>
<td>European with Nordic</td>
<td>Global</td>
</tr>
<tr>
<td><strong>Products &amp; Services</strong></td>
<td>Non-strategic goods and services such as office supplies etc.</td>
<td>Non-production resources such as MRO, consultancy services, office supplies etc.</td>
<td>Mobile phones and accessories</td>
</tr>
<tr>
<td><strong>Area of expertise</strong></td>
<td>Procurement process</td>
<td>Information Technology, Consultancy</td>
<td>Industry (i.e., Mobile phones &amp; accessories)</td>
</tr>
<tr>
<td><strong>Trading functions</strong></td>
<td>Auction, Catalogue, Catalogue with online-order, Exchange (RFQ/RFP/RFB) 1), Reverse auction</td>
<td>Catalogue with online-order</td>
<td>Auction Exchange (RFQ/RFP/RFB)</td>
</tr>
<tr>
<td><strong>Buyers</strong></td>
<td>Large Nordic Corporations</td>
<td>Large Nordic firms and organizations</td>
<td>B2B traders of Mobile Phones and Accessories, from manufacturers to stores</td>
</tr>
<tr>
<td><strong>Suppliers</strong></td>
<td>Global and Nordic suppliers</td>
<td>European suppliers of non-production resources</td>
<td>B2B traders of Mobile Phones and Accessories, from manufacturers to stores</td>
</tr>
<tr>
<td><strong>Number of employees</strong></td>
<td>About 90</td>
<td>About 20</td>
<td>No employees besides founder and Managing Director</td>
</tr>
</tbody>
</table>

1 Request for Quotation (RFQ); Request for Proposals (RFP); Request for Bid (RFB).
2. Strategic Position of the Companies

Focus: The pilot study reveals that the three e-marketplaces clearly differ regarding focus. In line with prevailing literature in the area of B2B e-marketplaces, disparities were found between the horizontals (i.e., Company One and Company Two) and the vertical (i.e., Company Three) in a number of issues. While Companies One and Two are process oriented, operate on a regional market and focus on attracting large firms to participate in their e-marketplaces, Company Three is industry oriented, operates on a global market and deals with firms of all sizes. Another great difference is the way in which suppliers join the e-marketplaces. While Company Three is open for any firm within the industry, the two horizontal e-marketplaces only accept suppliers that are selected by the buyers as preferred suppliers.

In B2B e-marketplace literature, some authors (e.g., Bruun et al., 2002; Raisch, 2001; Sculley & Woods, 2001) suggest that e-marketplace operators should focus on key players in a given industry in order to get a good start. Contrary to this, none of the investigated companies focused on industry key players at the setup of their e-marketplaces. However, Company One’s initial focus was to find one large buying organization on each geographical market. These market key players were committed to the e-marketplace through ownership. Today, having key players as owners is not seen as a critical success factor for Company One. In addition, the three cases indicate that focus changes over time. These changes mainly involve extending buyer segments and types of products.

Governance: As pointed out by Bruun et al. (2002), the governance of an e-marketplace is important, as it can facilitate rapid adoption of the e-marketplace by both buyers and suppliers. In line with this, Company One was set up by a number of large buyers as the emphasis was on providing solutions for efficient procurement. These owners realized very early that they had to promise each other liquidity in order to succeed with the e-marketplace initiative. Their commitment to manage all procurement of non-strategic goods and services through the e-marketplace also resulted in a very rapid start-up.

The three case companies differ with respect to degree of neutrality. Even though all three e-marketplace operators consider their e-marketplace to be neutral, Company One and Company Two tend to function more and more like a buyer-centric e-marketplace due to their ownership structure. These are both open for buying organizations, whereas suppliers can be connected to the e-marketplace only by request from buyers that are members of the e-marketplace. Company Three, on the other hand, is open for everyone (e.g., manufacturers, distributors, retailers, importers, exporters and trading houses) provided that they fulfil the
membership criteria. However, Company Three recently started to sell products on its own e-marketplace. In this way, the company modified its business from only providing a neutral e-marketplace to also include the sale of certain products.

A neutral form of governance is claimed to provide a perception of fairness and trust (Bruun et al., 2002). However, despite the many similarities between Company One and Company Two with respect to their focus and degree of neutrality, the emphasis on trust differs considerably. In Company One, trust is not claimed to be a big issue, mostly due to the fact that the e-marketplace is based on existing relationships between buyers and suppliers, which naturally reduce uncertainty. In Company Two, trust is instead regarded as a tremendously important factor and the company works extremely hard to obtain the buying organizations’ trust, mainly by providing assurances in various ways of the company’s security and continued existence. In Company Three, trust is also an important issue, mainly due to the type of industry in which it operates. The truly global market for cell phones with many unknown traders, the nature of the product, which makes it difficult to evaluate its condition, and the vast economic value involved make it very important to establish trust between business partners as well as between business partners and e-marketplaces.

A neutral form of governance is also claimed to result in fewer channel conflict issues (Bruun et al., 2002). The pilot study clearly indicates that channel conflict is a burning issue for suppliers participating in an e-marketplace. However, since Company One and Company Two do not interfere in the commercial agreements between buyer and supplier, channel conflicts do not really concern the e-marketplace. In the case of Company Three, there is a potential conflict of interests due to the fact that the company is a neutral e-marketplace and, at the same time, one of the suppliers on that market. But this dual role of Company Three has led to positive reactions rather than to conflict. The main reason for the positive response is that Company Three, by offering products direct from a very large manufacturer, also enables quite small traders (i.e., e-marketplace members) to deal in that manufacturer’s products.

**Functionality:** In B2B e-marketplace literature functionality is described with respect to three core elements: Commerce, Content and Collaboration (or Connection) (Kearney, 2000; Bruun et al., 2002). The commerce functionality at Company One is based on an exchange platform, which is described as “the engine”. Various applications such as e-procurement tools (i.e., basically the catalogue and a workflow engine) and statistical tools can be connected to this platform. Company Two deals with the processes for sub-ordering and invoice handling, but does not handle any sourcing functionalities such as electronic auctions. The commerce functionality at Company Three involves offering a
vertical e-marketplace to its members through exchange function or auction. In addition to these basic trading functions, Company Three offers a Web shop where e-marketplace members can sell products to other members as well as to non-members.

With respect to content, at Company One and Company Two this mainly involves production and publishing of catalogues. However, some of the respondents indicated that these are tasks which require more resources, in terms of time and money, than is usually anticipated. One of the respondents expressed that “there is a risk in the content concept that everybody believes that it is all about producing catalogues when it in reality entails the entire process of activating suppliers, information, education, catalogue production, and making changes in the supplier base. Producing catalogues is the minor part of the job; it is rather the interaction with suppliers that is expensive.” In the case of Company Three, the chief task where content is concerned is to specify the products so well that traders are able to finalize deals rapidly. Given the rigorous membership control, members’ trust towards Company Three and fellow members is ideally so high that a potential buyer should not need to discuss the products with the supplier. Instead, it should be possible to make a deal instantly, after having agreed on the price. One step towards this goal has been taken, as Company Three now offers the use of Escrow\(^2\) as a mode of payment, instead of dealing with advance payments.

Concerning collaboration, respondents from all three case companies express similar views, implying that collaboration and collaboration tools are highly interesting, however, this is not currently the main focus of any of these e-marketplaces. Instead, respondents from Company One and Company Two (which are active in horizontal e-marketplaces) regard collaborative tools as more relevant for direct material and supply chain management.

**Technology:** At Company One, considerable effort was invested in the important task of selecting an appropriate technological platform. Company One finally selected Commerce One as the provider of its technological platform, since, from a technical point of view, Commerce One’s platform matched Company One’s business objectives very well. Company One’s technological platform is flexible, scalable and secure. Initially, expectations of integration were very high, and Company One anticipated that more or less all suppliers would be integrated with the company. But, due to the fact that integration is associated with crucial technological problems, Company One today strives towards the goal of integrating about 20 to 30 percent of the supplier base. Since the company

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\(^2\) In an Escrow system a third party, here Company Three, is trusted to hold payment for a transaction until the buyer has declared itself satisfied with the delivered goods.
provides optional tools for suppliers, integration is not a requirement for participating on the e-marketplace. This multiple solution is seen as a very important reason behind Company One’s large base of suppliers. Company Two’s technological platform is based on Oracle databases, a BAE Web Logic Server, and a Java client. However, Company Two develops many of the technological solutions in-house, since this facilitates control of costs and gives the company flexibility to adapt to new challenges.

Company Three collaborates with a technology provider, Textalk, which “translated” Company Three’s ambition into technology. Company Three’s system is based on the Linux operating system. It has been developed and hosted by their technology partner. System development is carried out such that Company Three writes an open specification of the desired functionality. Thereafter Textalk transform the specification into code, while at the same time being given creative freedom.

**Partnership:** Bruun et al. (2002), state that choosing the right partner is essential for the success of an e-marketplace. The pilot study reveals that all three e-marketplaces have developed few, but strong long-term partnerships with platform and/or software providers. For example, Company One approaches the market to offer a full-fledged solution, jointly with their main partner, the software provider SAP. In addition, Company Two cooperates with a large financial services group in the Nordic and Baltic Sea region for mutual marketing and distribution of electronic invoice and P-Card solutions throughout the Nordic region. Company Three also intends to continue its development of partnership with additional manufacturers.

A summary of the investigated companies’ strategic positions with respect to focus, governance functionality, technology and partnership is presented in Table 2.
<table>
<thead>
<tr>
<th>e-Marketplace</th>
<th>Company One</th>
<th>Company Two</th>
<th>Company Three</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Focus</strong></td>
<td>Horizontal</td>
<td>Horizontal</td>
<td>Vertical</td>
</tr>
<tr>
<td></td>
<td>Non-strategic goods and services</td>
<td>Non-strategic goods and services</td>
<td>Cell phones and accessories</td>
</tr>
<tr>
<td></td>
<td>Nordic Countries</td>
<td>Europe, Nordic countries</td>
<td>Global</td>
</tr>
<tr>
<td></td>
<td>Buyers: Large firms (membership is required)</td>
<td>Buyers: Large decentralized service firms (membership is required)</td>
<td>Buyers: membership is not required</td>
</tr>
<tr>
<td></td>
<td>Suppliers: Buyers’ existing relationships</td>
<td>Suppliers: Buyers’ existing relationships</td>
<td>Suppliers: Wholesalers and large distributors*)</td>
</tr>
<tr>
<td></td>
<td>No focus on particular industry key players, but initially focusing on key players in each country.</td>
<td>No focus on particular industry key players</td>
<td>No focus on particular industry key players</td>
</tr>
<tr>
<td><strong>Governance</strong></td>
<td>Neutral, but to some extent biased towards buyers. Open for buyers.</td>
<td>Neutral. Open for buyers</td>
<td>Neutral, but have recently also started acting as a supplier on the market. Open for both buyers and suppliers.</td>
</tr>
<tr>
<td><strong>Functionality</strong></td>
<td>Commerce: Auction, Reverse auction, Catalogue, Catalogue with online-order, Exchange</td>
<td>Commerce: Catalogue with online-order</td>
<td>Commerce: Auction, Exchange</td>
</tr>
<tr>
<td></td>
<td>Content: managing catalogue content</td>
<td>Content: managing catalogue content</td>
<td>Content: detailed product specifications</td>
</tr>
<tr>
<td></td>
<td>Collaboration: Currently no collaboration tools in place</td>
<td>Collaboration: Currently no collaboration tools in place</td>
<td>Collaboration: Currently no collaboration tools in place</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>Commerce One platform</td>
<td>Oracle platform</td>
<td>Linux operating system</td>
</tr>
<tr>
<td></td>
<td>Offers various technological solutions for connecting suppliers to the e-marketplace</td>
<td>Large extent of in-house system development</td>
<td>Outsourcing system development</td>
</tr>
<tr>
<td><strong>Partnership</strong></td>
<td>Few but deep partnerships with technology providers</td>
<td>Few but deep partnerships with technology providers</td>
<td>Few but deep partnerships with technology provider</td>
</tr>
<tr>
<td></td>
<td>Approach the market to offer a full-fledged solution in collaboration with SAP</td>
<td>Approach the market for marketing and distribution of electronic invoice and P-Card solutions in collaboration with a large financial services group</td>
<td></td>
</tr>
</tbody>
</table>

*) In Company Three, a buyer can act as a supplier and vise versa.
3. Critical Success Factors

As discussed in Chapter Two, having domain expertise is regarded as a crucial factor for success. This implies that having expert knowledge about the procurement process should be highly important for Company One and Company Two since they offer procurement solutions across several industries, while knowledge about the industry (i.e., the mobile phone industry) should be crucial for Company Three. Based on their own experience, respondents representing Company One and Company Three strongly supported the notion that having domain expertise is essential for e-marketplace success. In fact, Company One emerged from ideas from procurement experts, while Company Three was established based on long industry experience. Contrary to Company One, Company Two and many other e-marketplace that typically originate from self-experienced industry practice, Company Two started off as a "desktop exercise", based on theoretical rather than practical perspectives. The founders had previous experience within IT and system implementations in large corporations, and as management consultants. Table 3 presents a summary of factors perceived by the respondents as critical for the success of the e-marketplace.

Table 3: Factors Perceived as being Critical for Success of the E-marketplace

<table>
<thead>
<tr>
<th>Company One</th>
<th>Company Two</th>
<th>Company Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Procurement process experience</td>
<td>- Competent and structured sales process (of e-marketplace’s services)</td>
<td>- Industry expertise</td>
</tr>
<tr>
<td>- Focus on large companies that provide committed liquidity</td>
<td>- Trustworthiness</td>
<td>- Trustworthiness</td>
</tr>
<tr>
<td>- Buyers can join the e-marketplace only by bringing in their existing business relationships (i.e., suppliers)</td>
<td>- The right governance where the Board seriously supports Management</td>
<td>- Showing activity by displaying frequent offers and requests on the web site to keep up members interested in trading.</td>
</tr>
<tr>
<td>- Ability to create business opportunities that lead to actual deals.</td>
<td>- Cost control</td>
<td>- Ability to create business opportunities that lead to actual deals.</td>
</tr>
</tbody>
</table>

4. Challenges

As discussed in Chapter Two, literature within the area of B2B e-marketplaces points out a number of challenges associated with the creation of e-marketplaces (e.g., finding suitable business model, capturing value, creating liquidity, creating and developing value-added services, catalogue content management, internationalization and adoption). The pilot study clearly shows that challenges,
as perceived by the respondents, vary substantially not only between the different companies, but also over time. A summary of challenges, as perceived by the respondents in each investigated company, is presented in Table 4.

Table 4: Summary of Challenges as Perceived by the Respondents in each B2B e-Marketplace

<table>
<thead>
<tr>
<th>Challenges at the start-up of the e-marketplace</th>
<th>Company One</th>
<th>Company Two</th>
<th>Company Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolving the business model</td>
<td>• Financing</td>
<td>• Financing</td>
<td>• Financing</td>
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<tr>
<td>Understand the business model and its consequences</td>
<td>• Finding sufficient and adequate competence</td>
<td></td>
<td>• Acquiring members</td>
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<tr>
<td>Present challenges</td>
<td>• Customer acquisition</td>
<td>• Customer acquisition</td>
<td>• Increasing revenue</td>
</tr>
<tr>
<td>• Further geographical expansion</td>
<td>• Balance the allocation of resources</td>
<td>• Acquiring manufacturers</td>
<td>• Acquiring members</td>
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<tr>
<td>• Pinpoint customers’ actual needs</td>
<td>• Changes in organizational structure due to growth</td>
<td>• Expanding use of the Escrow system</td>
<td>• Expanding use of the Escrow system</td>
</tr>
<tr>
<td>• Extension into new product areas</td>
<td>• Customer acquisition</td>
<td>• Creating a local partner network</td>
<td>• Creating a local partner network</td>
</tr>
<tr>
<td>Anticipated Future Challenges</td>
<td>• Revising business model</td>
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</tbody>
</table>

5. Business Model

With respect to business model, the focus of the pilot study was on the investigated companies’ value propositions and how these firms capture part of the value they create for participants (i.e., their revenue model). Table 5 presents a summary of the companies’ value proposition towards suppliers, buyers and potential new owners and/or partners.
<table>
<thead>
<tr>
<th>Table 5: Summary of Investigated B2B e-Marketplaces’ Value Propositions</th>
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<tbody>
<tr>
<td><strong>Value proposition to suppliers</strong></td>
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<tr>
<td><strong>Value proposition to buyers</strong></td>
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</table>
As depicted in Table 6, there are both similarities and differences in the revenue models utilized by the companies. The pilot study also reveals that transaction fees have essentially been wiped out and that the revenue model is expected to emphasize volume and transaction even less in the future. Instead, the fee will connect to level of service provided by the e-marketplace, which points towards increased use of subscription fees. Company Three, which currently charges a fixed membership fee, plans to differentiate the fee and the service in the near future. Instead of a fixed fee, services and functions will be bundled in various ways and offered on three levels of annual fees.

**Table 6: Summary of Investigated B2B e-Marketplaces’ Revenue Model**

<table>
<thead>
<tr>
<th></th>
<th>Company One</th>
<th>Company Two</th>
<th>Company Three</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Buyers</strong></td>
<td>• Subscription fee, based on the e-marketplace’s commitment (e.g., number of activated suppliers)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 2/3 of revenue originate from buyers</td>
<td>• Subscription fee, based on the e-marketplace’s commitment (e.g., number of activated suppliers, number of invoices)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 1/3 of revenue originate from suppliers</td>
<td>• No fee</td>
<td>• Fixed membership fee</td>
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<td></td>
<td></td>
<td></td>
<td>• Registration fee</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>• Transaction fee for Escrow service</td>
</tr>
<tr>
<td><strong>Suppliers</strong></td>
<td>• Subscription fee</td>
<td>• No fee</td>
<td>• Fixed membership fee</td>
</tr>
<tr>
<td></td>
<td>• 1/3 of revenue originate from suppliers</td>
<td></td>
<td>• Registration fee</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Transaction fee for Escrow service</td>
</tr>
</tbody>
</table>
Appendix 2.

Interview Guide for Existing B2B e-marketplace

A. Demographic and general data
A1. Give a brief background and explain the history of the establishment of the company.
   - year of establishment
   - owner situation
   - number of employees
   - products/services offered by the EM (to buyers? to suppliers?)
   - products/services traded through the EM
   - size in terms of transaction volume
   - no of buyers participating on the EM
   - no of sellers participating on the EM
   - total annual revenues? How much do which products/services contribute to the company’s revenue (e.g. marketplace revenues, other business)
   - competition
   - mergers/acquisitions

B. Strategic position (RQ1)
B2. What main buyer segments did the company target initially, at the present, in the future?
   Elaborate on reasons for selection of this/these segments.

B3. What main seller segments did the company target initially, at the present, in the future?
   Elaborate on reasons for selection of this/these segments.

B4. What geographic coverage did the company focus initially, at the present, in the future?
   Elaborate on reasons for this focus.

B5. What is the ownership structure of the EM? (e.g. biased, biased, neutral).
   Elaborate on reasons for selection of such a design (e.g. owner pressures, market forces, partner’s pressure, buyers, sellers)
One way of categorizing the functionality of an EMs to describe the functionality in terms of three different elements, namely Commerce (i.e., trading mechanism), Content (i.e., commerce content and other value-added content), and Collaboration (i.e., between buyers and sellers, and with third party). The design and combination of these elements form the company’s value proposition.

B6. What trading functions (trading mechanisms) are provided through the EM, and why?

B7. What main commerce content is provided by the EM.  
(e.g. product descriptions, accurate inventory listing, pricing information, company profiles & ratings, data-mining, transaction process management)

B8. What main value-added content is provided by the EM.  
(e.g. community info forums, related party info, general industry data, career info, EM siteinfo)

B9. Describe the main collaboration tools that are provided by the EM.

B10. On what technological platform is the EM established, why, and what does the technological platform support?  
- advanced market making tools (i.e. different catalogue structures and auction types)?  
- integrated procurement tools (e.g. searchable catalogues and administrative tools)?  
- advanced collaboration tools?  
- frictionless integration with the ERP-systems of participating buyers and sellers?  
- or any other possible application.

B11. Elaborate on the flexibility and scalability of the technological platform  
(e.g., its possibility to handle change in demand of functionality and increased number of transactions)

B12. Elaborate on the security of the technological platform (e.g. regarding functions and features of the EM).

B13. Do you regard flexibility, scalability and security of the technological platform as important?

B14. Please, elaborate on the main areas of partnership (if there are any), in terms of collaboration, that your company has for providing services for the customers. (e.g., collaborating with broker, intermediaries, new infomediaries, content providers, IT vendors, software developer, other EMs)

B15. Are there any activities that the company has outsourced to partners?  
If yes, please elaborate on the reasons for outsourcing these activities.

B16. Do you plan to outsource any additional activities in the future?
Please, elaborate on the reasons.

B17. Do you perceive that environmental factors (political/legal, economic, social, and technological) have any major impact on the firm’s decision with respect to:
   - focus (buyer segment, seller segment, geographic coverage, type of products, direction of trade)?
   - ownership structure?
   - functionality (trading functions, content, collaboration tools)?
   - technology (choice of platform)?
   - Partnership?

C. Major Challenges (RQ 3)

C18. Describe what major challenges the company had to face when setting up the EM, at the present, in the future.

C19. Describe the strategies that the firm utilized in maintaining and increasing the critical mass of buyers and sellers connected to the EM?

C20. Elaborate on the impact of the environmental factors (political/legal, economic, social and technological) on the challenges that you have identified previously.

D. Business Model Components’ Critical Impact for the Success/Failure (RQ 4)

D21. Describe the company’s mission (i.e., strategic objectives).

D22. How do you perceive the importance of adopted strategic objectives on the company’s performance/success?

D23. Describe the company’s value proposition towards buyers.

D24. Describe the company’s value proposition towards sellers.

D25. Identify the product/service offering’s impact on the EM’s performance/success?

D26. Describe the company’s internal capabilities and assets and its impact on the EM’s performance/success?
D27. Identify the impact of the company’s intra- and interorganizational processes (i.e., key activities) on the EM’s performance/success?

D28. Identify the impact of the company’s cost and revenue streams, and pricing policy, on the EM’s performance/success?

D29. Describe the adopted revenue model (i.e., initial, present, and future fee structure).

D30. Describe in what way the characteristics on members of EM has contributed to the fee structure adopted by the EM.

D31. Do you perceive that environmental factors (political/legal, economic, social, and technological) have any major impact on the firm’s decision with respect to:
- mission
- value proposition
- resources
- key activities
- cost and revenue model

E. Major Factors Determining Success and/or Failure (RQ2)

E32. How would you define/describe a successful EM?

E33. Elaborate on what factors you perceive as critical for EM success.

E34. Elaborate on what factors you perceive as major causes of EM failure.

E35. How would you describe the contribution of environmental factors (political/legal, economic, social, and technological), if any, on the success and/or failure of EMs?

F. Future Development

F36. Elaborate on the future of the company - where is it that the EM plans going?

F37. After having defined/described a successful EM, where would you put your company?

\[ \text{Failure} \quad \text{I} \quad \text{Success} \]

F38. Please elaborate on any additional aspects that you think might be helpful to this study.
Appendix 3.

Interview Guide - Closed down B2B e-marketplace

A. Demographic and general data

A1. Give a brief background and explain the history of the establishment of the company.
   - year of establishment
   - owner situation
   - number of employees
   - products/services offered by the EM (to buyers? to suppliers?)
   - products/services traded through the EM
   - size in terms of transaction volume
   - no of buyers participating on the EM
   - no of sellers participating on the EM
   - total annual revenues? How much do which products/services contribute to the company’s revenue (e.g. marketplace revenues, other business)
   - competition
   - mergers/acquisitions

B. Strategic position (RQ1)

B2. What main buyer segments did the company target and how did it evolve?
   Elaborate on reasons for selection of this/these segments.

B3. What main seller segments did the company target and how did it evolve?
   Elaborate on reasons for selection of this/these segments.

B4. What geographic coverage did the company focus and how did it evolve?
   Elaborate on reasons for this focus.

B5. What was the ownership structure of the EM? (e.g. biased, biased, neutral)
   Elaborate on reasons for selection of such a design (e.g. owner pressures, market forces, partner’s pressure, buyers, sellers)
One way of categorizing the functionality of an EM is to describe the functionality in terms of three different elements, namely Commerce (i.e., trading mechanism), Content (i.e., commerce content and other value-added content), and Collaboration (i.e., between buyers and sellers, and with third party). The design and combination of these elements form the company’s value proposition.

B6. What trading functions (trading mechanisms) were provided through the EM, and why?

B7. What main commerce content were provided by the EM.
   (e.g. product descriptions, accurate inventory listing, pricing information, company profiles & ratings, data-mining, transaction process management)?

B8. What main value-added content were provided by the EM.
   (e.g. community info forums, related party info, general industry data, career info, EM siteinfo)

B9. Describe the main collaboration tools that were provided by the EM.

B10. On what technological platform was the EM established and what did the technological platform support?
    - advanced market making tools (i.e. different catalogue structures and auction types)?
    - integrated procurement tools (e.g. searchable catalogues and administrative tools)?
    - advanced collaboration tools?
    - frictionless integration with the ERP-systems of participating buyers and sellers?
    - or any other possible application.

B11. Was there any problem in the technology with respect to its flexibility, scalability, security or functionality which has contributed to the final situation (closing) of the firm?

B12. Do you perceive that environmental factors (political/legal, economic, social, and technological) had any major impact on the firm’s performance?

C. Major Challenges (RQ 3)

C13. Describe what major challenges the company had to face.

C14. Describe the strategies that the firm utilized in maintaining and increasing the critical mass of buyers and sellers connected to the EM?
D. Business Model Components’ Critical Impact for the Success/Failure (RQ 4)

D15. What was the company’s mission (i.e., strategic objectives).

D16. What were the company’s *value propositions* towards buyers and suppliers?

D17. Was there any impact of the product/service offering’s on the firm’s performance?

D18. What were the company’s internal capabilities and assets, and what was its impact on the firm’s performance?

D19. What were the company’s intra- and interorganizational processes (i.e., key activities) and what was its impact on the firm’s performance?

D20. What was the impact of the company’s cost and revenue streams, and pricing policy, on the firm’s performance?

D21. What was the adopted revenue model and how did it contribute to the firm’s performance?

D22. Do you perceive that any environmental factors (political/legal, economic, social, and technological) has contributed to the situation of the company?

E. Major Factors Determining Success and/or Failure (RQ2)

E23. How would you define/describe a *successful* EM?

E24. Elaborate on what *factors* you perceive as critical for EM success.

E25. Elaborate on what *factors* you perceive as major causes of EM failure.

E26. How would you describe the contribution of environmental factors (political/legal, economic, social, and technological), if any, on the success and/or failure of EMs?