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Introduction

Parts of the economic literature assume that markets are characterized by anonymous, atomized transactions among players who have at best arms-lengths relationships. In contrast, empirical studies have provided evidence that the relations of players within an industry (social capital) and relations between marketplace operators and the trading partners have an impact on market performance. Moreover, trading partners often have various forms of relations which might vary over time (mixed-mode governance). So called collaboration electronic marketplaces are emerging which assume and facilitate cooperative relations among the trading partners.

The contributions to RSEEM 2004 deal with these issues in variety of ways: they look at different types of relationsships, different goverance structures, different levels of technical or organizational solutions. Taken together they give evidence of a vibrant, multi-disciplinary research community.

Stefan Klein

Dublin, September 2004

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The effect of virtual relationships on e-shops
A case study based approach

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Abstract: The paper presents and applies the methodology and techniques of cross case analysis (CCA). The authors identify patterns of success in the field of e-shops and virtual relationships. The findings are based on six selected case studies following the methodology developed by Eisenhardt [1989]. The case study approach was used for two reasons: First, a large number of case studies was collected over the last years containing knowledge that had not yet been analysed and interpreted. Second, the authors assume that the research field of e-business and ICT is particularly suited for cross case analysis because of the dynamic development and the need to learn from best practice [Klein/Myers 1999].

1 Objectives and Motivation

The superior purpose of this paper is to identify a suitable way for cross case analysis. We are following the approach proposed by Eisenhardt [1989]. The case studies were taken from the eXperience case study database [eXperience 2004]. eXperience is a publicly funded project that let to a platform which currently holds about 240 fully qualified case studies about e-business best practice and is intended for research and practitioners alike. In this database, all case studies are classified according to a common categorization scheme. Since some of the case studies are incomplete for the purpose of a thorough analysis and comparison, a framework for a down-to-earth approach had to be found. This paper presents the first steps towards this objective. The authors selected six case studies for a first field trial in order to find patterns linked to virtual relationships and multi channel strategies that show significant correlations with the success or failure of e-shops.

The motivation for choosing a case study based approach was (1) to *test* the Eisenhardt methodology and to *apply* it to the special domain of e-business and (2) to *gain general experiences* in the field of cross case analysis (CCA).

2 Cross Case Analysis

2.1 Methodology

There has been much discussion in recent years whether or not case studies are a valid instrument for the generation of research findings. Klein and Myers [1999] performed a study and concluded that “case study research is now accepted as a valid research strategy within the IS research community”. Case studies have long been used as a teaching method, especially in the area of managerial sciences [Bonoma 1985; Eisenhardt 1989; Huff et al. 2002]. The methodology of this paper follows the often cited approach by Eisenhardt [1989] in order to identify patterns for success or failure. For this reason six case studies discussing the field of B2B and B2C e-shops were analyzed and compared in a joint analysis.

Bonoma [1985] pointed out that case studies in social sciences have been used for both (1) validating existing theories and thus deducing empirical consequences and (2) building theory by using inductive principles. The paper follows the second approach in trying to identify new and previously unsuspected patterns in business models, roles and processes, which are supported by ICT. Eisenhardt identifies 8 steps of building theory from case studies as shown in table 1.

The Eisenhardt framework shows the entire process of building theory from case studies from getting started to the actual derivation of new theory. The purpose of this paper is to apply this framework in an adapted manner and to demonstrate how a CCA works. The purpose is *not* to come up with groundbreaking new theories in the

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field of virtual relationships and multi channel strategies but to take a first step towards the application of a framework for the identification of success patterns. Therefore following and discussing every step of the Eisenhardt framework is beyond the scope of this paper. Nevertheless, the following sections are strongly linked to her methodology.

Step	Activity	Reason
Getting Started	Definition of research question	Focuses efforts
	Possibly a priori constructs	Provides better grouping of construct measures
	Neither theory nor hypotheses	Retains theoretical flexibility
Selecting Cases	Specified population	Constrains extraneous variation sharpens external validity
	Theoretical, not random, sampling	Focuses efforts on theoretically useful cases – i.e., those that replicate or extend theory by filling conceptual categories
Crafting Instruments and Protocols	Multiple data collection methods	Strengthens grounding of theory by triangulation of evidence
	Qualitative and quantitative data combined	Synergistic view of evidence
	Multiple investigators	Fosters divergent perspectives and strengthens grounding
Entering the Field	Overlap data collection and analysis, including field notes	Speeds analyses and reveals helpful adjustments to data collection
	Flexible and opportunistic data collection methods	Allows investigators to take advantage of emergent themes and unique case features
Analyzing Data	Within-case analysis	Gains familiarity with data and preliminary theory generation
	Cross-case pattern search using divergent techniques	Forces investigators to look beyond initial impressions and see evidence thru multiple lenses
Shaping Hypotheses	Iterative tabulation of evidence for each construct	Sharpens construct definition, validity and measurability
	Replication, not sampling, logic across cases	Confirms, extends, and sharpens theory
	Search evidence for "why" behind relationships	Builds internal validity
Enfolding Literature	Comparison with conflicting literature	Builds internal validity, raises theoretical level, and sharpens construct definitions
	Comparison with similar literature	Sharpens generalizability, improves construct definition, and raises theoretical level
Reaching Closure	Theoretical saturation when possible	Ends process when marginal improvement becomes small

Table 5:Process of Building Theory from case studies [Eisenhardt, 1989, p. 533]

2.2 Getting started

As in almost every ambitious research setting, the starting point is the definition of suitable research questions. As mentioned before, our key question was whether or not patterns of success or failure can be found in the field of e-commerce, virtual relationships and multi channel strategies.

To answer this question, we need to define the terms "virtual relationships" as well as "patterns of success and failure" in the following paragraphs.

2.2.1 Virtual Relationships

The adjective "virtual" and the term "virtual relationships" are often not clearly defined and thus used ambiguously in the literature. In this paper, *virtual* relationships are defined as data-based, simulated *reproductions* of *real world* relationships. More precisely, we are talking about virtual business relationships between vendors and buyers.

This definition excludes relationships between two or more people *established and maintained* by the use of information and communication technology (ICT) only. The definition focuses on the characteristic that the

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vendor may use the facts which are stored in his integrated CRM-database but does not know the customer personally. Theoretically it does not matter which sales agent deals with the customer because all agent share the same information base.

The different degrees of relationships between vendor and customer are shown in figure 1. A *black* salesman indicates a *personal* relationship between salesman and customer whereas a *transparent* salesman indicates *anonymous* sales agents with virtual relationships.

Before the internet appeared in the early nineties, business relations were exclusively defined by personal contacts. The support functions of computer systems by then were often limited to administrative and support functions (see figure 1, phase 1)

When the internet became a commodity in the mid nineties, it was most notably used for information and communication purposes. In the field of business relations, the personal contact was still crucial (see figure 1, phase 2)

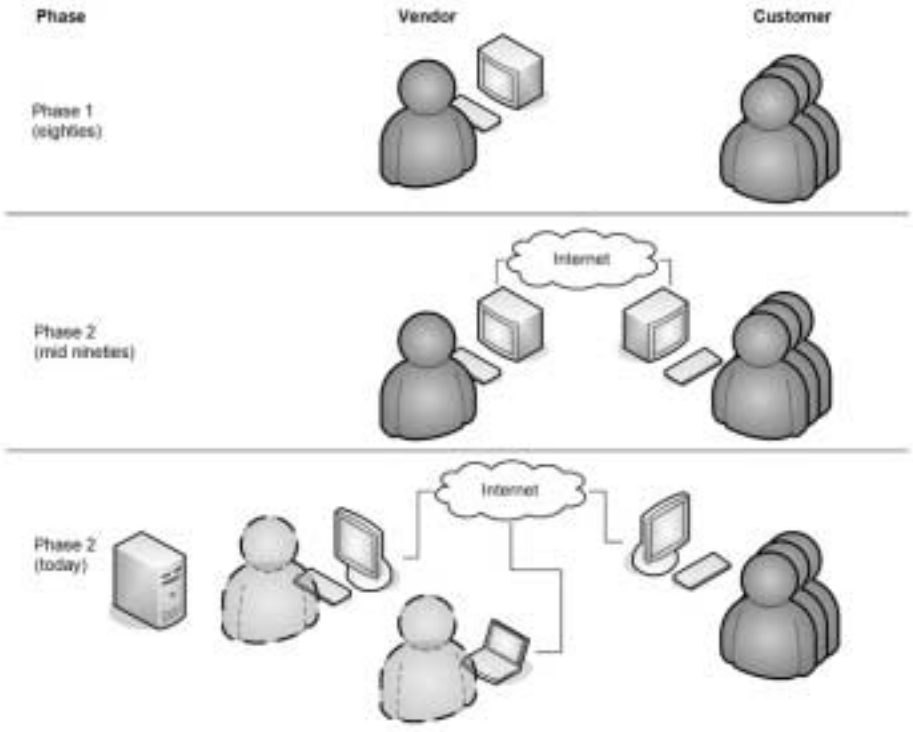

Figure 1: Degree of relationship between vendor and customer.

When the first Internet hype faded and people started to trust in internet-technology, the importance of personal relationships began to lessen. Marketing departments began to realize the evolving technical opportunities such as building up customer profiles and automating the sales process in digital self-service environments. Today many business transactions are realized without direct human interaction on the vendor's side. If the customer needs support or advice, he can call the support center which immediately knows (1) who is calling (by looking on a display), (2) what this customer has bought in the past as well as (3) details about his last visit on the company's e-shop. In small settings (few customers), this information can be manually selected and used by sales personnel. In bigger settings with hundreds or thousands of customers, such information can only be handled by integrated CRM-tools which make use of pre-programmed business rules. In a pure virtual relationship setting, real world sales men and call centres are obsolete and replaced by a business logic programmer.

2.2.2 Patterns of success and failure

The case studies that we used for our field test are all from different industries. The selected companies sell different goods, employ different numbers of employees, and their investments and ROIs are also quite

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disparate. Nevertheless, they show certain similarities in how they managed to become successful (or not). Since presumably "successful companies" are more likely to share information with case study authors, most of the companies portrayed in the eXperience database are "success stories". Examples for failure are rare.

As will be discussed later, possible patterns of success could be the commitment of the board, a widely accepted e-business-strategy, customers with above average IT knowledge, well-suited products for the e-channel and so on.

2.3 The Case Studies

This work is part of a larger project on case study research called Eurexis (EUropean EXperience In e-busineSs). Eurexis is the European extension of the Swiss eXperience database. Within the scope of this project, the academic partners aim at collecting different e-business case studies from different countries. Thereby the main focus is not to point out some aloof e-business solutions but to gather good or even best practice examples.

2.3.1 Selecting Cases

The case studies were selected following their perceived relevance for the discussed topic. Therefore all of the companies have at least an integrated e-shop. Furthermore, the authors chose case studies by categories such as "goods and services sold", "number of employees", "business focus" etc. (cf. table 2). N/A indicates missing or unknown information.

	No. of Employees	Business volume in CHF (2004)	No. of customers (2004)	% of sales on e-channel	No. of offered products	Business Focus	goods and services[3]	Local focusing[4]	established in	Value added			...
Debrunner & Acifer AG	1'100	n/a	n/a	n/a	120'000	B2B	T	N - I	1755		X	X	…
Stuco AG	100[1]	n/a	n/a	10%[1]	300[1]	B2B B2C	T	I	1898	X	X	X	…
Tonet AG	21	n/a	n/a	60%[2]	4'000	B2B	T	N	1959		X	X	…
Le Shop SA	74	27 mill.[1]	16'000	100%	6'000	B2C	T	N	1997			X	…
Lesen.ch	4	2.5 mill[1]	n/a	100%	2'000'000	B2B B2C	I	N	1998			X	…
blacksocks.ch	3.5	2 mill.[1]	14'000[1]	100%	1	B2C	T	N - I	1999			X	…

1.) assumption
2.) rate includes hits by sales force
3.) T = traditional good, I = information good
4.) N = national, I = international

Table 6: Characteristics of selected case studies

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In order to give the reader some ideas about the background of the companies, the case studies are summarized in the following paragraphs:

Debrunner & Acifer AG

Debrunner & Acifer is a B2B partner for the construction industry in the field of steel, house automation, fixing technologies, and tools. The focus of the CRM strategy was to integrate all available data about customers in one system so that every employee can support every customer in an adequate manner. The E-Shop of Debrunner & Acifer is one piece in the mosaic of the CRM strategy and serves predominantly to collect customer profiles. Further information on this case study can be found in: [Göckel 2004]

Stuco AG

The Stuco AG produces and distributes products in the field of safety at work. The focus of the e-business strategy was, on the one hand, to improve the customer services by means of attractive and individual ordering possibilities and professional search functions. On the other hand, the company intended to facilitate the work of the customer service employees. Furthermore, Stuco entered new markets by selling their goods across the internet. Further information on this case study can be found in: [Walser 2000]

Tonet AG

Tonet is a B2B retailer in the field of wood surface treatment. The aim of the e-business-strategy was to shift c-customers who often buy the same standardized products from the sales force to the e-shop. Furthermore, the e-shop was intended to support the sales force in daily business. Tonet offers its customers a broad possibility of getting in touch by following a clear and integrated multi channel strategy. Further information on this case study can be found in: [Dous/Glissmann 2004]

Le-Shop SA

Le-Shop SA was the first Swiss grocery shop on the internet. The e-business-strategy was therefore an integrated part of the business strategy. In the meantime, Le-Shop and Migros, the biggest physical supermarket chain in Switzerland, have consolidated their e-shops. Le-shop holds a market share of approximately 50% in the field of online grocery sales. Further information on this case study can be found in: [Gisler 2000]

Lesen.ch

Lesen.ch was the first Swiss online bookseller. Apart from books, lesen.ch also distributes software, games and DVDs. Lesen.ch is the only company within the chosen case studies which deals with so called informational goods. Further information on this case study can be found in: [Sieber 2001]

blacksocks.ch

Blacksocks.ch is a men's wear retailer that sells black socks on subscription, a so called sockscription. Subscribers receive black mid-calf or knee socks on a regular basis. Blacksocks.ch focuses on a strong customer relationship management ranging from various marketing activities to an emphasis on fair customer services. As blacksocks.ch traditionally has no real world stores and salesman, the relationship between vendor and customer is virtual in every sense. According to the simple – but effective – business model, the e-shop is in every aspect as simple as possible. Further information on this case study can be found in: [Walser 2001]

2.4 Enfolding Literature

Before we drill down the focus to virtual relationships and multi channel strategies, we ask the question "what are electronic markets and how do they emerge?". Picot, Reichwald and Wiegand state that "electronic markets emerge by mediatization of market transactions, thus the electronic reproduction of communication relations between market participants" [Picot et al. 2003][25]. This definition is probably right for the isolated view on electronic markets. Talking about electronic markets has nothing or at least not much to do with talking about electronic goods and services. Depending on the complexity of the sales process almost every product can be

[25] Original citation: „Elektronische Märkte entstehen durch die Mediatisierung von Markttransaktionen, also die elektronische Abbildung der Kommunikationsbeziehungen zwischen den Marktteilnehmern."

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sold online. Although electronic products – or products that can be transferred into electronic products – such as software and music seem to be predestined for electronic markets, the travel branch (with its non-electronic products) held 37% of the electronic market share in 2002. Also, in the early years of electronic commerce, traditional physical products like clothing and books held the biggest market shares [Picot et al. 2003]. Even though electronic products are likely to close this gap in the near future, the beginnings of internet commerce show that electronic markets are in no way limited to electronic products.

A substantial number of publications in the field of e-commerce outline the great potential of replacing or at least supplementing sales departments by IT, shifting the selling process to the e-channel, gathering huge amounts of data. The predictions may be true for the small group of innovation-driven companies. Reality looks slightly different. Meier [2004] points out that "most companies still ignore the power of information technology for treating their customer base". In a market survey also done by Meier, only 9% of 969 interviewed companies responded, that they use automatic recording of detailed customer attributes, using for example a web-interface [Meier 2004]. And even in the cases where they collected data, it was not assured that it was analyzed and interpreted in a reasonable manner.

From the above-mentioned paragraphs we would expect a huge potential in e-commerce applications. Almost every product can be sold on the e-channel and relevant customer information can be gathered. As more and more customers tend to switch channels during the buying process [Altherr/Bader 2004], it becomes obvious that an integrated and widely accepted multi channel strategy has to be set up. There is no need to collect data when they will not be used and there is no need to set up an e-shop when the sales department is not involved. The customer is not the customer of an e-shop or a department but of the company as a whole. Therefore Meier states: "The main objective is to manage customer relationships as an asset. Treating customers as an asset requires managing them, measuring them, and maximizing them." [Meier 2004]

2.5 Reaching Closure

Even if the chosen case studies are different in many ways, interesting similarities could be identified. Our analysis conveyed five key aspects. The black bars in figure 2 indicate the number of times that these factors could be found in the five case studies.

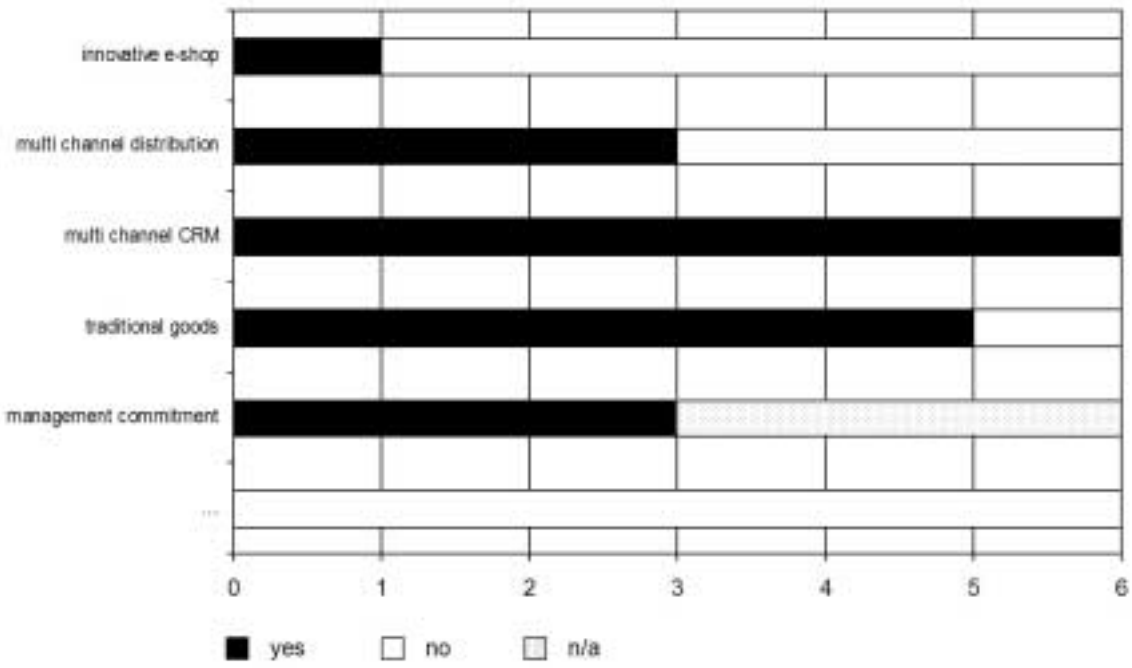

Figure 2: Patterns of success based on analyzed case studies

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Innovation

We expected to see that successful e-shops are highly innovative. Our research showed that the analyzed e-commerce applications are all very professional but discrete (not especially fancy). Only Le-shop built an e-shop that would qualify as "above average". The general focus of the e-shops lies on simple and useful interfaces that leave a certain amount of choice for the customer and offer support when it is really needed (passive) or obviously useful (active, e.g. address administration).

Multi-channel

The traditional retailers integrate e-commerce applications to enhance their channel portfolio and to build up an integrated customer relationship framework. For new market participants with e-channel strategies the lack of trust from the customers can be a serious problem. The necessity of an integrated multi channel strategy becomes obvious throughout all analyzed case studies. Even if some retailers started with an e-channel only, they soon realised that customers at least in some cases need the human touch of call centre agents.

Product type

It could be observed that goods and services that seem suited for the e-channel do not necessarily play the precursor in e-business.

Management attention

Every time management commitment was mentioned it seemed to have a strong impact on the success of the project and the e-business strategy.

3 Conclusion and Further Research

The purpose of this paper is to show how cross case analysis in the form of a down-to-earth approach can look like. Cross case analysis is a tightrope walk in many ways. Whereas asking an appropriate research questions seems to be relatively simple, the following problems are more difficult to solve: how do we find suitable and comparable case studies? What should and what can be compared/analyzed? Is there enough data available to gather meaningful information? Where do we get missing data? The list of questions is quite long.

In order to answer some of the above mentioned questions, the methodology of Eisenhardt represents a broad and helpful framework. The results of the first steps towards a cross case analysis in this paper show that cross case analysis also works in small research settings.

The idea of the authors is to refine and improve the process of case study analysis for further research. The CCA approach will particularly be part of future of student projects.

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