Management of Partner Ecosystems in the Enterprise Application Software Industry

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Für meine Eltern, die mir alles ermöglicht haben. Für meinen Bruder, der seinen "kleinen Bruder“, wann immer nötig, unter die Arme gegriffen hat. Für meine Kinder und meine Frau, sie sind mein Leben.

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List of Abbreviations

ALC	Alliance Life Cycle
B2B	Business-to-Business
BI	Business Intelligence
CFA	Confirmatory Factor Analysis
CRM	Customer Relationship Management
CU	Customer
DM	Document Management
EAS	Enterprise Application Software
EFA	Exploratory Factor Analysis
ERP	Enterprise-Resource-Planning
EWSECO	European Workshop on Software Ecosystems
GT	Grounded Theory
ISV	Independent Software Vendor
IWSECO	International Workshop on Software Ecosystems
MA	Management Area
OEM	Original Equipment Manufacturers
SECO	Software Ecosystem
SLR	Systematic Literature Review
SP	Software Partner
SV	Software Vendor
TS	Theoretical Sample
VAR	Value Added Reseller

1 Introduction

„No matter your situation, your success depends not just on your own efforts but also on the ability, willingness, and likelihood that the partners that make up your innovation ecosystem succeed as well" (Adner 2012b).

1.1 Partner Ecosystems in the Enterprise Application Software Industry

The enterprise software industry belongs to the network economy and is shaped by complementary and network effects. Thus, this industry behaves similarly to a massively interconnected network of organizations, technologies, consumers, and products. (Iansiti and Levien 2004c) In the past, companies that commercialized products did not pay much attention to „innovation coming from the side roads" (Gawer and Cusumano 2002, 2–3). In the early stages of the software industry, the value proposition for customers was the result of independent software companies developing monolithic software products. (Popp and Meyer 2010, 132–48; Buxmann, Diefenbach, and Hess 2013, 55) Their execution focus was on developing customer insight, building core competencies, and beating the competition. Thus, companies devoted less attention to external companies that were neither competitors nor customers. (Gawer and Cusumano 2002, 2–3; Adner 2012b, 2–3; Avila and Terzidis 2016)

However, in the enterprise software industry, this centralized and vertical perspective has changed significantly. Today's landscape differs radically from that two decades ago. The software industry is highly fragmented, and specialized software companies have emerged offering complementary services and products. (Popp and Meyer 2010, 132–48; Buxmann, Diefenbach, and Hess 2013, 55) Management disciplines such as customer development and competitive analysis remain vital; however, they represent necessary but insufficient conditions for success. The management of dependencies with a multitude of external complementary companies is equally important when it comes to determining success and failure. (Adner 2012b, 2–3; Avila and Terzidis 2016)

Companies in the enterprise software industry must not only offer customers a single core software product but also additional business services as well as access to complementary products and components. Making such complementary services and products available is extremely labor-intensive and demands highly qualified specialists. Thus, the development of a critical mass of resources to be able to offer customers a whole solution is crucial for a strong position in the market. For companies restricted by size, finances, and resources, developing an external ecosystem of partners can be a valuable way for assembling such resources, as well as overcoming limitations and avoiding being growth-constrained. Especially in the enterprise software industry, partner ecosystems are responsible for a significant percentage of the value creation of numerous companies (Avila and Terzidis 2016). For example, in 2015, partners were responsible for nearly 90% of new software customers for the company SAP, and nearly 55% of all SAP S/4 HANA software license deals were won by partners. (SAP SE)

The dynamics of an interconnected network of partners offering complementary services and products on top of the software vendor's core product must be considered. Consequently, the management of partner ecosystems has shifted in the last decades from the periphery to the center of many software

companies. Furthermore, the focus of competition has moved from the management of internal resources to the management and influence of complementary assets that are beyond a company's borders. (Gawer and Cusumano 2002, 2–3) In such an environment, the success of a software company depends not only on its core products but also on its ability to manage an ecosystem of external complementary companies. Customers no longer decide on a single software product but on a software ecosystem, where a software vendor and its partners create value for them. (Jansen and Cusumano 2013; Torrisi 1998; Avila Albez 2016) Partners are considered a crucial element of a software vendor´s ecosystem. Consequently, software companies in the enterprise software industry must adopt an ecosystem perspective on management and require a systematic approach to manage an ecosystem of interrelated business partners.

1.2 Structure of the Thesis

The following chapter presents the overall structure of the thesis and provides a brief overview of each chapter. The thesis consists of the following chapters.

Chapter 1 introduces the subject addressed by the focal research project and provides a first overview of the research context. Furthermore, the current chapter briefly describes the structure of the thesis and presents the related publications included herein.

Chapters 2 sets up the context of the conducted research. For this purpose, the researcher offers an overview of the enterprise application software (EAS) industry and characterizes the research in the domain of software ecosystems (SECOs).

Chapter 3 describes the central objective of the thesis as well as the formal research questions that emerged from this underlying research objective.

Chapter 4 presents the overall research approach and the research design realized in the thesis. The researcher followed a mixed-methods approach. The approach, its implementation in the thesis, and the integration of the various research methods are described.

Chapter 5 introduces the researcher's Grounded Theory (GT) study as the starting point for the focal research project. Through the GT study, four core categories were identified that represent the central management areas a software vendor must address to manage a partner ecosystem. Additional research was conducted to validate these results, increase the generalizability, and improve the understanding of the identified management areas.

The results of the GT study, as well as the research activities that were conducted as complementary to these results, are detailed in the following chapters.

Chapter 6 describes management area one (partner selection). This chapter describes the identified selection criteria against each candidate partner should be evaluated to determine its suitability for a software vendor's partner ecosystem.

Chapter 7 presents the integration of the partner selection criteria with their equivalents in existing cross-industrial studies in the research domain of strategic alliances and partnerships.

Chapter 8 comprises the quantitative validation of the partner selection criteria and related adjustments to management area one.

Chapter 9 introduces management area two (partner management). This chapter describes the areas that a software vendor must systematically manage vis-à-vis its relationship with each individual partner.

Chapter 10 describes the integration of the findings of the GT study regarding management area two with the relevant body of knowledge in the research domain of alliance life cycle (ALC) management.

Chapter 11 outlines the two closely related management areas: management area three (partner program) and management area four (partner network). Management area three addresses the need to offer a standardized partner program to manage a multitude of partners simultaneously and reach a consistent level of quality across all of them. Management area four focuses on the building blocks relevant to fostering collaboration and communication among the partners of an ecosystem.

Chapter 12 outlines the qualitative validation of management areas 3 and 4 through a cross-case analysis of three primary case studies. This cross-case analysis allowed the researcher to validate the previous GT results, further investigate the phenomenon, obtain a deeper and more comprehensive understanding of the respective management areas, and increase the generalizability of the results.

Chapter 13 describes the qualitative validation of all four management areas through employing a focus group. To qualitatively validate all four management areas, the researcher exposed the developed theory to a board of experienced experts and subsequently refined it.

Chapter 14 is the final chapter of the thesis and provides the conclusions. It summarizes the results and limitations as well as describes the implications of the findings for the industry as well as the research community. This chapter also suggests areas for future additional research, which would evolve the understanding of the identified management areas and their dynamics.

1.3 Related Work and Publications

The researcher observed that two central communities of experts exist investigating the topic of SECOs within a business context. These communities are organized through two annual conferences: the International Workshop on Software Ecosystems (IWSECO) and the European Workshop on Software Ecosystems (EWSECO). The researcher presented different aspects of the focal thesis at these conferences. One full paper (IWSECO) and two presentations (EWSECO) were published in the corresponding conference proceedings. In addition, the researcher submitted two full papers at G-Forum, the annual interdisciplinary conference on entrepreneurship and innovation. Finally, a method paper was submitted and published in the International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering.

In sum, four papers were submitted and accepted through a double-blind peer review process. In addition, two abstracts for presentations were submitted and accepted through a single-blind peer review process. The research won the EWSEO 2015 presentation award and was second place at EWSECO 2016. Table 1 presents an overview of the related work.

1.3.1 Submission Process

The researcher presented the first findings of the GT study at EWSECO 2015. A deeper analysis of management area one, partner selection, was submitted as a full paper and presented at G-Forum 2016. At EWSECO 2016, the researcher discussed the first results of the integration of the partner selection criteria within their counterparts in the research domain of strategic alliances and partnerships. In addition, a full paper was submitted and accepted for G-Forum 2017. This paper presented the final results on the comparative literature review on partner selection criteria. Finally, at IWSECO 2016, the researcher summarized the results of his previous study (management area one) and unfolded those of the analysis of the remaining management areas (2, 3, and 4). In addition, a method paper was published in the International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering. This paper introduced a research approach that supports researchers in identifying and focusing on critical areas of a research project while preventing the formation of prejudiced concepts by the current body of literature.

Table 1: Overview of the Related Work

Titel	Conference/Journal	Submission Type	Review Process	Publication	Source
Management of Partner Ecosystems in the Enterprise Software Industry	EWSECO 2015	Abstract	Single-Blind Peer Review	Abstract and presentation	(Avila Albez and Terzidis 2016)
Management of Partner Ecosystems in the Enterprise Software Industry – The Partner Selection	G-Forum 2016	Conference Paper	Double-Blind Peer Review (two reviewers)	Paper via ResearchGate (uploaded by the authors)	(Avila Albez 2016)
Management of Partner Ecosystems in the Enterprise Software Industry: The Partner Selection – A Comparison of Partner Selection Criteria with Existing Literature	EWSECO 2016	Abstract	Single-Blind Peer Review	Abstract and presentation	(Avila Albez and Terzidis 2016)
Management of Partner Ecosystems in the Enterprise Software Industry	IWSECO 2016	Paper	Double-Blind Peer Review (5 Reviewer)	Paper	(Avila and Terzidis 2016)
The Analysis of Secondary Case Studies as a Starting Point for Grounded Theory Studies – An Example from the Enterprise Software Industry	International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering (2017)	Paper	Double-Blind Peer Review	Paper	(Avila and Terzidis 2017)
Building Ecosystems in the Enterprise Software Industry – A Comparative Literature Review on Partner Selection Criteria	G-Forum 2017	Conference Paper	Double-Blind Peer Review (two reviewers)	Not published	(Avila Albez 2017)

1.3.2 Original Work

As previously described, parts of this thesis have been presented and discussed at relevant scientific conferences. The first results of the GT study were presented and discussed at EWSECO 2015 and subsequently published. Thus, some aspects and figures of chapters 5, 6, 9, and 11 have appeared in this publication.

In addition, the four identified management areas were outlined at IWSECO 2016. Therefore, significant parts of chapters 9 and 11 and some content of chapters 1, 2, 3, 4, 5, 6, 7 and 12.6 were presented at this conference and subsequently published in the conference proceedings (cf. Appendix I, Table A).

Moreover, the significant content of chapter 5 and the deep-dive in the partner selection criteria reported in chapter 6 were presented at G-Forum 2016, and subsequently made available via the science portal ResearchGate (cf. Appendix I, Table A).

The preliminary results of the comparative literature review on partner selection criteria were presented at EWSECO 2016. Thus, the core elements and some core figures of chapter 7 appeared at the corresponding conference proceedings.

Furthermore, the final findings of the comparative literature review on partner selection criteria outlined in chapter 7 were submitted as a full paper and presented at G-Forum 2017 (cf. Appendix I, Table A).

The method paper published in the International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering (2017) covered significant aspects and content presented in chapter 5 of this thesis (cf. Appendix I, Table A).

Finally, a mixture of the introductory elements of all of the above-mentioned original work was used for the introduction of the research topic in chapter 1.1. (cf. Appendix I, Table A).

2 Background and Research Context

This chapter first introduces the enterprise application software (EAS) industry. Next, the research in the domain of SECOs is characterized, and subsequently, the research context of the focal study is set up.

2.1 The EAS Industry

The enterprise application software (EAS) is not only critical as an industry in and of itself but also a crucial driver in many other industries (Cole and Fushimi 2010). Today, numerous companies operate in different geographic locations and work in various industries. This can create a variety of challenges, such as those associated with „language, currencies, different regulatory requirements, and diverse industry expectations" (Plattner and Zeier 2012). Consequently, companies must keep track of significant amounts of information across different business areas and manage it efficiently. Modern enterprise applications cope with these demands and enable companies to manage their business. EAS, such as enterprise resource planning (ERP) software, is used in a variety of industries, such as aerospace and defense, telecommunications, banking, and industrial machinery. (Plattner and Zeier 2012) EAS serves the strategic goals of companies in different industries. (Le Clair 2005) Gartner estimated that the EAS market will grow globally at a 5-year compound annual growth rate of 9.8% and reach US$305.8 billion in 2022 (Gartner Research 2018). This market can be segmented mainly into Enterprise-Resource-Planning (ERP), supply chain management, customer relationship management (CRM), and business Intelligence (BI) software, as well as into many other smaller segments such as project portfolio management, document management (DM), and application infrastructure and middleware software (Statista 2017).

2.1.1 EAS

EAS has a variety of categories; however, its common characteristic is that it supports companies in realizing and executing organizational core functions and processes such as sales, finance, and operations. EAS packages are software systems that support companies in managing their businesses. EAS can integrate and process data from various business areas, creating a holistic perspective of the entire enterprise (Plattner and Zeier 2012). Usually, EAS packages provide a degree of automation for the implementation of business processes as well as for supporting tasks such as planning and data analysis (Plattner and Zeier 2012). This type of software differs from other types in that it offers support exclusively in a business setting. This means that EAS is sold from companies (software vendors) to companies and not to individuals. Consequently, the EAS market represents a B2B market. EAS differs from other business software such as word processing applications because it can extract data automatically from relevant sources, present relevant information for a specific context, offer a foundation for decision-making, and enable business units to optimize their processes and operations. (Plattner and Zeier 2012; Cusumano 2004)

2.1.2 Characteristics of the EAS Industry

This subsection offers an overview of the main characteristics of the EAS industry. Although some of the presented characteristics apply to the software industry in general, the researcher has written this chapter from the perspective of a software vendor in the EAS industry. The objective is to offer a sense of the industry's nature.

The EAS industry differs significantly from traditional industries, not only because of the unique characteristics of software products but also the nature of the market itself. (Cusumano 2004, 1; Jansen, Cusumano, and Brinkkemper 2013, 2–3; Messerschmitt and Szyperski 1979, 2–12; Buxmann, Diefenbach, and Hess 2012, 3–4)

2.1.2.1 Software as a Product

The characteristics of software products differ significantly from those of traditional physical products. Software products are not affected by physical limitations, and can be formed in a variety of manners without being constrained by physical barriers. Instead, software as a product is mainly restricted by social, economic, and conceptual limitations. Furthermore, software products can be reproduced without loss of quality and variable costs close to zero. Because of their digital form, companies are able to develop standardized products, which are also customizable for individual customers. Consequently, with relatively little effort it is possible to develop derivatives of a software product and sell them to different market segments. (Cusumano 2004, 1; Jansen, Cusumano, and Brinkkemper 2013, 2–3; Messerschmitt and Szyperski 1979, 2–12; Buxmann, Diefenbach, and Hess 2012, 3–4)

EAS serves a wide range of customer segments in various industries. Companies in each target segment expect their customized software to be a tailored version that serves their specific business needs. Thus, successful EAS should allow parameterization, customization, adaptation of existing standard processes to customer-specific demands, and the creation of industry-specific derivatives. Furthermore, because EAS is at the heart of a company, access to the software is required at all times. This implies that the software must provide recovery mechanisms, such as those for power failures and data loss. Moreover, EAS is often used in an international context, which means that the software used internationally must be internationalized to permit users to interact with the software in their own language; furthermore, it must be conforming with national and international regulations and laws. (Plattner and Zeier 2012)

2.1.2.2 Complexity

Because software products are not limited by physical constraints and instead mainly restricted by social, economic, and conceptual limitations, they can become highly complex. This complexity can even reach a point where conceptual limits hinder the products' management. (Messerschmitt and Szyperski 1979, 6) Furthermore, because EAS is used to realize and execute core functions and processes of companies, the software can reach a high level of complexity in both implementation and use. In addition, to leverage the advantages of enterprise software, infrastructures and products from multiple software companies must work together in complex manners across organizational boundaries. (Moore 2005) assigned such types of complex business to a category of business that he coined „complex systems architecture." „Complex-systems architecture specializes in tackling complex problems and coming up with individualized solutions with a high proportion of consultative services" (Moore 2005, 29).

2.1.2.3 Business Services

Given the degree of complexity regarding the implementation and use of EAS, offering business services is a vital element for most EAS companies (Cusumano 2010a). Thus, software companies often evolve to a point where they must offer a combination of products and services. Their technologies are often too complex to package as "off-the-shelf" products. (Cusumano 2004, 29) Consequently, to be able to offer their customers the whole solutions, they must sell not only software licenses but also customization services, special integration work with other software systems, implementation, maintenance, technical support, consulting, and training. Most corporate clients demand business services along with software products; thus, for most enterprise software companies, the pairing of software products and services is impossible to separate. (Cusumano 2004, 43)

2.1.2.4 Complementarity

This implies that the value of a software product in the EAS industry depends not only on the software product itself but also on complementary components, products, and services that extend the spectrum of the core software product. As previously described, complementary services along the value chain are often necessary to adapt software to individual customer needs, integrate it into the customer's infrastructure, and exploit the software's full value. In sum, the synergies created by a software vendor's core product and complementary products, components, and services are vital in the EAS industry and create more value than a single product-oriented company could generate. (Cusumano 2010a; Cusumano 2004)

2.1.2.5 Partner Ecosystems

However, software companies that become significantly involved in customizing their products, providing complementary business services, integrating their products with other software systems, and increasing their value through complementary components rely heavily on labor-intensive work. (Cusumano 2004, 26) EAS customers are usually not interested in a particular software product, rather, their main concern is to find a solution for their business problems and implement their business processes as efficiently as possible. Given the complexity and interdependence of EAS, the desired solution is usually not reached through a single software product; it demands critical customization and implementation efforts. Thus, collaboration with complementary partners could be critical for a software vendor. (Kittlaus and Clough 2009, 26–27) In addition, competition in the software industry has widened from national to regional and global arenas. Therefore, to remain competitive, building a critical mass of resources is extremely important to be able to offer target markets complementary services and products. However, software vendors are restricted by the size and availability of their staff, especially because on-site presence remains a key element for software implementations in the B2B market. Thus, local presence and availability is a crucial deciding factor for potential customers. Companies affected by such effects require an external ecosystem to reach a critical mass of complementary resources. The co-creation between the software vendor and complementors has a significantly higher potential for growth and innovation than a single company could generate alone. A single company just cannot do it all alone. No matter how large a company is, it cannot replace a whole industry of complementary and specialized solutions, and neither can it offer all its target markets a local presence and services alone. Resources and time are limited; a software vendor profits from a network of partners through complementary products and services that add value to its own products in a manner that would not be possible without cooperation. The objective is to avoid being growth-constrained by the size of its own staff, and thus, to encourage external companies to contribute complementary services and products. These

companies form the partner ecosystem. (Cusumano 2010b, 22; Doz and Hamel 1998, 39; Roberts, Lassiter III, Joseph B, and Tempest 2000, 2; Buxmann, Diefenbach, and Hess 2013, 20–24)

„For software more than for other products, a well-oiled network machine of diverse partners is a significant prerequisite for long-term success in addition to the traditional direct sales channels" (Kittlaus and Clough 2009, 26).

2.1.2.6 Network Effects

In the software industry, the term "network effects" refers to the degree to which every additional user (direct network effects) and every additional complement to a core software product (indirect network effects) increase the value for users of the same network. (Buxmann, Diefenbach, and Hess 2013, 20–24) Direct network effects result from the fact that by using the same software standards or technologies, users of the same network can communicate with each other more easily and cost-effectively. For example, the use of standardized formats allows the exchange of business documents between different ERP software. Indirect network effects emerge from the dependency between the use of a core software product and the use of complementary products and services. They arise when the wider adoption of a software product generates a broader range of associated products and services, which enhances the value of the core software product. Such network effects lead to demand-side economies of scale and to positive feedback, which leads to increasing returns (Katz and Shapiro 1985). Positive feedback refers to the self-reinforcing cycle that makes the strong become stronger and the weak weaker. These network effects are an enormous impulse behind users selecting widely adopted software products, as well as preferring software vendors who can offer them strong network effects. This means widely used software and a multitude of partners that offer complementary services and products on top of a software vendor's core product. This phenomenon can also lead to a lock-in effect. Once a software product is widely used, the switch from this product to a rival one is usually related to significant costs in terms of organizational changes. In addition, these network effects create a high barrier to potential rivals. The uncertainty about how many other users may switch to a new software product and the absence of complementary component partners creates a significant barrier for new market entries. (Buxmann, Diefenbach, and Hess 2013, 20–24)

Understanding the above-mentioned characteristics is fundamental for understanding the nature of the EAS industry.

2.2 The Research Field of SECOs

The research field of SECOs is relatively young and still in a formative phase. The concept was arguably coined in 2003 by Messerschmitt and Szyperski, and the first papers appeared in 2007. (Manikas and Hansen 2013b; Manikas 2016; Avila and Terzidis 2016) Since then, a wide variety of various phenomena and aspects have been explored. The understanding of SECOs is very wide and arguably complex. Research addresses them from the perspective of fields such as software engineering, software architecture, organizational theories, network analysis and visualization, business management, and technical management. (Manikas and Hansen 2013b; Manikas 2016; Avila and Terzidis 2016)

2.2.1 Definitions of SECO

Depending on the perspective of the research activities, different definitions of SECO exist. However, according to (Manikas and Hansen 2013b), most of the definitions can be traced back to four primary sources.

(Messerschmitt and Szyperski 2003) coined the term in 2003, and consequently, this represents the oldest published definition: „Traditionally, a software ecosystem refers to a collection of software products that have some given degree of symbiotic relationships." (Messerschmitt and Szyperski 2003)

(Jansen, Finkelstein, and Brinkkemper 2009) used the following definition: „We define a software ecosystem as a set of businesses functioning as a unit and interacting with a shared market for software and services, together with the relationships among them. These relationships are frequently underpinned by a common technological platform or market and operate through the exchange of information, resources and artifacts." (Jansen, Finkelstein, and Brinkkemper 2009)

(Lungu et al. 2010) provided the following description: „A software ecosystem is a collection of software projects which are developed and evolve together in the same environment." (Lungu et al. 2010)

(Bosch 2009) and (Bosch and Bosch-Sijtsema 2010) used two definitions in their research projects:

„A software ecosystem consists of the set of software solutions that enable, support and automate the activities and transactions by the actors in the associated social or business ecosystem and the organizations that provide these solutions." (Bosch 2009)

„A software ecosystem consists of a software platform, a set of internal and external developers and a community of domain experts in service to a community of users that compose relevant solution elements to satisfy their needs." (Bosch and Bosch-Sijtsema 2010)

The definition of (Messerschmitt and Szyperski 2003) focused on the product perspective of a software ecosystem integrating the existing relevant relationships. (Lungu et al. 2010) described the ecosystem from the perspective of software-based projects. Thus, this definition implicitly incorporated the relevance of services. In addition, it considered that these projects occur within the same environment. In both definitions, the business perspective was neglected. (Jansen, Finkelstein, and Brinkkemper 2009) emphasized not only the business aspect of a software ecosystem but also described the relationships among market participants and underlined their importance. Similarly, the definitions provided by (Bosch 2009) and (Bosch and Bosch-Sijtsema 2010) integrated a business and a network perspective.

(Manikas and Hansen 2013b) compared and analyzed the above-listed definitions, and based on the results of a systematic review of SECO literature, derived three main elements that appeared often in papers when defining it: common software, business, connecting relationships. (Manikas and Hansen 2013b) combined the definitions with these three defined elements, resulting in an integrated definition of SECO.

„We define a software ecosystem as the interaction of a set of actors on top of a common technological platform that results in a number of software solutions or services. Each actor is motivated by a set of interests or business models and connected to the rest of the actors and the ecosystem as a whole with symbiotic relationships, while, the technological platform is structured in a way that allows the involvement and contribution of the different actors" (Manikas and Hansen 2013b).

This definition is aligned with the perspective of the focal study. However, for the cause of this research project, this definition must be complemented by the fact that SECOs are usually supervised and managed by one or more coordinating companies that profit when the ecosystem grows. (Jansen and Cusumano 2013) SECO coordinators are beneficiaries of SECO growth. They use instruments to influence the development of the platform or the surrounding ecosystem and are mainly responsible for further improvements of the underpinning technology. In most cases, these coordinators control the core technology upon which the ecosystem is based. Software ecosystem coordinators can be a commercial company (software vendor) that builds a software platform but also consortia behind open source platforms. (Jansen and Cusumano 2013) However, the focal research project was conducted through the lens of a commercial company (a software vendor). (Avila and Terzidis 2016)

2.2.2 Roles in a SECO

SECOs consist of multiple actors that interact directly or indirectly with each other and provide a contribution to the ecosystem. (Knodel and Manikas 2015; Manikas and Hansen 2013b) These actors are driven by value creation both toward the actor and the ecosystem. Value can be either monetary or strategic. However, these activities usually lead to a contribution to the ecosystem. Within an ecosystem, an actor can take one or various roles. (Manikas 2016)

Although SECO research is expanding, little consensus exists on what constitutes a SECO. No unified or established SECO roles exist because this research area is still in its infancy and a significant amount of work is required to understand the roles and relationships within a SECO. Consequently, a variety of definitions and perspectives exists. (Manikas and Hansen 2013b) However, this may also be because the nature of a SECO differs significantly based on its business context and market. One type of SECO is not the same as another type; for example, SECOs in the EAS industry, such as the SAP partner ecosystem, may have upon first examination some common element as app ecosystems, such as Apple's App Store (e.g., a core platform product). However, a closer look reveals that they differ significantly in nature, resulting in different roles, relationships, and behaviors of the actors. Similarly, business software packages such as the collaboration software Trello differ among other aspects regarding scope, complexity, and business integration from an EAS application such as abas ERP. These differing characteristics of a software product shape the roles and relationships of a SECO.

Inspired by natural ecosystems, (Iansiti and Levien 2004a) developed a framework for business ecosystems and described three main roles that are involved in one: keystones, dominators, and niche players. (Iansiti and Levien 2004b; Iansiti and Levien 2004c)

Keystones play a vital role in business ecosystems. These organizations are strongly connected hubs that offer a robust and predictable platform upon which other participants of the ecosystem can depend. Keystones ensure their survival and health by improving the health of the ecosystem. For this purpose, they improve the ecosystem's productivity, robustness, and niche creation capabilities. Keystones increase productivity by simplifying the connections among ecosystem participants and facilitating the creation of third-party products. They evolve ecosystem robustness by continuously investing in new technologies and providing a reliable foundation for ecosystem participants. They provide the foundation for creating a variety of niches by offering technologies to a multitude of third-party organizations and offering an evolving infrastructure. (Iansiti and Levien 2004b; Iansiti and Levien 2004c)

As keystones, dominators shape the business ecosystem. However, by contrast, ecosystem dominators progressively take over their ecosystem. They eliminate other players in their market, expand into new markets, which they then dominate or eliminate. Dominators wield their clout more traditionally, exploiting a critical position to take over the whole ecosystem or extract as much value out of it as possible. This strategy may often be successful in the short term, but damages the health of their ecosystems by diminishing diversity, restricting consumer options, and hindering innovation. (Iansiti and Levien 2004b; Iansiti and Levien 2004c)

Niche players leverage the resources of an ecosystem keystone and develop complementary capabilities that differentiate them from other members of the ecosystem. They use tools, technologies, services, and standards offered by the keystones in their ecosystem, allowing niche players to focus on the building of business and technical abilities that support their niche strategy. In a healthy ecosystem, niche players represent the majority of ecosystem participants and are responsible for most of the value creation and innovation. They develop new products and explore new markets. (Iansiti and Levien 2004b; Iansiti and Levien 2004c; Iansiti and Levien 2004a)

Aligned with the conclusion of (Iansiti and Levien 2004a), (Jansen, Brinkkemper, and Finkelstein 2013) claimed that in a healthy SECO only two of the above-mentioned roles might be performed sustainably. One role is that of a keystone that provides the foundation for the ecosystem, and the other is that of a niche play that develops value on top of the keystone's resources. (Jansen, Brinkkemper, and Finkelstein 2013) argued that in the long term, a dominator might destroy an ecosystem. Dominators progressively assimilate or eliminate other ecosystem players. The result is that once a critical mass of the ecosystem is eliminated, the dominator represents the only source of innovation, yet still requires sufficient resources to serve the whole customer base. (Jansen, Brinkkemper, and Finkelstein 2013)

Derived through the analysis of 90 relevant studies, (Manikas and Hansen 2013b) classified five roles associated with actors in a software ecosystem: orchestrators, niche players, external actors, vendors, and customers.

The orchestrator represents an organizational unit (e.g. a company, a department, or a community) that is responsible for the operability of the SECO and manages (orchestrates) it. The orchestrator is responsible for governing the ecosystem and supporting the actors to the extent required to satisfy the ecosystem's needs and principles. For this purpose, it runs the platform, as well as designs and applies rules, processes, and business procedures. It sets up and monitors quality standards and manages the relationships among the SECO actors. Thus, this role influences the ecosystem significantly. (Manikas 2016; Manikas and Hansen 2013b)

The niche player creates value for the ecosystem by providing complements on the top of the orchestrator's resources. This is usually done through developing and adding components to the platform that address customer needs. Depending on the nature of the ecosystem, niche players may have an influence on the orchestrators' decision-making. (Manikas and Hansen 2013b)

An external actor is defined as a participant in the ecosystem that uses the possibilities of the ecosystem, thereby providing indirect value to it. This actor might, for example, develop on top of the SECO platform or promote the SECO and its solutions. However, typically, this actor is external to SECO management and has an activity limited to the actor's interest. (Manikas and Hansen 2013b)

A vendor principally represents a software company or business entity that makes a profit from selling the products or services of the SECO to customers or other software vendors. Vendors may also modify the SECO product, such as by adding functionality or combining different components into a customer solution, in which case these vendors are named value-added resellers (VARs). (Manikas and Hansen 2013b)

A customer is a business unit that either acquires a complete or partial product of the SECO or a niche player of the SECO. The customer obtains the product either directly from the SECO or niche player or alternatively through a software vendor. (Manikas and Hansen 2013b)

In the context of this research project (i.e., SECOs in the EAS industry), the researcher referred to the following three primary roles: software vendor (ecosystem orchestrator), software partners, and the customers. These definitions are mainly based on and aligned with the perspectives of (Manikas and Hansen 2013b) and (Iansiti and Levien 2004b) and adapted to the context of the focal research.

2.2.2.1 Software Vendor (SV)

The researcher describes the SV as the organization unit (usually a company or department of a company) responsible for governing the ecosystem and supporting its actors. The SV ensures its success and health by enabling its software partners and improving the health of the ecosystem as a whole. It represents a strongly connected hub that offers a robust and predictable product on which other ecosystem members can depend. The SV runs the core product(s) on the fundament that the SECO actors can create value. It designs and applies rules, processes, standards, and business procedures. The SV enables its partners, sets up and monitors quality standards, and manages the relationships among the software partners. Thus, the SV increases productivity by simplifying connections among ecosystem participants and facilitating the creation of third-party products. In addition, by continuously investing in new technologies and providing a reliable foundation for ecosystem participants, it evolves the robustness of the ecosystem. Finally, the SV provides the foundation for creating a variety of niches by offering technologies to a multitude of third-party organizations and offering an evolving infrastructure.

2.2.2.2 Software Partner (SP)

The aforementioned roles of niche player, external actor, and vendor were grouped into the role SPs. SPs provide value by offering complementary products, components and/or business services on the top of the SV's core product(s). For this purpose, SPs leverage the resources of the SV and develop complementary capabilities.

Depending on the business activities addressed by a partner, different partner categories can be distinguished. For example, VARs that sell and enrich the SV's product through complementary solutions; independent SVs (ISVs), whose solutions are based on the SV's core product(s); original equipment manufacturers (OEMs), who embed the SV's product into their own product without the SV's branding, and system integrators (SIs), which take over the customer-specific software implementation project, offer complementary business services, and add solution components. An SP can exist in one or more of these categories. (Kittlaus and Clough 2008, 34–35)

2.2.2.3 Customer (CU)

A customer represents a business unity (usually a company or department of one) that expects a comprehensive solution to its business problems. For this purpose, a customer obtains a solution that is usually composed of software products and components paired with business services. These business

services are required for the implementation of the solution and its integration into the customer's business infrastructure. The customer receives the elements of the solution either directly from the SV or the SV's partner or as a joint solution from both.

2.2.3 Research on SECOs

A wide variety of research exists on SECOs in diverse contexts and from various perspectives (Avila and Terzidis 2016). For example, studies have been conducted related to the system architecture and technical platform of SECOs (Bosch 2010; Cataldo and Herbsleb 2010; dos Santos, Rodrigo Pereira and Werner, Cláudia Maria Lima 2010; Kazman, Gagliardi, and Wood 2012; Lungu, Robbes, and Lanza 2010; Robbes and Lungu 2011; Viljainen and Kauppinen 2011), measuring the health and performance of SECOs (Fotrousi et al. 2014; Hartigh, Tol, and Visscher 2006; Jansen 2014; Manikas and Hansen 2013a; van den Berk, Ivo, Jansen, and Luinenburg 2010), focusing on the business perspective (Burkard, Widjaja, and Buxmann 2012; Popp and Meyer 2010; Popp 2011; Weiblen et al. 2012), or examining the modeling of SECOs (Boucharas, Jansen, and Brinkkemper 2009; Handoyo; Handoyo, Jansen, and Brinkkemper; Handoyo, Jansen, and Brinkkemper 2013a; Handoyo, Jansen, and Brinkkemper 2013b; Pettersson et al. 2010).

Research has addressed SECOs from the perspective of various fields, such as software engineering, software architecture, organizational theories, network analysis and visualization, business management, and technical management (Manikas and Hansen 2013b; Manikas 2016). (Barbosa12 and Alves 2011) identified eight areas that have been studied from the perspective of SECOs: (1) SECOs regarding open source models; (2) modeling techniques to represent or analyze SECOs; (3) software evolution as part of a SECO strategy; (4) software architecture; (5) software product lines in the context of SECOs; (6) business aspects of SECOs; (7) software co-innovation; and (8) operating systems.

Research on SECOs is gaining relevance, and research activities are continuously increasing. Nevertheless, this research domain is still in its infancy, with the first papers published in 2007 (Manikas and Hansen 2013b; Manikas 2016). (Manikas and Hansen 2013b) and (Manikas 2016) identified through a longitudinal literature study that the research field lacks theories specific to SECOs, and the results of the few that exist are usually not generalizable. Furthermore, (Manikas 2016) concluded that the following characteristics describe the majority of existing studies: empirical but specific and/or temperature measuring. Empirical but specific refers to studies that examine a particular problem in one or more ecosystems, but either the problem or the solution is profoundly coupled to the ecosystem(s) and not easily generalizable. Temperature measuring is related to studies that apply a set of methods (often from other domains) to observe a particular phenomenon in an ecosystem resulting in the results being interpreted based on assumptions. Moreover, (Manikas and Hansen 2013b) and (Manikas 2016) remarked that little investigation has been performed in the context of real-world ecosystems. A relatively small number of studies have investigated existing ecosystems, and the majority of such studies have investigated open source ecosystems. Furthermore, the majority of examined studies were reports, and thus contributed through acquired knowledge and experience, rule of thumb, or exciting observations. However, they often lack a systematic approach and are difficult to generalize. This is also related to a significant number of papers being based on single studies that are difficult to generalize. Consequently, the research field is lacking specific and generalizable theories, methods, and tools. (Manikas and Hansen 2013b; Manikas 2016)

This focal research aims to contribute to closing the above-mentioned gaps in three ways. First, the results of the thesis reflected not just a single case but the integration of the findings gained through the implementation of a variety of mixed research methods. Second, among other elements, the research investigated three existing ecosystems, concluding in a cross-case analysis. Third, this thesis resulted in the development of a structured theory for the management of partner ecosystems in the enterprise software industry. Thus, it contributes using a systematic approach that is generalizable within the EAS industry.

3 Research Objective and Research Questions

'Would you tell me, please, which way I ought to go from here?'
'That depends a good deal on where you want to get to,' said the Cat.
'I don't much care where—' said Alice.
'Then it doesn't matter which way you go,' said the Cat. (Carroll 2000, 51)

Without a clear understanding of the research objectives, it is difficult to plan how to reach them. Consequently, clarifying and formulating research objectives and corresponding research questions are crucial. (Saunders, Lewis, and Thornhill 2012, 26–27)

This chapter is concerned with formulating the research problems, specifying the corresponding research objectives, and describing the specific research questions being asked. The statement of the problem establishes the objective of the research project, and the research questions provide further guidance. However, to comprehend the research endeavor fully, the researcher also summarizes the perspective that has been taken in the research project. Taken together, these elements comprise the setting of the thesis.

3.1 Problem Statement, Research Objective, and Research Question

The center of a research project is the research problem. Thus, identifying it in the first step is crucial. Partners in the EAS industry are responsible for a significant percentage of the value creation of many SVs. Furthermore, the success of a software company depends on its ability to manage a multitude of complementary partners (Jansen and Cusumano 2013; Torrisi 1998). Despite this fact, many companies still struggle to understand the management of partner ecosystems. (Avila and Terzidis 2016)

Problem Statement

The core problem addressed by this thesis is the challenge SVs face in the EAS industry in managing a complex and multidimensional ecosystem of partners.

Research Objective

The corresponding research objective of this thesis is to develop a theoretical framework (a theory) that is well grounded in empirical data, creates an adequate model of reality and offers practitioners strong guidance for the management of partner ecosystems in the EAS industry.

Research Questions

Originating from the above-mentioned problem statement and research objective, the following research question was asked: What are the building blocks for a model of the management of partner ecosystems in the EAS industry? This research question offered additional guidance and supported the research to narrow the research scope.

3.2 Research Subproblems and Research Subquestions

Through the course of action for the thesis, four management areas were identified that an SV must address to manage a partner ecosystem in the EAS industry. These identified management areas represent the building blocks for the management of partner ecosystems, and thus, they represent a preliminary solution to the main research problem; however, they also require further research. Consequently, four subproblems and their corresponding research question emerged that represented subsections of the main research problem and allowed the researcher to break the problem into manageable units. The subproblems constitute the logical subarea of the whole research project. Each of the subproblems was researched as a separate subproject within an entire research project. The integration of the solutions of the subproblems was combined to resolve the overarching problem.

The following section describes the four subproblems together with the corresponding research questions.

3.2.1 Sub-problem 1: Partner Selection

Sub-problem 1: The selection of suitable partners based on well-defined selection criteria has been identified as a crucial factor for the success of an SV's partnerships, and thus for its partner ecosystem. To find the "right" partners, an SV must know the selection criteria against each potential partner that should be evaluated.

Sub-research Question 1 (S-RQ 1): What are the selection criteria for partner candidates that should be evaluated to determine its suitability for an SV and its partner ecosystem?

3.2.2 Sub-problem 2: Individual Partner Management

Sub-problem 2: An SV must systematically manage the individual relationships with each of its partners in the partner ecosystem. For this purpose, the SV must be aware of the relevant management areas to be addressed to manage the individual partner relationships.

Sub-research Question 2 (S-RQ 2): What are the management areas that need to be addressed to systematically manage the individual relationships that an SV has with each of the partners of its partner ecosystem?

3.2.3 Sub-problem 3: Partner Program

Sub-problem 3: To reach a critical mass of complementary resources and avoid being growth-constrained by the size of its own staff, an SV must not only manage individual partnerships but also a multitude of partners simultaneously, as well as reach a consistent level of quality across them. For this

purpose, an SV must streamline and scale up its partner activities through a structured partner program. A partner program enables an SV to offer vital services to an ecosystem of partners supporting its health, thereby improving the ecosystem's productivity and its capability to create niches. Consequently, an SV must be aware of the building blocks of a structured partner program.

Sub-research Question 3 (S-RQ 3): What are the building blocks of a partner program?

3.2.4 Sub-problem 4: Partner Network

Sub-problem 4: An SV that aims to develop a partner ecosystem must also foster communication and collaboration among the partners. The objective is to reach an integrated network of interconnected partners that creates value through collaboration among them. For this purpose, an SV must create an environment that increases the productivity of the partner ecosystem by enabling communication, knowledge transfer, and collaboration among ecosystem participants.

Sub-research Question 4 (S-RQ 4): How can a software company foster the development of an interconnected partner network?

3.3 Research Context

Because of the significant variability in the research domain of SECOs, building a theory that can be generalized is challenging. (Manikas 2016) argued that when researchers are developing new theories, they need to define the type of SECOs their research results are applicable to. This allows the transfer of results to suitable ecosystems. (Manikas 2016) In other words, the context and nature of the examined SECO dictate to what degree the research results are transferable from one SECO to another. Thus, it is crucial to describe the characteristics of the type of SECOs that are examined.

Thus far, the researcher has characterized the type of SECO that is targeted by the focal study. The researcher focuses on SECOs in the EAS industry, which creates software systems that support companies to manage their business and execute organizational core functions and processes. The characteristics of this industry, described in chapter 7.1.2, significantly shape the nature of SECOs. In addition, based on the characteristics of the EAS industry, the researcher identified and extended a suitable definition of SECOs that is aligned with the perspective of the focal study. Furthermore, in the context of this research project, the researcher described the primary roles that an actor of a SECO in the EAS industry may complete.

4 Research Approach

4.1 Mixed-Methods Research

To develop an understanding of the nature of the EAS industry, the researcher began the research project with a Grounded Theory (GT) study. GT is based on the inductive generation of theories, well grounded in empirical data, and avoids an intensive literature review before the researcher's own theory emerges. The aforementioned research questions arose from beginning the GT study. The further GT study was characterized by the emerging theory around these research questions. As a result, the researcher identified four core categories that represent the central management areas that an SV must address to manage a partner ecosystem. (Avila and Terzidis 2016)

To obtain an extensive and more complete perception of the identified management areas as well as to validate the GT results, the researcher followed a mixed-methods approach. This emphasizes the understanding of the research problem and use a variety of methods to reach a broader perspective. The combined use of different research methods and integration of the results allowed the development of a superior understanding compared with what either approach could provide alone. Mixed methods involve a mixture of qualitative and quantitative methods, and thus, the collection, analysis, and integration of both qualitative and quantitative data in a research project.

4.2 Mixed-Methods Design

The choice of a suitable mixed-methods design is based on several factors associated with the intention of the procedure and practical considerations. Among a variety of factors, there exist three central factors that guide the choice among various types of mixed-methods design. (Leedy and Ormrod 2014; J. W. Creswell and J. David Creswell 2017; Kuckartz 2014)

Priority: A mixed-methods study can emphasize qualitative or quantitative aspects equally or prioritize one of them. The emphasis influences the choice of a mixed-methods design. (J. W. Creswell and J. David Creswell 2017)

Implementation: This factor is related to the order in which the qualitative and quantitative data are collected. These data can be collected roughly simultaneously (concurrently) or one following the other (sequentially). (J. W. Creswell and J. David Creswell 2017)

Integration: To select the right mixed-methods strategy, the researcher must consider whether the integration of the qualitative and quantitative data will be merged, connected, or embedded. Merging data means „combining the quantitative and qualitative data through a side-by-side comparison, data transformation, or a joint display" (J. W. Creswell and J. David Creswell 2017), whereas connecting data refers to the fact that the analysis of one dataset is used to lead into the second dataset; finally, embedding data means that one dataset is embedded within a larger design. (J. W. Creswell and J. David Creswell 2017)

How these factors are combined defines the resulting mixed-methods design. Although a large variety of mixed-methods designs exists, three primary models can be distinguished: convergent parallel designs, explanatory sequential designs, and exploratory sequential designs. In convergent parallel mixed-methods designs, qualitative and quantitative data are converged or merged with the purpose of reaching a comprehensive analysis of the research problem. Both qualitative and quantitative data are usually integrated into the interpretation of the overall results. Explanatory sequential mixed-methods designs start with a quantitative study, analyze the results, and then build on the findings to explain them, supported by qualitative research. By contrast, exploratory sequential designs begin with a qualitative study to explore the perspective of the participants. The findings of the qualitative research build the foundation for a quantitative investigation. Similar to a convergent design, qualitative and quantitative data are collected and analyzed within the same general time frame. (Leedy and Ormrod 2014; J. W. Creswell and J. David Creswell 2017; Kuckartz 2014)

The researcher had the privilege of participating in a mixed-methods workshop (02.03.2016) conducted by John W. Creswell PhD, one of the lead pioneers of mixed-methods research and author of the book *Research Design*. Through this workshop, the research design of the focal study was analyzed by and discussed with Creswell. We concluded that the design of the research project can be classified as a convergent mixed-methods design. With the purpose of reaching maximum analytic leverage and gaining more significant insights into the particular research project, qualitative and quantitative data were analyzed and the findings were integrated into the interpretation of the overall theory.

4.2.1 Convergent Mixed-Methods Design

The development and validation of the overall theory was based on a convergent mixed-methods approach. Figure 1 illustrates the research design composed of a variety of research methods.

As previously mentioned, to develop an understanding of the nature of the EAS industry without being influenced by existing theories, the researcher started the research project with a GT study. To identify and aggregate an initial cross-case pattern of success, the researcher analyzed 15 secondary case studies. Subsequently, an initial interview guide was designed according to the discovered components. Based on this interview guide, the researcher collected data through conducting 33 semi-structured interviews with 27 experts from the EAS industry (approximately 2,300 minutes). These interviews were transcribed and the resulting textual representation of nearly 360,000 words (approximately 1,300 pages) was subsequently analyzed based on the coding approach of GT. (Avila and Terzidis 2016)

The researcher identified four core categories that represent the central management areas that an SV must address to manage a partner ecosystem. Each of these core categories consists of further subcategories. To obtain an extensive and more complete perception of the identified management areas and validate the previous results, the researcher conducted a variety of complementary and additional research activities. The four management areas provided the foundation for further investigation and the validation of the previous research results. For each of the identified management areas, the researcher selected appropriate research methods that allowed the specific management area to deepen the results systematically. The management areas of (1) partner selection and (2) partner life cycle were validated and compared through an intensive systematic literature review (SLR) in the research area of partnerships and strategic alliances. In addition, the management area (1) partner selection was validated and further analyzed by a quantitative investigation. To gain a deeper and more comprehensive understanding of the building blocks of the management areas (3) partner program and (4) partner

network, the researcher conducted three primary case studies, which enabled the development of an in-depth understanding of the investigated management areas, set up in their real-world contexts. This resulted in new insights into real-world behavior and allowed the researcher to significantly extend previous findings. Finally, to comprehensively discuss the concluded results and refine the developed theory, the researcher performed a final validation that focused on all four management areas. For this purpose, through a focus group workshop, the researcher exposed the theory to a board of experienced experts.

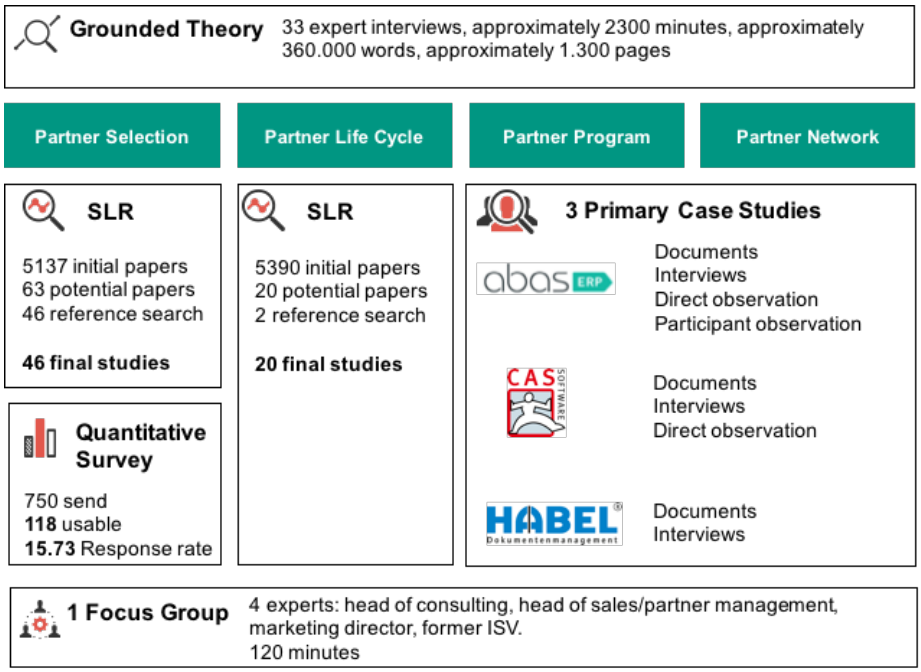


Figure 1: Overview Convergent Mixed-methods Approach

All of the implemented research methods had strengths and weaknesses. By combining different methods, the researcher aimed to compensate for the weaknesses using inductive and deductive approaches. Combining the methods also helped to reduce bias as well as identify, analyze, and explain contractions and incongruent findings. Furthermore, using different research methods provided further evidence and support for the findings. Combining and integrating different research approaches and results allowed the researcher to develop and validate a solid theory.

4.3 Generalizability and Validation

The use of a mixed-methods approach contributes to establishing and increasing the generalizability of the theory developed through the focal research approach (Saunders 2011, 169). Generalizability (also known as external validity) refers to the degree to which research results can be transferred and applied to other relevant settings within the studied domain (Saunders 2011, 671; Saunders 2011, 194). In general, generalizability can be differentiated into two types, namely analytic generalization and statistical generalization.

In analytic generalization, researchers strive to develop conceptualizations of processes and human experiences through in-depth investigations and the structured development of higher-order abstractions. In this context, the development of a theory required concepts to be identified that were relevant to all cases of an analyzed domain. For this purpose, analytic generalizations use the development of a theoretical framework to establish a logic that is generalizable, and thus applicable to similar situations. Studies addressing analytical generalization strive for generalizable findings that go beyond the setting that has been studied. However, analytic generalization does not strive for statistically significant results, and thus, it is often used in qualitative research. By contrast, in statistical generalization, a statistically relevant inference is made regarding a population, based on empirical data collected from a representative sample of the population. (Polit and Beck 2010; Urquhart 2013; Yin 2012a; Yin 2012b)

GT addresses analytic generalizability through various approaches. First, GT develops a theory from systematically obtained and analyzed data until theoretical saturation is reached. In the present study, the categories of the emerging theory were developed until a point was reached at which no new information seemed to emerge during the coding, and the analysis revealed no further theoretical insights about the developed GT. This ensured that the developed theory was well presented by data. In addition, because the emerged theory was grounded in data, it was empirically justified and provided justification for the identified categories and relationships. Second, the theoretical sampling of GT assists in increasing the level of theory and scope, and thus contributes to the generalization of the GT research. The researcher carefully performed theoretical sampling, selecting suitable data resources driven by the emerging theory. This ensured that as of yet unsaturated categories were addressed through the collection and analysis of suitable data resources. Third, the collected data were constantly compared with existing data and categories on all levels of the analysis and coding procedure, allowing for similarities and differences to be identified. This enabled the researcher to systematically develop categories and identify what experts perceived as relevant. (Glaser and Strauss 2009; Strauss and Corbin 2008; Urquhart 2013)

However, to further strengthen the generalizability of the GT, validate the findings, and further extend the understanding of GT, the researcher applied a set of complementary research approaches: systematic literature reviews (SLRs), multiple-case study research, and quantitative analysis. SLR and multiple-case study research contribute to analytic generalizability, whereas quantitative analysis contributes to the statistical generalization of the developed theory.

4.3.1 SLR

The analytic generalization of the developed theory was improved by relating it to the theories in existing literature. For this purpose, the researcher conducted two systematic literature reviews. The first was performed to conceptually compare management area one (partner selection) of the emerged theory (GT) with their counterparts in the research domain of strategic alliances and partnerships. The second was conducted to integrate the findings of management area two (partner life cycle management) of the current GT study with the relevant body of literature on ALC management. Because to the best of the researcher' knowledge a significant number of studies does not exist in the focal research domain, both SLRs were conducted within the domain of strategic alliances and partnerships across different industries.

The researcher increased the understanding of the developed theory and its generalization by integrating relevant literature, comparing the emerged GT with relevant literature, and analyzing contradictions

and similarities. The analysis of the body of literature allowed the researcher to identify conflicts with the emerging theory, which fostered the discovery of the underlying reason for conflicting results, thereby allowing the researcher to increase the theoretical level and generalization of the results. In addition, identified similarities strengthened the confidence in the findings that they were valid and generalizable, because other experts had similar findings in a different context. In addition, the identification of similarities between the emerged theory and literature increased the level of understanding through bringing together different perspectives of phenomena that were otherwise not associated with each other. (Glaser and Strauss 2009; Strauss and Corbin 2008; Urquhart 2013) (Eisenhardt 1989)

In sum, integrating the relevant literature into the emerged GT enhanced the internal validity, generalization, and theoretical level of the theory building regarding management areas 1 and 2.

4.3.2 Multiple-case Study Research

The management areas 1 and 2 of the GT were enhanced through an intensive literature review in the research domain of strategic alliances and partnerships. Regarding areas 3 and 4, the researcher was unable to find relevant literature that would further illuminate the identified concepts. However, to gain a deeper and more comprehensive understanding of these management areas and increase their generalizability, further investigation of the phenomenon was necessary. Thus, the researcher conducted multiple-case study research. The individual analysis of three cases, as well as the cross-case analysis, enabled the researcher to develop an in-depth understanding of the investigated management areas set up in their real-world contexts and extend and refine the results gained through the GT study. Correspondingly, the case study research significantly increased the generalizability of management areas 3 and 4. The analytic generalization of the focal study was improved by (a) advancing the theoretical concepts of the GT study and empirically enhancing the theory using the case study findings; and (b) identifying new concepts that arose from the case study research. (Yin 2012b)

4.3.3 Quantitative Analysis

In addition to the above-mentioned contribution to generalization, the researcher aimed to increase the generalizability through a quantitative analysis (statistical generalizability). However, validating the whole theory and improving the statistical generalizability of the four management areas would require access to a statistically significant number of SECOs (approximately 100) and resources to scale the research activities. Thus, the researcher addressed management area one (partner selection) through a quantitative analysis of the partners of a SECO. Consequently, the partners of this ecosystem represented the target population of the quantitative analysis. A total of 118 usable surveys were collected for a response rate of 15.73%. This quantitative analysis enabled the researcher to extend the understanding of partner selection in the EAS industry, further improve the structure of the partner selection criteria, and generalize the modified theory to a larger population sample.

4.3.4 Focus Group

Combining and integrating qualitative and quantitative research approaches and data allowed the researcher to develop and validate a generalize, and solid theory. Through a combination of the above-mentioned methods, the theory reached a high level of theoretical saturation. As a final step, the re-

searcher performed a final validation that focused on the four management areas through an integrative perspective. For this purpose, using a focus group, the researcher exposed the theory to a board of experienced experts. The focus group provided the researcher with the possibility to discuss for one last time the developed theory, expose and analyze potential contradictory results, obtain some additional insights, and sharpen the previous results.

In sum, through the merger of different research approaches, theoretical saturation and generalization of the developed theory were reached.

5 Initial Theory Development

Significant parts of chapter 5 were presented at G-Forum 2016 (Avila Albez 2016) and made available via the science portal ResearchGate (cf. Appendix I, Table A). In addition, some content of chapter 5 were presented at the IWSECO 2016 and subsequently published (Avila and Terzidis 2016) in the conference proceedings (cf. Appendix I, Table A). The method paper published in the International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering 2017 (Avila and Terzidis 2017) covered significant aspects and content presented in chapter 5 (cf. Appendix I, Table A). In addition, some elements and figures of chapter 5 appeared at the conference proceedings of the EWSECO 2015 (Avila Albez and Terzidis 2016) and EWSECO 2016 (Avila Albez and Terzidis 2016).

5.1 Grounded Theory

Research in some domains of the enterprise software industry is still in a formative phase and a broad variety of different phenomena and aspects are being explored. To obtain insights into this domain with an open mind and avoid becoming absorbed by existing theories too quickly, the authors decided to use an inductive research approach.(Avila and Terzidis 2017) Grounded theory (GT) is an appropriate research method for identifying research questions and generating theories that are well grounded in data. In a second step, GT compares research results with the existing body of literature and discusses the newly developed theories in the context of existing work. (Glaser and Strauss 2009; Strauss and Corbin 2008; Urquhart 2013)

Grounded theory is primarily based on the following foundations:

- Discovering theory from systematically obtained and analyzed data;
- Avoiding preconceived theory at the initiation of research;
- Iteratively using a coding approach based on three coding procedures
- Using constant comparison and analysis methods to generate theory, with collected data being continuously compared with concepts that have already been identified;
- Undertaking theoretical sampling, with the selection of suitable data resources being driven by the emerging theory; and
- Achieving theoretical saturation, in which the data collection continues until additional data no longer contributes to the identification of new aspects.

(Glaser and Strauss 2009; Urquhart 2013; Willett et al. 2011)

An overview of the structure of the current GT study is presented in Figure 2.

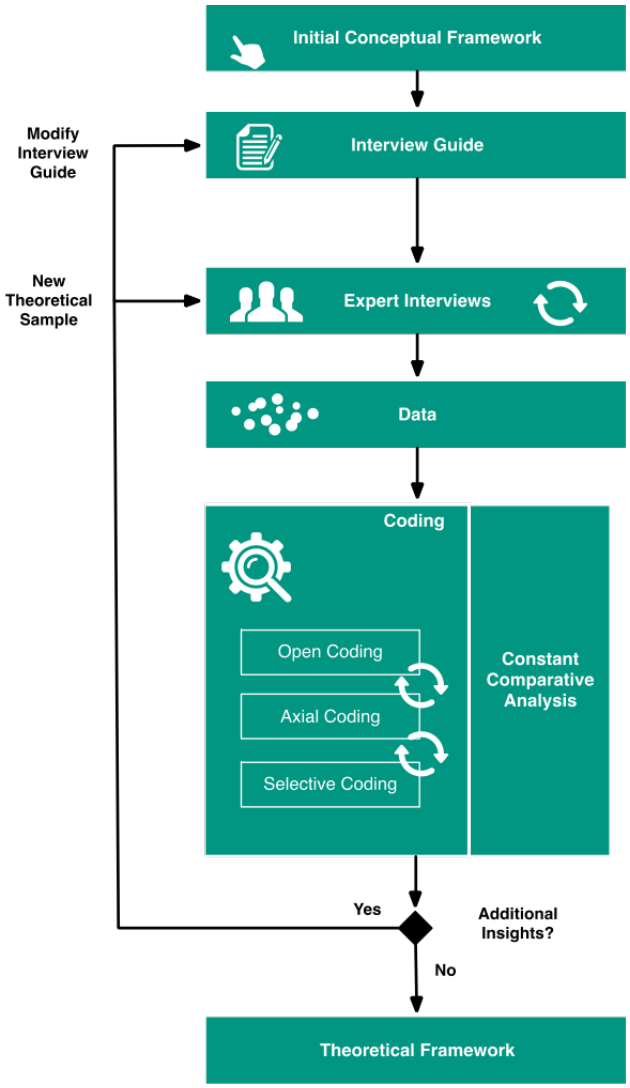


Figure 2: Structure of the Grounded Theory Study

5.1.1 Initial Conceptual Framework and Interview Guide

One of the foundations of GT is to reduce the risk of beginning research with a preconceived theory in mind (Strauss and Corbin 2008).

To address this issue, the research project started with an analysis of secondary case studies using the coding approach of GT. This enabled the researcher to design an initial conceptual framework, which in turned formed the basis for a guide for conducting interviews. The researcher analyzed 15 secondary case studies with the aim of identifying and aggregating an initial cross-case pattern of success among the studies, which served as a starting point for further investigations. It allowed the researcher to undertake a preliminary structuring of the research domain based on real business cases. These 15 secondary cases represent the initial theoretical sample (i.e. theoretical sample zero). The concept of theoretical sampling is discussed in section 4.2.1.

5.1.1.1 Secondary Case Studies

The researcher describes the analysis of secondary case studies as using existing case studies to address a research question that is in line with but differs from the purpose of the original case study (Hinds, Vogel, and Clarke-Steffen 1997). In the current study, the selected cases offered evidence based on real business experiences.

(Yin 2012a, 16) defines a case study as „an empirical inquiry that investigates a contemporary phenomenon (the 'case') in depth and within its real-world context, especially when the boundaries between phenomena and context may not be clearly evident." Case studies hereby usually combine multiple data collection methods, such as archives, interviews, observations and questionnaires (Eisenhardt 1989, 534). Since case studies are conducted in real-world settings, they have a high degree of realism and offer insights into real business situations (Runeson et al. 2012, 14).

In the current research context, case studies are an appropriate means for the researcher to both explore complex situations within the development and commercialization of software products in the enterprise software industry and access aggregated data that offers evidence regarding the factors required for successful software products.

The selection of appropriate secondary case studies was an important aspect of the subsequent analysis. In this study, these studies were chosen primarily based on three simultaneously applicable main criteria:

- The companies are in the enterprise software industry (B2B market);
- The companies offer complex software products to solve complex business problems for their customers; and
- The companies need to provide complementary business services to offer their customers a satisfactory solution for their business needs.

A further overall and mandatory criterion for selection was a case's contribution to the research question being addressed in the study, namely: What factors are critical for successful products in the enterprise software industry? The focus was thus on case studies around the development and commercialization of software products in the EAS industry.

Based on these criteria, a diverse selection of cases in the enterprise software industry was collected. By using a heterogeneous sample of case studies, the research aimed to create a base for identifying research topics of overall importance for the enterprise software industry, across different business fields and product areas. The selected cases describe real-world business situations from fields such as virtualization, CRM (customer relationship management) and middleware. Irrespective of the diversity of the selected cases, all cases provided real-world aggregated data from the enterprise software industry. As such, they were all suitable to provide information related to the research question at hand. The cases comprise between 15 and 41 pages (with one exception of a 10-page-case) and are written in English. (Avila and Terzidis 2017)

In addition to applying the selection criteria regarding appropriateness for addressing the research question, the researcher evaluated the completeness and quality of the secondary cases. In accordance with (Hinds, Vogel, and Clarke-Steffen 1997, 413–20), the following general factors were used to assess the case conditions:

- The condition of the case study report, e.g. related documents and data are intact and no relevant documents are missing;
- The accuracy of the case study report and transcription, e.g. no vague and incomplete interview quotations are included;
- The comprehensibility of the case study report, e.g. no misleading or ambiguous descriptions are provided;
- The interpretability of the case study report, e.g. clear relationships exist between the case study's objectives and elements; and
- The explorability of the case study report, e.g. it has the necessary depth and breadth, sufficient details for analysis, enough context and data that invite exploration of a phenomenon.

The search concentrated on case studies used by business schools, based on the fact that these case studies are employed to transfer experience-based knowledge and are meant to foster the understanding of a business and its domain based on real-world situations. Case study teaching aims to encourage discussion among participants and to improve their ability to recognize cross-case patterns. As such, case studies are usually developed according to the above-mentioned conditions and reviewed carefully for quality and completeness. (HAMMOND 1976; Ellet 2007; Erskine, Leenders, and Mauffette-Leenders 1998; Avila and Terzidis 2017)

Since the researcher focused on case studies used by business schools, the sample is dominated by US companies. This is because US business schools intensively use case studies as teaching material in their postgraduate degree programs. As a result, the total number of available case studies is dominated by US cases.

An overview of the selected case studies is provided in Table 2.

Table 2: Overview of the Selected Case Studies

ID	Case title	Company	Country	Source
01	Scrum, Sprints, Spikes and Poker	Telerik	Bulgaria	Richard Ivey School of Business
02	Beas Systems, Inc. In 2013: Reaching the Next Level	Beas Systems	USA	Stanford Graduate School of Business
03	Precise Software Solutions	Precise Software Solutions	USA	Harvard Business School
04	PremiumSoft: Managing Creative People	PremiumSoft	China	Asia Case Research Centre, University of Hong Kong
05	Oracle Corporation	Oracle Corporation	USA	Harvard Business School
06	Product Development at OPOWER	OPOWER	USA	Harvard Business School
07	Nuway Software	Nuway Software	USA	Richard Ivey School of Business
08	SAP AG: Orchestrating the Ecosystem	SAP AG	Germany	Harvard Business School
09	Salesforce: The Evolution of Marketing Systems	Salesforce.com	USA	Stanford Graduate School of Business
10	Siebel Systems	Siebel Systems	USA	Harvard Business School
11	WebSpective Software, Inc.	WebSpective Software, Inc.	USA	Harvard Business School
12	Trilogy Corporation: Customer Value-Based Pricing	Trilogy Corporation	USA	Kellogg School of Management
13	Lean at Wipro Technologies	Wipro Technologies	India	Harvard Business School
14	VMware, Inc., 2008	VMware	USA	Harvard Business School
15	SAP and Cloud Computing in 2012 and Beyond	SAP AG	Germany	Stanford Graduate School of Business

5.1.1.2 Initial Conceptual Framework

The analysis of these case studies was used as the primary basis for constructing an initial conceptual framework, which in turn served as the foundation for developing expert interview guidelines. This inductive approach allowed the researcher to start the interviews in a very open-minded manner without being influenced by theories described in the current literature. (Avila and Terzidis 2017)

As a result of multiple iterations of data coding based on GT, the secondary case study research synthesized six main areas of interest for the further primary research activities (cf. Figure 3). This formed the basis for the development of the interview guide. (Avila and Terzidis 2017)

(Strauss and Corbin 2008, 40) acknowledge that the development of a „middle-range theory, a previously identified theoretical framework can provide insights, direction, and a useful list of initial concepts." However, they emphasize that remaining open minded and avoiding being forced into a predefined structure are prerequisites for employing an initial framework. Using an initial framework should not lead to the predetermination of concepts. The analysis of secondary case studies allowed the researcher to start with an open mind and not be influenced by the current body of theories. In line with (Charmaz 2014, 31), the development of this sensitizing concept provided the researcher a point of departure „to form interview questions, to look at data, to listen to interviewees, and to think analytically about data" while retaining an openness toward emerging new topics. (Avila and Terzidis 2017)

Main Categories	Sub-Categories
Company Related Factors	▪ Understand and manage the product value chain ▪ Cultivate distinctive competencies along the product value chain ▪ Determine the scope of the software company ▪ Understand dependencies and co-innovation risk ▪ Complementary value enhance services ▪ Complementary platform strategy ▪ Intellectual Property (IP) ▪ Organizational structure, processes and internal communication ▪ Company culture ▪ Human Resources Management ▪ Finance and investment ▪ Common company vision and business strategy ▪ Software product management ▪ Sales organization and sales process
Product Related Factors	▪ Product platform strategy ▪ Product platform architecture ▪ Product technology ▪ Pricing and revenue model ▪ Unique superior product ▪ Complementarity and Interoperability
New Product Development Process	Opportunity Identification and Evaluation ▪ Lead user ▪ Voice of the customer ▪ Voice of the partner ▪ Up-front analysis Product Development ▪ Lead user project ▪ Use your own product ▪ User involvement ▪ Partner involvement ▪ Agile product development ▪ Time-to-market ▪ Team ▪ Standard product vs. individual customer product Product Commercialization ▪ Reference customer ▪ Partner network ▪ Market timing ▪ Sales and marketing
Market Related Factors	▪ Competition ▪ Target customers ▪ Market barriers ▪ Market opportunity ▪ Community management ▪ Company reputation and credibility
Partner Network Related Factors	▪ Leverage the ecosystem to accelerate innovations, create business values for the customer and scale ▪ Establish and leverage a partner network around the product ▪ Establish a procedure for partner select ▪ Low barriers for partnership ▪ Offer incentives and a clear partner business proposition for partners ▪ Ensure high quality of partner solutions ▪ Education and service offering for partners ▪ Stimulate complementary innovation for the product ▪ Establish strategic alliances ▪ Establish routines for developing and maintaining relationships with partner ▪ Common product innovation roadmap with partners
Environmental Influences	▪ Technology trends ▪ Market trends ▪ Government and regulation

Figure 3: Six Identified Main Categories and Corresponding Sub-categories

5.1.1.3 Initial Interview Guide

An interview guide serves as the foundation for expert interviews and prepares the researcher for conducting the actual interviews. For example, (Charmaz 2014, 62–63) strongly advocates using an interview guide to begin a GT study: „Starting a new project without a working guide is, however, fraught with pitfalls, particular for novice. This approach invites asking awkward, poorly timed, intrusive questions that may fill with unexamined preconceptions. Even experienced interviewers (…) may construct interview guides“, (Charmaz 2014, 62–63).

An interview guide is a structured list of well-constructed interview questions that address the research topics that the researcher intends to cover during the course of the interviews. As pointed out by (Karp 2009, 40), „an interview guide plainly sets out my `domains of inquiry`" It thus represents a data collection tool that directs the researcher concerning what data to collect, how to obtain data and how to ask interview questions.

Nevertheless, rather than a fixed structure that forces data into a pre-developed skeleton, an interview guide should be treated as a flexible tool. An elaborate and well-prepared set of questions supports the researcher in conducting fluid and spontaneous interviews while covering all relevant topics. Of course, the course of the interview may lead to different expressions and deviations from the original wording or question order.

Developing, reviewing and refining an interview guide improves a researcher's understanding of how and when to ask specific questions. It also enables him or her to reflect on the research process, become aware of the actual point of attention and use adequate language. (Charmaz 2014, 62–66; Gläser and Laudel 2010, 142–44)

In the current study, the initial interview guide was developed based on and according to the elements previously identified in the conceptual framework. The purpose of this approach was to use an inductively developed initial interview guide as the foundation for discovering and developing the primary research question driven by data (as obtained through expert interviews). The approach allowed the researcher to begin the expert interviews with a set of educated questions and effectively and efficiently start dialogues that led to an in-depth understanding of the research context. (Avila and Terzidis 2017)

The final result of this research step was an initial catalog of 186 modular questions grouped into six discrete sections covering the topic of interest and two introductory sections. The interview guide was consequently structured around eight building blocks:

Introduction: The interviewer provides the interview participant with an overview of the research context and the study's objective and describes the setting of the interview (including data protection, recording, transcription, and further processing). The interviewer also explicitly asks for the participant's permission to record the conversation.

Questions regarding the interview participant: The participant is asked to introduce him- or herself and present a brief overview of his or her career and experience in the enterprise software industry. The interviewer also asks for a short description of his or her current job position and employer.

Company-related factors: This group of questions addresses the influence of company-related factors (e.g. culture, organizational structure and competencies) on the success of a software product in the enterprise software industry.

Partner network-related factors: The questions within this sample focus on the relevance of partners and a company´s ability to manage a network of partners.

Market-related factors: The importance of market-related factors (such as competition, target customers and market barriers) is addressed through this compilation of questions.

Product-related factors: The questions in this group aim to address the significance of the characteristics affiliated with a product, its technology and pricing model.

The product development process: The attributes of a successful new product development process and its development phases are the focus of this part of the conversation.

Environmental influences: This section of the interview is structured around external influences, such as technology trends, market trends and regulations.

(Avila and Terzidis 2017)

5.1.2 Data Collection

The data collection method in this research stream was based on formal interviews steered by the previously compiled semi-structured interview guide. The development of the theoretical framework was grounded on the recording of approximately 2300 minutes (or 360,000 words) of 33 semi-structured interviews with 27 experts from the enterprise software industry. (Avila Albez 2016)

5.1.2.1 Theoretical Sampling

Theoretical sampling is a method of data collection that is guided by concepts derived from the data. It is a responsive approach in which concepts are derived from data and related questions about these concepts “feed" the next cycle of data collection. Rather than verifying or testing hypotheses related to concepts, this method supports discovering relevant concepts. (Strauss and Corbin 2008, 65; Strauss and Corbin 2008, 144).

The researcher conducted interviews and utilized the results to decide what data to collect in the next cycle and where to find them to develop the theory. In total, the research entailed four interview rounds using four theoretical samplings (cf. Figure 4). This journey enabled the researcher to modify the interview guide as necessary to obtain more detailed information and focus on partner ecosystems.

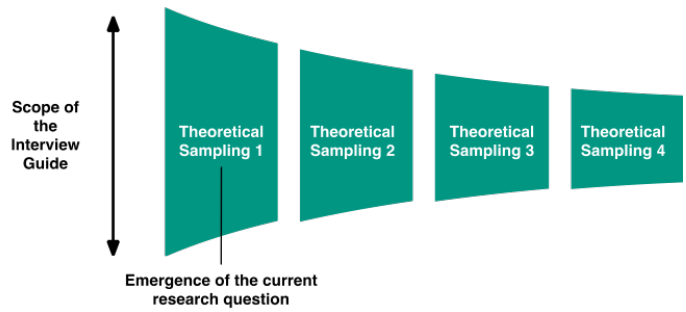


Figure 4: Four Theoretical Samplings

In the initial research stage of the study, the researcher selected participants for the first set of interviews based on information that was provided by the previous analysis of secondary case studies (theoretical sample 1). In the further course of the study, suitable experts were iteratively identified based on the results of the analyzed data (theoretical sample 2-4) (cf. Table 3).

Table 3: Theoretical Samplings

	Theoretical Sampling 1	Theoretical Sampling 2	Theoretical Sampling 3	Theoretical Sampling 4
Number of interviewed experts	10	7	4	10
Number of interviews	12	7	4	10
Focus of the interview guide	Company-related factors, partner network-related factors, market-related factors, product-related factors, the product development process, environmental influences.	Partner network related factors, product strategy, management.	Partner network-related factors.	Partner network-related factors.
Duration of each interview	42 to 203 minutes	50 to 139 minutes	36 to 120 minutes	7 to 30 minutes

The research question addressed in this thesis emerged as the interviews of theoretical sampling 1 were being conducted and analyzed (cf. Figure 4). Data from theses interviews revealed that a partner ecosystem is a vital element for software vendors in the enterprise software industry. This led to a decision to increase the focus on partner ecosystems and the management of partners. The further course of action was guided by both this decision and the emerging theory around the corresponding questions. The theoretical samplings for the following interviews were mainly anchored on theoretical relevance in relation to partner ecosystem management.

5.1.2.2 Interview Participants

Participants for the interviews were selected according to the emerging theory and driven by data. All participants are experts with significant experience in the enterprise software domain. The researcher assembled diverse clusters of experts (i.e. theoretical samples) from different business areas (e.g. sales, partner management, marketing and consulting). This was done to obtain a comprehensive understanding of the domain and maximize the possibility of identifying novel categories and insights. It also enabled the researcher to develop categories of overall importance for the software enterprise industry across individual business disciplines. (Avila Albez 2016)

Table 4 summarizes the profiles of the interviewed experts.

Table 4: Interviewed Experts

ID	Abbreviation	Primary areas of expertise	Secondary areas of expertise	Work experience in years	Current work position	Theoretical sampling (TS)
e1	OB	Partner Management, Sales, EPR, CRM	Project Management	> 20	Head of Partner Business	TS1, TS3
e2	MK	Professional Services, Project Management, CRM	Partner Management, Customer Services and Support	> 20	Head of Professional Services	TS1
e3	AK1	Partner Academy, Customer Academy, Professional Services, ERP, CRM	Partner Management	> 20	Head of Academy	TS1, TS2, TS3
e4	MB	Key Account Management, Partner Management, Sales, CRM	Customer Services and Support	> 20	Business Unit Manager	TS1
e5	JK1	Product Management	Project Management	> 20	Director Development and Product Management	TS1
e6	SH	Consulting, Business Development, Sales	Software Engineering, Training	> 20	Head of Presales Consultant	TS1
e7	JK2	Key Account Management, Sales, CRM	Business Development	> 20	Senior Manager Sales	TS1
e8	MO	Sales, Key Account management, Marketing, Business Development	CRM	> 20	Head of Marketing and Recruiting	TS1
e9	BK	Business Development, Innovation Management, Strategy, Research	CRM, Information Technology	> 20	Professor	TS1
e10	DK	HR Management	Recruiting	> 18	Head of Human Resources	TS1
e11	MZ	Product Management, Product Strategy	Business Development, General Management	> 25	CEO	TS2
e12	UZ	Consulting, Business Development,	Project Management	> 20	Associate Partner	TS2

e13	AK2	Product Management, Program Management, Consulting	Partner Management	> 20	Chief Business Consultant	TS2
e14	SS	Partner Management, Consulting, Professional Services, Project Management, CRM	Sales	> 20	International Partner Manager	TS2, TS3
e15	MK	Sales, Marketing, Consulting	Project Management	> 20	Senior Consultant	TS2
e16	JL	Consulting, CRM	Project Management	> 15	Principal Consultant	TS2
e17	CK	General Management. Corporate Governance	Data Quality	> 30	CEO, Managing Director	TS2
e18	IS	Marketing	Partner Management	> 15	Director Marketing	TS3
e19	p1	Partner Management	Sales, EPR	> 15	Partner Management	TS4
e20	p2	Partner Management	Sales, EPR	> 15	Partner Management	TS4
e21	p3	Partner Management, HR	ERP	> 15	Partner Management	TS4
e22	p4	ERP, Project Management	Partner Management	> 15	Manager Professional Services	TS4
e23	p5	Partner Management, Digital Data Transfer	ERP	> 15	Partner Management	TS4
e24	p6	Partner Management	ERP	> 15	Partner Management	TS4
e25	p7	Partner Management	ERP	> 15	Partner Management	TS4
e26	p8	Partner Management	ERP	> 15	Partner Management	TS4
e27	p9	Partner Management	ERP	> 15	Partner Management	TS4
e28	p10	Partner Management	ERP	> 15	Partner Management	TS4

5.1.2.3 Interviews

The interviews were carried out in accordance with the qualitative data collection approach of intensive interviewing. In an intensive interview, questions are designed and planned upfront but not necessarily formulated as designed or asked in the planned order. The researcher uses the list of questions (i.e. the interview guide) to ensure that all relevant topics are discussed with the interviewee. However, the course of the conversation drives the order in which the questions are asked and how they are phrased. In addition, intensive interviews emphasize the exploration of a participant's experience on the focal

topic and allow the interviewer to follow up on emerged and unplanned topics immediately using detailed questions. Throughout the whole conversation, the interviewer focuses on encouraging the participant to speak and concentrates on listening and understanding while the participant shares his or her experience. Since this approach is „open-ended yet directed, shaped yet emergent, and paced yet unrestricted," (Charmaz 2014, 57, 85-86) it is consistent with GT and is particularly appropriate as a guiding mindset for conducting interviews in a GT study. (Charmaz 2014, 57, 85-86)

During the interviews, the interviewer used mainly broad and open-ended questions to both encourage the participants to share their personal experiences regarding the topics of interest and foster detailed conversations (Charmaz 2014, 56–57; Charmaz 2014, 65). The research aimed to explore each expert´s experience, focus on significant statements and followed up immediately on areas that emerged during the interview. The interviewer's main role was to encourage the participants to describe their experience. The researcher listened, emphasized understanding the expert´s perspective and followed up on unexpected insights that were shared. Consequently, the researcher did not interrogatively ask every question in the interview guide; he instead aimed to keep the interview informal and conversational and used the guide to ensure that all relevant topics were sufficiently addressed. The interview guide enabled the interviewer to concentrate on what the participants said. (Charmaz 2014, 56–66) In sum, the researcher strove to find an adequate balance between asking the interview questions, listening to each participant´s response and ensuring that all relevant topics were covered.

Participants usually answered several questions already when describing their experiences, without the interviewer needed to explicitly express corresponding questions. Furthermore, the modular design of the interview guide permitted the interviewer to skip sections when it was obvious that a particular area was not part of a participant´s expertise. Due the broad nature of the study's beginning and consequently wide range of questions, the guide helped the interviewer to focus on a participant´s expertise and avoid misleading answers. Based on the in-depth characteristic of these interviews at the beginning of the study (theoretical sample 1), it was not unusual that they lasted between approximately 1.5 and 3 hours.

5.1.3 Data Preparation

The method selected to capture data determines what the researcher is able to code. As such, the data collection method affects not only the shape of the data but also the emerging codes. ((Charmaz 2014, 136). The researcher decided to transcribe the interviews in full and later code the resulting textual representation.

Transcription is difficult and time consuming, but no satisfactory alternative to recording and fully transcribing qualitative research interviews exists (King, 25). Coding the interview transcripts enabled the researcher to gain a level of understanding that they otherwise would have missed. It also made it possible to return to the original data and re-code it based on new evidence. (Charmaz 2014, 136). Before the analysis could be started, the audio records thus needed to be transcribed (Runeson et al. 2012, 53).

Published literature suggests that a research project should develop a specific transcription guide that contains a set of rules that fits the research setting, captures the necessary degree of detail and standardizes the text output (Gläser and Laudel 2010, 193–94; Kuckartz et al. 2008; Kuckartz 2010). As only the first transcriptions were done by the researcher and others were undertaken by different individu-

als, it was especially important to standardize the transcription. Based on (Hoffmann-Riem 1984) and (Kuckartz 2010, 44), this requirement was fulfilled by defining a set of transcription rules. Since the subsequent analysis of the transcripts focused mainly on the interviews' semantic contents, simple transcription rules that concentrate on capturing the content of the communication rather than marking non- or para-verbal elements were used. These rules are as follows:

- Transpiration is conducted literally and not summarily;
- Dialects are transformed into standard language;
- Language and punctuation are smoothed;
- Noticeable pauses or breaks are marked by an ellipsis in brackets (…);
- Underlining indicates accentuations;
- Every contribution from a participant or the interviewer is put in a separate paragraph;
- The end of each paragraph is marked with a time stamp;
- "Interviewer" indicates the interviewer. The expert is marked by an anonymous abbreviation;
- Non-verbal elements such as laughter are marked by the associated expression in parentheses, e.g. "(laughter)";
- Incomprehensible sections are marked "(incomprehensible)." If applicable, the reason is indicated, e.g. "(cellphone interferences)";
- Incomprehensible words are marked by parentheses that contain an assumption followed by a question mark, e.g. "(autobiography ?)";
- Discontinued or incomplete sentences are marked with "/";
- Affirmative statements such as "hmm" are captured; and
- Fillers and pause expressions such as "eh" or "ehm" are not transcribed.

All interviews for theoretical samplings 1 and 2 were recorded and transcribed. Two of the four interviews with the theoretical sampling 3 were not recorded, as the experts preferred to conduct the interview without a record or the circumstances were not suitable for recording. Eight of the 10 interviews conducted for theoretical sampling 4 were recorded and transcribed. In summary, 27 of the 33 interviews were audio recorded and later transcribed.

5.1.4 Data Analysis

In GT, the analysis of collected data is based on categorizing and conceptualizing the data through the structured coding of data units.

„Coding gets the analyst off the empirical level by fracturing the data, then conceptually grouping it into codes that then become the theory that explains what is happening in the data. A code gives the researcher a condensed, abstract view with scope of the data that includes otherwise seemingly disparate phenomena." (Glaser and Holton 2004, 12)

The conceptualization of data through coding aims to identify a particular research question based on data and ultimately to generate a corresponding theory grounded on empirical data. Hereby, „…an analyst reduces data from many cases into concepts and sets of relational statements that can be used to explain, in a general sense, what is going on. Rarely are these concepts or statements the exact word

of one respondent or case (…). Usually, they represent the voices of many" (Strauss and Corbin 1998, 145).

Using the grounded theory method (GTM) developed in 1967 by Barney Glaser and Anselm Strauss (Glaser and Strauss 1967) as a starting point led to the evolution of two main strands of GTM and the suggestion of different coding procedures. Based on Strauss´s version of GT (Strauss and Corbin 1998), the researcher employed a coding approach composed of three main elements: open coding, axial coding, and selective coding (as described below). (Avila and Terzidis 2017)

Open Coding

The purpose of open coding is to identify an initial structure of collected data by breaking data into discrete units that allow for further analysis and a comparison of similarities and differences. As such, at this stage the coding is anchored in the raw data. The objective of open coding is to identify categories grounded in the source data. The researcher identified incidents (data chunks) in the data and labeled them with codes (open codes) to develop categories and their properties. These codes represented concepts embedded in these data chunks. New codes emerged through this process and new incidents were assigned to existing codes. This fostered the identification of patterns in the data. The coding thus enabled the researcher to develop an understanding of relevance and create a categorization before becoming selective and focusing on a particular phenomenon. (Strauss and Corbin 1998; Urquhart 2013) Some exemplary data chunks associated to corresponding open codes can be found in Appendix VI (Table L).

Axial Coding

Axial coding contributed to the development of the theory by relating categories to their subcategories and specifying the nature of their relationships to form more precise and complete descriptions of specific phenomena. The objective of this coding is to reassemble data fractured through open coding and uncover a dense texture of relationships within the categories being focused on. The researcher grouped codes similar in nature or related in meaning under more abstract concepts (axial codes) and defined codes that subsume a variety of codes. Through this process, the open codes became the characteristics (low-level categories) of higher categories, and these categories became the sub-categories of the more abstract core-categories. Furthermore, the researcher reviewed the data on a conceptual level for evidence concerning how the categories were related to their subcategories and described the associations. In addition, they started with a preliminary analysis of how the major categories might be related to each other. (Strauss and Corbin 1998; Urquhart 2013) Table M in Appendix VI shows exemplary the open codes and axial codes that make up the core category partner selection.

Selective Coding

Selective coding conceptualizes how the identified core categories are related to each other. It specifies the relationships between the major categories that emerged through open and axial coding and thus builds the theory. The major categories were integrated and refined to form a larger theoretical scheme. This coding stage enabled the researcher to decide which of the initial categories contributed to the core theory, refine the codes and regroup those that were relevant. This implies identifying the central category of the research from which the theory will be developed. This central category (here the management of partner ecosystems in the enterprise software industry) represents the main theme of the research and can be related to each other major category (partner selection, partner life cycle,

partner program, partner network). Selective coding thus delimits the coding to the core categories that contribute to the theory and restricts the coding to data relevant to the emergent theory. This stage enabled the researcher to reduce the original list of categories and codes and focus on the core elements to be included in the theory. (Strauss and Corbin 1998; Urquhart 2013)

Throughout the current research, the focus of the coding procedure evolved from open coding to axial coding and finally to selective coding. Nevertheless, a coding procedure is not linear; it is instead an iterative process based on a constant comparison and analysis of the data and entails applying three coding modes iteratively and often simultaneously. Making constant comparisons at each level of analysis and coding is a vital element of GT. Constantly comparing data with data, codes with codes and categories with categories enables the researcher to identify similarities and differences and systematically reveals what experts perceive as important to analyze. (Charmaz 2014, 16; Charmaz 2014, 132-133, 342; Glaser and Strauss 1967; Urquhart 2013, 17). A representation of the overall coding process can be found in Appendix VI (cf. Figure G).

The collection, constant comparison and analysis of the data are conducted until the category development reach a point at which no new information seems to emerge during the coding and the analysis reveals no further theoretical insights about the emerging GT (i.e. theoretical saturation is attained) (Strauss and Corbin 1998; Charmaz 2014).

(Avila Albez 2016)

5.1.5 Results

The researcher identified four core categories that represent the central management areas (MAs) that a software vendor needs to address to manage a partner ecosystem (cf. Figure 5). These represent the main areas for the management of partner ecosystems. Each core category consists of further subcategories and characteristics. (Avila Albez 2016) An overview of the identified core categories and subcategories is presented in Table N (Appendix VI). The detailed results are described and discussed in the subsequent chapters.

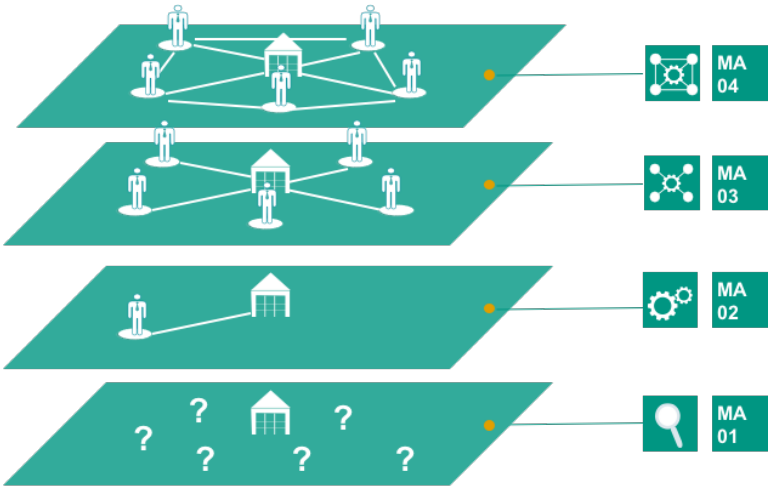


Figure 5: The Four Management Areas for the Management of Partner Ecosystems

Management Area One: Partner Selection

The selection of suitable partners is the foundation of every successful partnership. Eight distinct selection categories were identified: fundamental fit, cultural fit, organizational fit, strategic fit, commitment, ecosystem fit, complementarity and market access.

Management Area Two: Partner Life Cycle

Six management areas that are necessary to systematically manage the relationship that a software vendor has with each individual partner were identified, namely design, enablement, ramp up, operation and evaluation.

Management Area Three: Partner Program

Management area two needs to be complemented through a standardized partner program to address the need to manage a multitude of partners simultaneously and reach a consistent level of quality across all of them. Four main company areas that need to be aligned to successfully implement a partner program were identified: strategy, structure, culture, and core competencies.

Management Area Four: Partner Network

A software vendor that aims to develop a partner ecosystem has also to foster communication and collaboration among the partners. Value creation is not limited to a purely hub-and-spoke structure, where the software vendor communicates and collaborates only bilaterally with the partners of its ecosystem. Rather, the objective is to reach an integrated network of interconnected partners that creates value through collaboration among the partners. For this purpose, a software vendor has to create an environment that increases the productivity of the partner ecosystem by enabling communication, knowledge transfer and collaboration among ecosystem participants. This management area focusses on the elements that catalyze cooperation and communication across the partner ecosystem.

To attain the partner ecosystem advantage, that is to unlock the benefits of a partner ecosystem and gain a competitive advantage, a software vendor needs to address all of the partner ecosystem's management areas. This study represents a cornerstone for the development of a comprehensive management framework.

(Avila Albez 2016)

5.2 Conclusion and Implications of the Findings

The GT study allowed the researcher to identify the main areas for the management of partner ecosystems in the EAS industry and to generate a theory derived from empirical data. This theory is composed of four main categories: (1) partner selection, (2) partner life cycle (3) partner program (4) partner network. Each of these categories is described in more detail in corresponding chapters of this thesis. The develop GT theory supports practitioners to focus on relevant management areas and offers the researchers a solid structure for further research.

5.3 Discussion and Limitations

The GT theory offers a guiding management framework and a robust conceptualization of partner ecosystem management. However, the results derived from the GT study required additional research to improve the theoretical understanding, validate the identified, and to evolve the identified categories further. In addition, since the data source of the GT study was based on interviewed experts, the use of further research methods was necessary to reduce potential bias and increased the generalizability of the results. For this purpose, the researcher addressed the identified management areas through additional research activities.

6 Management Area One: Partner Selection

Significant parts of chapter 6 were presented at G-Forum 2016 (Avila Albez 2016) and made available via the science portal ResearchGate (cf. Appendix I, Table A). Some content of chapter 6 were presented at the IWSECO 2016 and subsequently published (Avila and Terzidis 2016) in the conference proceedings (cf. Appendix I, Table A). In addition, some core elements and figures of chapter 6 appeared at the conference proceedings of the EWSECO 2016 (Avila Albez and Terzidis 2016).

6.1 Introduction

Research has assessed the significance of partner selection in the success of partnerships (e.g. Bierly and Gallagher 2007; Shah and Swaminathan 2008; Ding, Dekker, and Groot 2013; K. D. Brouthers, L. Eliot Brouthers, and T. J. Wilkinson 1995; Douma et al. 2000; Wu, Shih, and Chan 2009; Saxton 1997; Medcof 1997). A large amount of research has studied this critical aspect in different contexts and from different perspectives. For instance, studies have been conducted in the context of R&D alliances (Tai, Watada, and Su 2012; Chen, Lee, and Wu 2008; Li et al. 2008; Wei and Gu 2014), global strategic alliances (e.g. Parkhe 1991; Harvey and Lusch 1995; Evans 2001; Swoboda et al. 2011) and (international) joint ventures (e.g. (Glaister and Buckley 1997b; Al-Khalifa and Eggert Peterson 1999b; Geringer 1991; Salavrakos and Stewart 2006). The selection of the “right" partner has been identified as a factor with a significant impact on the success of partnerships. This also applies to the selection of partners in a network economy such as the enterprise software industry. However, the selection of partners in the context of software ecosystems within the enterprise software industry has only received limited attention. Most research and literature on inter-organizational alliances focuses on the management of partnerships between a limited number of companies from a mostly bilateral perspective. An isolated focus on bilateral partnerships would lead to an emphasis on individual partner fit, bilateral knowledge and resource exchange and win-win situations between two parties. Conditions necessary to develop a portfolio of successful partnerships in the enterprise software industry have been identified, but they create a blind spot that hides a partner’s role as part of a larger interconnected ecosystem of partners. (Duysters, Man, and Wildeman 1999)

Consequently, network industries such as the enterprise software industry require a different outlook on partner management and demand an ecosystem perspective. This has also an impact on the selection of suitable partners. Traditional partner selection mainly highlights a favorable fit between two companies. This bilateral fit is still important in the enterprise software industry, but it has to be enhanced by an ecosystem perspective. The characteristics of an industry shaped by complementarity and network effects have to be taken into account.

6.2 The Selection of Suitable Partners

The analysis undertaken enabled the researcher to identify the selection of suitable partners based on well-defined criteria as the foundation of a partnership and a significant factor in the success of a software vendor´s partnerships (and thus of its partner ecosystem). The following section identifies the selection criteria against which each candidate partner should be evaluated to determine its suitability for a software vendor and its partner ecosystem, namely: fundamental fit, cultural fit, organizational fit, strategic fit, commitment, ecosystem fit, complementarity and market access (Avila Albez 2016).

6.2.1 Fundamental Fit

The selection of appropriate partners that fulfill fundamental prerequisites is essential for the establishment of a successful partnership. These prerequisites, which relate to the fundamental characteristics of a potential partner and are essential for it to perform its role within a partnership in a stable manner, are *industry expertise, reputation, financial stability* and *company size*. These elements should be considered criteria for the selection of partners. (Avila Albez 2016)

Expertise in the EAS Industry: The EAS industry is knowledge intensive and strongly shaped by complementarity. This is due to the need to provide complementary business services to leverage the value of a software product and deliver a customized solution on top of offering a core software product. However, it is also because customers often utilize software products from multiple software vendors that need to be integrated to exploit their maximal value and cover all of the customers' own value chains. The corresponding services rely strongly on professional knowledge and expertise. As such, a partner requires deep knowledge and expertise in the enterprise software industry to be able to offer customers a comprehensive solution. This solution is based on a software product but comprises all complementary services, components and products that are necessary to provide customers with complete solutions. The quality and performance of these complementary services along a software product's value chain have a significant impact on the complete product, its value for customers and ultimately on the product's success. A partner´s degree of expertise in enterprise software should therefore be taken into account when a partner is being selected.

Reputation: Another criterion that influences partner selection is a potential partner's reputation, which in this study refers that organization's business performance track record. A potential partner´s reputation thus reflects the history of its attitudes, successes and failures. Software vendors often rely on the reputation of a potential partner to evaluate the general possibility of a partnership.

A software vendor's knowledge regarding a potential partner´s reputation reduces the uncertainty associated with selecting a suitable partner. Information on this reputation is grounded on factors such as prior business experiences with that organization, recommendations and market knowledge.

A company with a strong reputation for high-quality results, the successful accomplishment of projects and trustworthiness is more likely to perform well as a partner and offers less uncertainty about future performance. A positive reputation also increases trust and reduces the risk of investing in a partnership. As such, a positive reputation has a favorable impact on a software vendor´s expectations regarding the quality of a potential partner´s future work. In addition, partners with a strong industry reputation and visible branding are more likely to attract customers. Customers may use a partner´s reputation to assess its market expertise.

A software vendor should consequently select partners with a positive and well-respected reputation and a strong industry brand, because such partners are more likely to both deliver satisfactory high-quality work and attract customers.

Financial Stability: An assessment of a potential partner's financial stability is another criterion that needs to be considered when a partner is being selected. A partner needs sufficient financial strength to commit to a partnership. Initial costs to develop a business on top of the software vendor´s product need to be covered. This includes costs related to customer acquisition, market development, investing in qualified employees, and training employees in initiating and sustaining such a complementary business. Partners need to have enough financial power to open and develop a market based on a software vendor´s product without risking their own existence. Furthermore, a partner with a financially stable situation can be expected to be capable of sustaining the business in the long term.

Company Size*:* A potential partner´s number of employees is an additional criterion for evaluating possible partnerships. Small companies are limited by the size of their resources and competencies. A partner has to possess a critical size to be able to address necessary disciplines and activities, such as sales, product innovation and consulting. A potential partner´s number of employees influences its ability to access and develop a market and therefore affects its performance. As such, a prospective partner's size may also reduce the risk of entering into a partnership. A partner with a greater number of employees also has more potential capabilities to contribute to a software vendor´s resource scaling and market expansion.

6.2.2 Cultural Fit

The partner´s company culture should be compatible with the software vendor´s culture. This includes its values, behavioral principles, business practices, service standards and overall business philosophy. A mismatch of cultures is a potential conflict area for a partnership. A cultural misfit can lead to serious conflicts on both operational and strategic levels and represents a permanent risk. The researcher derived two relevant aspects of cultural fit from the interview data; together they lead to an overall cultural fit. (Avila Albez 2016)

Cultural Compatibility: The first aspect refers to cultural fit as cultural compatibility regarding direct work with a partner. A partner's culture is indicated throughout activities such as its operational practices and decision-making processes. The degree to which a partner's culture is compatible with that of a software vendor´s has a direct impact on the two entities' ability to collaborate and thus to fulfill the partnership's purpose. For example, a culture that emphasizes using a high level of formalization and documentation to structure activities and processes may clash with a culture that is shaped by an action-driven and exploratory attitude. This can lead to important conflicts on an operational level. The degree of cultural compatibility should be sufficient for organizations to work together and achieve favorable collaboration.

Customer-perceived Culture: The second aspect of cultural fit addresses a partner´s willingness and ability to represent a software vendor's core values and business ideologies to the customer market. The customer should experience the product according to the values and principles of the software vendor. In addition, the ways in which partners implement projects and offer services shape the customer-perceived culture of a software vendor. As such, partners should be able to perform the complementary business services in alignment with the software vendor´s values and standards.

These aspects should be evaluated to identify the degree of cultural fit.

6.2.3 Organizational Fit

Organizational fit reflects the availability of an appropriate organizational structure that allows a partner to address the necessary disciplines of the business, such as sales, professional services, consulting and customer support. (Avila Albez 2016) A partner's organizational structure has to be aligned with the disciplines required to offer the agreed complementary business services or products. Its units also need to be equipped with qualified and experienced employees that fulfill relevant needs. A suitable organizational structure is the foundation for implementing required business disciplines and performing the complementary business.

6.2.4 Strategic Fit

According to the interview data, strategic fit refers in the present context to the degree to which a partner has complementary business goals and a compatible vision regarding a software vendor´s core product. (Avila Albez 2016) A common business philosophy concerning how to market and implement a product, a similar understanding of the business, identical views on brand and product identity, and compatible perspectives on both the present business and future developments are indicators of a strategic fit. Intending to integrate a software product in alignment with a vendor's strategy as a core element of a partner's own business strategy is an important driver of partner success. The ideal circumstances are individual interests that are aligned with and united through a common direction. In contrast, a strategic misfit represents a significant risk for a partnership and may lead to a divorce.

6.2.5 Commitment

Commitment refers to a partner's assurance of resources and managerial dedication to complement a software vendor´s core product as a building block of its own business. (Avila Albez 2016) This criterion ensures that a partner is truly committed to both offering complementary services and products to the market and providing significant value to customers. The main elements that need to be addressed are the extent to which the partner is willing to provide and train its employees and aims to integrate a software vendor's product into its own business structure. This involves an assurance that it will allocate a certain number of employees to offering complementary services based on the software vendor´s product. A partner has to commit its resources, to create an adequate structure and to agree that concerned employees will regularly participate in the software vendor's training and certification programs to ensure that they possess the necessary skills.

6.2.6 Ecosystem Fit

This criterion addresses the evaluation of a potential partner´s fit according to a software vendor's partner portfolio. Partner selection is not solely grounded on the individual relation to a potential partner; the partner's position in the partner ecosystem has to be evaluated as well. (Avila Albez 2016) This is associated with assessing whether a potential partner may close a gap in the portfolio and contribute to the strategic direction of the ecosystem. A potential partner should be evaluated against the partner portfolio. Questions must be answered, such as whether a specific target market is already

sufficiently covered by existing partners or what categories of partners would add value to the portfolio (e.g. sales or implementation partners). Potential conflicts within the partner ecosystem regarding for example overlapping customer segments or competing partner products should also be considered during partner selection.

6.2.7 Complementarity

This criterion addresses a potential partner's ability to offer complementary business services, software products or components on top of a software vendor´s own core software product. (Avila Albez 2016)

A partner´s ability to offer, develop and leverage complementary capabilities that have a strong fit to a software vendor´s efforts to address the market is a crucial criterion and increases the odds of success. Based on data, the researcher distinguished three capabilities that extend a software vendor´s core competencies on the top of its core software product: offering complementary business services, offering complementary components and offering complementary products.

Complementary Business Services: The business value for customers is based not only on a monolithic software product, but on complementary business services along the product value chain that are necessary to exploit the core software product's full value proposition (e.g. sales, consulting, customizing and training). It is therefore important for a software product's economic success that a potential partner is able to understand and offer complementary business services along its value chain.

Complementary Products:

Complementary Software Components: The enterprise software industry is characterized by platforms and modularity, with customers often needing to purchase additional components on top of a software vendor´s own core software product to attain the desired value. The core functionalities of a CRM system may need to be extended through a project management module to fulfill a customer´s requirements. Partners that have the expertise to develop and commercialize complementary and modular components on top of a software vendor´s core product extend the spectrum of that product's functionality. Selecting such partners thus significantly increases the value and range of a software vendor's core product.

Complementary Software Products (Software Systems): Similarly, a customer must purchase multiple integrated products (often from different vendors) to cover the whole business value chain. A CRM system that tracks and analyzes customer interaction may need to be connected to an ERP system that manages the status of business commitments (e.g. orders and payments) and a DM system that stores and manages all relevant documents based on compliance requirements. The existence of such complementary products and standardized interfaces thus drives the value and sales of a software vendor´s own product. Consequently, partners with complementary product portfolios or the ability to offer interfaces to complementary products are important for exploiting complementary and horizontal integration with other software products.

Partners can address one or more of the above-described aspects of complementarity. However, partners should be selected strongly based on their complementary capabilities and the software vendor´s objective to exploit complementarities through partners to achieve a competitive advantage. The availability of complementary services and products influences the likelihood of a product's success.

6.2.8 Market Access

As a software vendor aims to extend its presence in existing markets or access new markets, knowledge and resource deficits soon become apparent. Coalitions with partners allow a vendor to access market-specific knowledge and gain the benefits of resource scale without the need for heavy investments (e.g. in new staff and locations). As such, market access is an important criterion for evaluating possible partners' benefits for a software vendor. Market access refers to a partner´s potential to enter a market with a software vendor´s product. Assessing this access should address a partner's regional presence, existing customer bases and market knowledge and how these attributes may benefit a software vendor´s market access and competitiveness. (Avila Albez 2016)

Regional Presence: Vendors of complex business software have to offer complementary services to implement their products in a customer´s company. Delivering these services requires a vendor to have a local presence and be on-site at a customer´s organization. However, a software vendor—no matter how large—cannot do everything itself. International software vendors in particular rely heavily on partners with a regional presence to address customer needs and implement their software through complementary partner services. Implementers' regional presence is essential for customers and thus for the software vendor´s success. A partner's regional presence in a target market is consequently a fundamental selection criterion that is essential for expanding and enhancing a software vendor's market reach.

Existing Customer Bases: Partners with an existing customer base and local brand can provide customer access and use their existing distribution channels to help build recognition and visibility for the focal software product. The barrier to addressing a product to new customers is significantly lower since the partner has already developed trusted relationships with a pool of potential customers. This noticeably reduces a software vendor's efforts and costs in relation to customer acquisition. Software vendors can access completely new and previously inaccessible customer segments by leveraging its partners as multipliers. Furthermore, a partner with a significant number of existing customers can leverage this customer base to develop a new business segment based on a software vendor´s product with a reduced risk of failure. Consequently, this is directly related to a partnership's financial success.

Market Knowledge: Market-related knowledge is developed through constant and repeated interactions with customers and competitors in a specific market. As such, market knowledge is very specific to a given context and usually difficult to develop. A partner engaged in a specific market segment and with significant expertise holds and facilitates access to market-specific knowledge, including an understanding of customer behavior, culture, and language; local conditions and practices; indispensable business or technological expertise; industry-specific knowledge and vocabulary; customer needs, requirements, value chains and expectations; and market standards and compliances. Market-related knowledge is an important asset for entering a software product into a specific market and developing market acceptance. In contrast, a lack of market knowledge may prevent a partner from accessing a market and would lead to large investments and time-consuming efforts. Access to market insights through partners is a highly valuable asset for a software vendor that aims to penetrate a market and represents a source of potential competitive advantage. Partners with market knowledge provide a software vendor access to markets where entry would otherwise be highly improbable and involve significant financial commitments. It is consequently crucial to take a potential partner's degree of market knowledge into account during partner selection.

The above-described aspects should be assessed to identify whether a potential partner offers an appropriate fit to a software vendor´s market development objectives. According to the GT, these are the criteria against which software vendors should assess potential partners. An overview of the relevant partner selection criteria is illustrated in Figure 6.

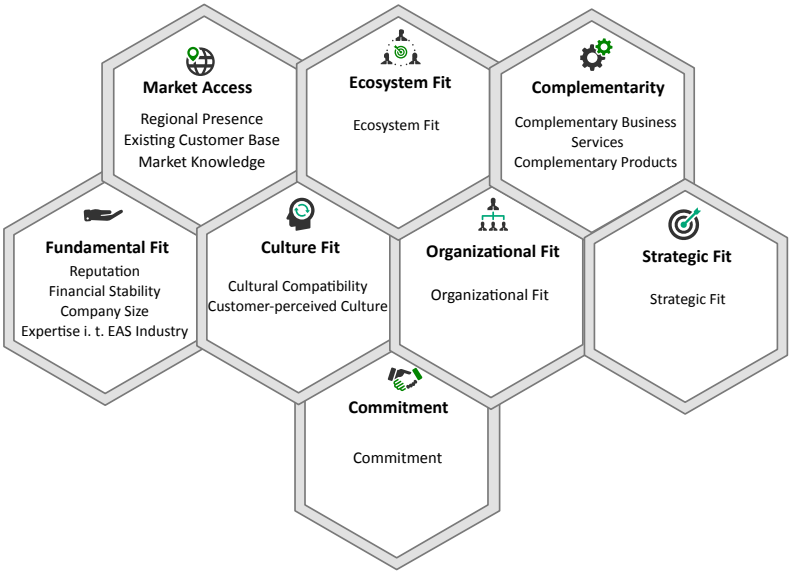


Figure 6: Partner Selection Criteria

7 Qualitative Confirmation of Management Area One – A Comparative Literature Review

The main content outlined in chapter 7 was submitted as a full paper (Avila Albez 2017) and presented at G-Forum 2017 (cf. Appendix I, Table A). Some content of chapter 7 was presented at the IWSECO 2016 and subsequently published (Avila and Terzidis 2016) in the conference proceedings (cf. Appendix I, Table A). In addition, the preliminary results of the comparative literature review on partner selection criteria were presented at EWSECO 2016 (Avila Albez and Terzidis 2016). Thus, the core elements of chapter 7 appeared at the corresponding conference proceedings.

7.1 Objective and Research Question

A systematic literature review (SLR) was conducted to conceptually compare the partner selection criteria that emerged from the current study's analysis of primary interview data with their counterparts with research in the strategic alliances and partnerships domain. The focus was comparing the selection criteria from the interview data with their equivalents in existing cross-industrial studies. The analysis thus focused on identifying which interview-based selection criteria are discussed in the strategic alliances and partnerships domain and extending the interview-based understanding of these selection criteria by integrating them into the existing body of knowledge. The SLR was guided by research question 1 (RQ1): Which criteria for partner selection are discussed in the current body of theory? The corresponding answer helps to verify the study's results and possibly identify criteria that were not mentioned in the expert interviews.

As mentioned above, the SLR was undertaken in the domain of strategic alliances and partnerships across both different industries and different partnerships with varying characteristics. An SLR with a cross-industrial scope was selected since to the best of the researcher' knowledge no studies have identified a solid set of partner selection criteria for the enterprise software industry that would fit the current study's purpose. Much of the identified research evaluates the relevant selection criteria extensively and thus adds depth to the findings of this GT study.

7.2 Method

The SLR was conducted mainly based on the guidelines for undertaking systematic reviews provided by (Kitchenham 2007) and (Tacconelli 2010). An SLR is a research method that enables a researcher to identify, evaluate and interpret existing research relevant to a particular research question, topic area or phenomenon of interest in a structured way. It offers a rigorous review of available research based on well-defined stages and discrete activities. An SLR comprises three main phases: planning the review, conducting the review and reporting the review. (Kitchenham 2007, 2–6) An overview of the structure of this study's SLR is presented in Figure 7.

The following sections describe how the SLR was implemented in the focal research project.

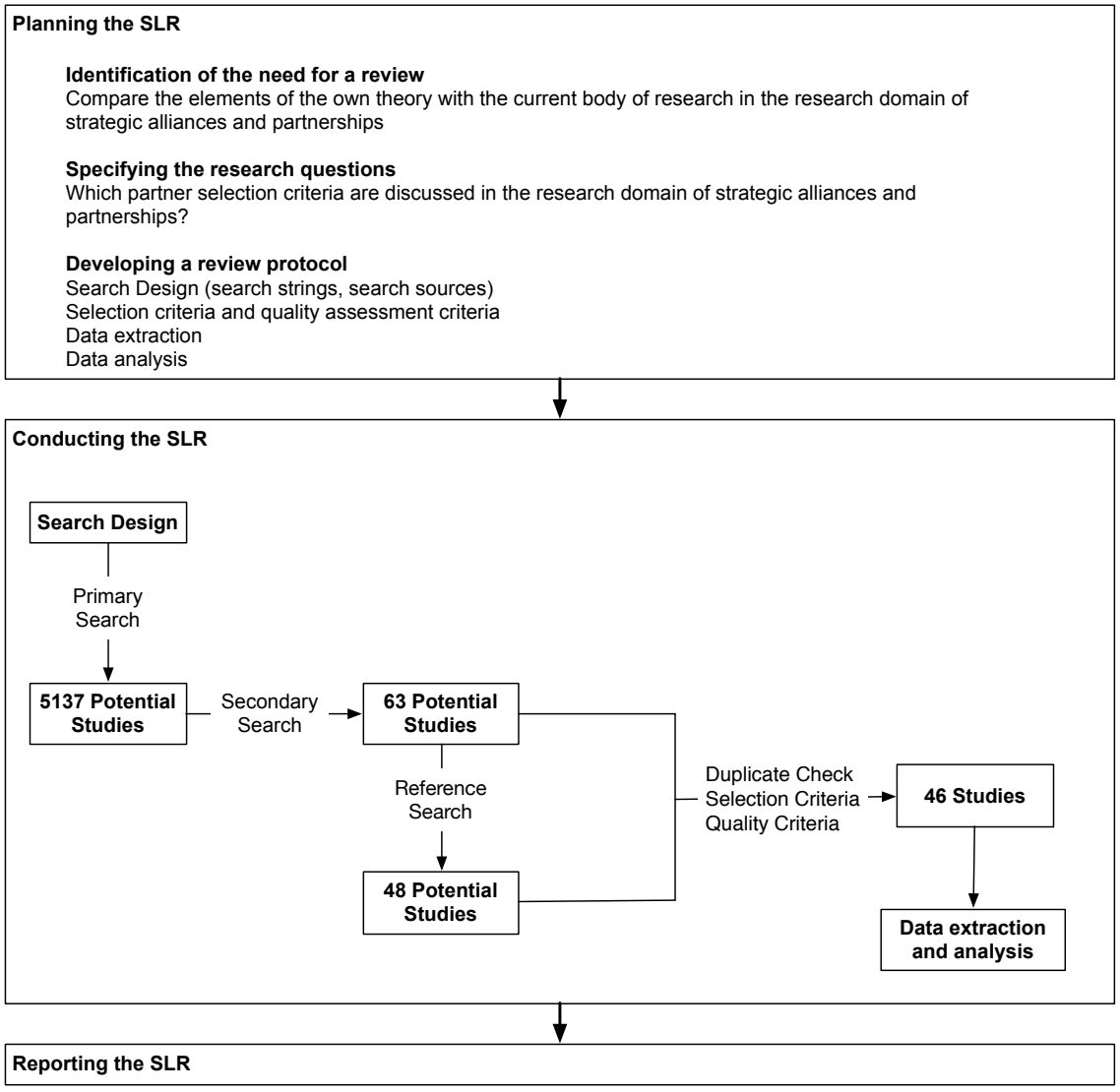


Figure 7: Structure of the Systematic Literature Review

7.3 Planning the SLR

7.3.1 Identifying the Need for a Review

According to (Kitchenham 2007), before an SLR is conducted the need for a literature review must be evaluated.

As mentioned above, the identified partner selection criteria emerged using GT. A fundamental principle of GT is to prevent the formation of preconceived theories. In GT, one should not be absorbed by the existing literature before the core elements of the own theory are substantially developed. However, once the theory is developed and has sufficient substance, previous work in the corresponding research

area has to be identified and related to the emerging theory. The researcher has to relate the theory to the relevant work to „draw comparisons, build on, or offer an alternative perspective“ (Goulding 1998, 53). To address this need, a structured review of related research and literature must be undertaken. To compare elements of the GT results with the current body of research and relate the theory to it, the researcher thus conducted an SLR based on the guidelines provided by (Kitchenham 2007) and (Tacconelli 2010).

7.3.2 Specifying the Research Question

The specified research questions are the guiding elements of an SLR, and studies that address them have to be identified. The contents of these studies then have to be extracted and compiled to answer the research questions.(Kitchenham 2007, 2–6)

The following research question (RQ) is addressed through this SLR: (RQ1) Which criteria for partner selection are discussed in the current body of theory?

The purpose of the SLR was to relate the GT results—with respect to the management of partner selection—with the current body of knowledge concerning partner selection across industries. The researcher focused in particular on identifying similarities and differences.

7.3.3 Developing a Review Protocol

A review protocol describes the procedures used to perform an SLR. It includes the design specifications for the search procedure, the selection of suitable studies, and the extraction and synthesis of data. It is necessary to specify a review protocol prior to conducting an SLR to reduce the possibility of research bias, e.g. to avoid the selection of studies being driven by researchers' expectations. (Kitchenham 2007, 2–6)

The elements of a review protocol include the search design, a specification of selection criteria and quality assessment criteria, and descriptions of both the data extraction approach and the data analysis and synthesis procedures.

7.3.3.1 Search Design

This section describes the search strings defined for performing the search as well as the sources to be searched.

A search string appropriately derived from an RQ is crucial for identifying suitable research studies. For this purpose, the researcher iteratively developed a suitable search string using a variety of trial search strings. To this end the researcher broke the RQ into different aspects. Then he reviewed the terminology in the partnerships and strategic alliances domain and identified keywords and possible synonyms that address RQ1 and aspects thereof. The researcher also inspected studies already identified as suitable to derive alternative and complementary search terms, which he subsequently checked against a set of known studies. The researcher also discussed the keywords with experts in the targeted domain. Using Boolean operators, the researcher then iteratively constructed the following search string for the RQ:

RQ1 search string: within the subject areas business, management or economics: (partner AND selection AND criteria) OR (partner AND selection AND factors) OR (partner AND selection AND determinants)

The pre-defined *search sources* listed below were used to identify suitable studies.

Search engines:

- BASE - www.base-search.net
- CiteSeer - citeseer.ist.psu.edu
- Microsoft Academics - academic.microsoft.com
- GoogleScholar - scholar.google.de

Journal databases:

- Emerald - www.emeraldinsight.com
- IEEE Xplore - ieeexplore.ieee.org/Xplore/
- JSTOR - www.jstor.org
- ScienceDirect - www.sciencedirect.com
- Scopus - www.scopus.com
- Springer Link - link.springer.com
- Wiley Online Library - onlinelibrary.wiley.com
- Long Range Planning -www.journals.elsevier.com/long- range-planning

7.3.3.2 Selection Criteria and Quality Assessment Criteria

The following criteria were used to determine which studies were and were not considered in the SLR. To ensure a deliberate selection of studies, each study needed to be evaluated against these criteria (Kitchenham 2007, 13).

Exclusion criteria:

The prerequisites for selecting a study were the subject area (business, management, economics), the availability of an abstract for a preliminary review and full access to the paper. Studies that did not meet these criteria were excluded without further evaluation.

Inclusion criteria:

The main criterion for selection was a contribution to the specified RQ. Furthermore, the RQ had to be addressed in the context of the partnerships and strategic alliances research domain. The researcher defined sets of general, RQ-specific and quality assessment criteria to evaluate each study's suitability .

General criteria:

- The study is relevant to the research domain of partnerships and strategic alliances; and
- The study is based on empirical research methods (e.g. case study, survey, action research, GT) or offers aggregated knowledge (e.g. a literature review).

Criteria specific to the research question:

- The study contains a structured analysis or discussion regarding the selection of partners as a potential success factor for partnerships; and
- The study identifies, analyzes and discusses a set of selection criteria that are transferable/relevant to the focal study.

Quality criteria:

- The aim of the study, the RQs, the research constructs (e.g. elements of a theoretical framework) to address these RQs, the research measures to evaluate the research constructs and the results are clearly described;
- The research measures used actually evaluate the research constructs in question (i.e. the study has construct validity);
- The study's design and data make it possible to draw accurate conclusions about relationships within the data and these relationships are well described (i.e. internal validity exists);
- The study's findings can be generalized and are applicable to the setting of the focal study (i.e. the research has external validity).

(Leedy and Ormrod 2014; Saunders 2011)

7.3.3.3 Data Extraction

To capture the data in a consistent and structured manner, the researcher designed a data extraction form. This form provides an overview of key information regarding the selected studies and supports their subsequent analysis. The following list summarizes the information captured for each selected study:

- Standard information: ID, source, title.
- Specific information: partner selection criteria aligned with the results of the GT study.

7.3.3.4 Data Analysis and Synthesis

Identifying whether selected studies are consistent or inconsistent with the results of the GT research is an important aspect of the analysis. Similarities and differences should be analyzed and discussed. The researcher performed a qualitative synthesis to summarize the results of a comparison between the included studies and the GT results. (Kitchenham 2007)

7.4 Conducting the SLR

7.4.1 Identifying Research Sources

The researcher used research search engines and journal databases as the main sources during the primary search. Building on this, they reviewed the reference lists of the chosen works and selected promising references to use in conducting an additional search (i.e. a reference search). The researcher also scanned online bookshops for standard literature addressing the topic of partnerships and strategic alliances.

The search engine GoogleScholar was also used, but with a slightly different search strategy. In contrast to the other search engines, GoogleScholar does not offer the possibility to search only abstracts, which leads to less focused results in the present search. The search for the selected search string gave rise to more than half a million hits. As a result, the researcher limited the GoogleScholar search to articles with the exact phrase “partner selection criteria,“ which led to 1970 results. As GoogleScholar also identified studies already extracted from the other databases, it was used as a complementary data source with the aim of reducing the possibility of missing important studies. It was also employed to search for the references of the primary search (i.e. the reference search).

7.4.2 Selecting Primary Studies

Based on the defined search string, the researcher’ primary search resulted in 5137 potential studies. Table 5 lists the number of potential studies by source. After more closely analyzing the suitability of these studies for the current research context, the researcher reduced the number of potential studies to 63 (secondary search). Before the specified inclusion and exclusion criteria were applied, a decision was taken to search the reference section of each of these 63 studies for additional relevant work (reference search). This process led to the selection of 48 references. The results from the secondary and reference searches were subsequently merged, with joint studies being checked for duplicates. The inclusion and exclusion criteria were also applied. A total of 46 studies/sources were ultimately selected for further investigation.

Table 5: Number of Potential Studies by Source

Source	Number of Potential Studies
BASE	9
CiteSeer	75
Microsoft Academ-ics	39
Google Scholar	1970
Emerald	335
IEEE	55

JSTOR	6
Scopus	133
ScienceDirect	51
Springer Link	2146
While Online Library	131
Long Range Planning	187

7.4.3 Extracting and Analyzing Data

7.4.3.1 Data Extraction

The researcher extracted the relevant data based on the designed data extraction form. Appendix II shows the final results of this extraction. This overview supported the further analysis of the selected studies.

7.4.3.2 Data Analysis and Synthesis

Consistent with the RQ, the researcher performed a qualitative analysis of the studies and summarized the results of the comparison of these studies to the GT results. For this purpose, the researcher analyzed whether and how the identified selection criteria of the GT research are represented in the selected studies. The researcher compared the GT results of the partner selection criteria with how other authors understand these criteria. In doing so, they focused on comparing the following criteria: cultural fit, organizational fit, strategic fit, commitment, ecosystem fit, complementarity and market access. The selection criterion of fundamental fit was excluded from the comparison due to the fact that fundamental fit is understand in significantly different ways across industries.

In their reporting, the researcher first provided the general findings regarding the representation of the above-mentioned selection criteria in the selected studies (chapter results). In the subsequent chapter (data synthesis), the researcher concludes the comparison between the GT's results concerning partner selection criteria and the counterparts of these results in the selected studies.

7.5 Results

As stated above, this section presents the general findings of the selected studies regarding the GT selection criteria of cultural fit, organizational fit, strategic fit, commitment, ecosystem fit, complementarity and market access.

7.5.1 Cultural Fit

Culture is a complex concept that has been analyzed and described by numerous researchers and authors (Campbell-Kelly 1995). For the purpose of the current study, culture is defined as the pattern of shared values, beliefs and norms within an organizational unit that shapes the behaviors of that unit's members to succeed. Alternatively, (Tukey 1958) describes it as „the way we do things around here" for the purpose of success. In alignment with this perspective, (Messerschmitt and Szyperski, 9) describe culture as the essential way of an organizational unit to success. (Tidd and Bessant 2014, 140)

Culture provides constancy for an organization and works as a guiding system for people`s behavior. It supports people by telling them what kinds of activities are in and out of bounds. Over time, a culture establishes basic rules of behavior and patterns of communication. In the context of an organization, it defines what effective and ineffective performance means, describes expectations and guides prioritization. It also establishes the nature of authority and determines if the decision-making power is at the top of an organization or spread throughout it. (Messerschmitt and Szyperski, 9)

Evidence from a significant number of studies suggests that cultural differences between partners represent one of the most common reasons for failed partnerships and problems among partners. For example, in a study of 59 high-technology companies undertaken by (Kelly, Schaan, and Joncas 2002) participants identified cultural incompatibility between partners as the second largest group of partnership challenges and repeatedly cited cultural mismatches and misunderstanding as reasons for partnership problems. The cultural differences reported relate to differences between national cultures, differences between large and small company cultures, and differences between manufacturing and service companies. (Meschi 1997) also argues in a study involving 51 international joint ventures that most problems encountered in international joint ventures are rooted in cultural factors: „The presence of major cultural differences (…) between the partners can lead international joint ventures to disaster (…)" (Meschi 1997, 212). Moreover, (Meschi 1997) suggests that weak performances of inter-firm ventures can often be traced back to cultural differences between partners. Such cultural differences imply instability and performance-related difficulties. Significant differences in culture between partners negatively affect a partnership's success and increase the likelihood that areas of conflict will arise and cooperation will fail (Meschi 1997). (Niederkofler 1991) makes similar observations in his longitudinal case study research, identifying fundamental cultural differences between major corporations and smaller firms as an important obstacle in the successful operationalization of partnerships. Smaller firms became irritated by seemingly implausible demands for information and analysis by larger firms and were upset by decision delays. In contrast, larger firms were shocked by the lack of formal analysis among their smaller partners. Such differences in corporate culture may lead to the termination of partnerships (Harrigan 1985, 316). (K. D. Brouthers, L. Eliot Brouthers, and T. J. Wilkinson 1995, 23), therefore assert that managers involved in partnerships have to be sensitive to any existing cultural differences. In addition, (Stafford 1994) observes that strategic planners have to assess the compatibility of a prospective partner's culture, pointing out that „when partners lack compatibility cultures and values, expectations and trust between partner employees may not materialize and lead to inter-partner employee conflict." The similarity of a potential partner´s organizational culture is consequently a critical factor for a successful partnership. This perspective is supported by a significant number of studies and authors (Bronder and Pritzl 1992, 23; Stafford 1994; Harvey and Lusch 1995; Chen, Lee, and Wu 2008; Cummings and Holmberg 2012; Holmberg and Cummings 2009; Evans 2001; Medcof 1997; Meschi 1997; Lyles and Salk 1996; Borchert, Goos, and Hagenhoff 2006; Bierly and Gallagher 2007; Hoffmann and Schlosser 2001; Swoboda et al. 2011; Kelly, Schaan, and Joncas 2002; Tsamenyi, Cullen,

and Moeller 2010; Ding, Dekker, and Groot 2013; Douma et al. 2000; Wu, Shih, and Chan 2009; Niederkofler 1991; Sarkar et al. 2001).

For example, (Medcof 1997) suggests four criteria—including cultural compatibility—for evaluating the operational workability of a potential partnership. (Medcof 1997) notes that compatibility among partners is one of the most important success factors and that culture plays a crucial role therein. Similarly, (Harrigan 1986) observes in a study of 894 partnerships in 23 different industries that analyzes the influence of partner asymmetries on venture performance that cultural homogeneity among partners is an important factor in the success of a venture. Based on empirical evidence and existing research, (Kelly, Schaan, and Joncas 2002) conclude that „successful alliance builders have detailed knowledge of the potential partner's management culture (…)."

In summary, it is a prevalent theme in the literature on inter-firm cooperation that cultural conflicts often lead to instability and poor performance and that congruence between different cultures represent a major factor in the success of inter-firm cooperation.

7.5.2 Organizational Fit

In most identified studies, organizational fit in the context of inter-firm relationships is addressed as the degree to which partners´ organizational structures are compatible. According to (Anderson 2010), a company's organizational structure generally describes its approach to dividing labor into various tasks and achieving coordination among them. Employees also perceive and interpret this structure as a guiding foundation for their behavior; as such, a company's organizational structure influences employee behaviors (Van Aken, Joan Ernst 2005, 89). Partners must thus have compatible organizational structure if they are to work together successfully. Selecting partners with compatible structures may not be sufficient to encourage behaviors that serve partnerships, but it builds the organizational fundament for the effective implementation of partnerships. (Tjemkes, Vos, and Burgers 2013) call organizational fit the degree to which partners´ organizations are compatible. (Lasserre 2012) describes the objective of organizational fit as assessing whether partners´ organizational structure, systems and procedures differ to the extent that the organization of the work between partners is affected. As a result, organizational fit demands that the involved partners have compatible organizational structures, systems and procedures. This means, for example, that partners should use formal mechanisms that are not significantly different to the point that the organizations are unable to coordinate their decision making (Greve, Rowley, and Shipilov 2013).

The primary dimensions of a company's organizational structure comprise the degree of formalization, specialization, centralization and hierarchy. (Pichler 2010) concluded these dimensions after extensively studying the importance and characteristics of organizational structures. (Pichler 2010, 30–32; Pichler 2010, 18)

Formalization refers to the degree to which a company defines and uses rules, procedures and written documentation to structure activities and the behaviors of individuals or groups within that company. It provides a company with standard processes and supports employees by establishing clear behavior expectations and guiding criteria for decision-making. Formalization can be particularly important for ensuring high quality interaction and cooperation with customers and partners and enforces consistent, uniform and repeatable performance. While formalization can help large companies to perform efficiently and coherently, a high degree of formalization can also stimulate inflexibility and suppress

employees' creativity and motivation to innovate. (Pichler 2010, 30–32; Pichler 2010, 18; Hinds, Vogel, and Clarke-Steffen 1997, 210–12)

Specialization, which is also referred to as division of labor, describes the degree to which organizational tasks are subdivided into different work packages and assigned to separate employees. In an organizational structure with a high degree of specialization, each employee tends to perform a narrow range of activities; in contrast, low specialization results in employees who cover a wide range of activities. Specialization may be used to optimize processes and their outcomes, but it can lead to reduced creativity and inflexibility as a result of the limitations related to focused activities. Furthermore, a high degree of specialization may cause a lack of understanding concerning cross-functional activities. A low degree of specialization can foster a "big-picture" perspective among the concerned employees, while extensive specialization enables a high level of effectiveness and quality for recurring activities. (Pichler 2010, 30–32; Pichler 2010, 18; Hinds, Vogel, and Clarke-Steffen 1997, 210–12)

Centralization is the degree to which decision-making authority is retained at higher levels of the company hierarchy. It therefore refers to the hierarchical level that holds the decision-making power. A company that confines the decision-making process to top management levels is highly centralized. In contrast, companies that encourage decentralized structures delegate decisions to lower managerial levels. Centralized structures may be able to maximize economies of scale, avoid redundant activities and improve the coherence of a company´s efforts. Moreover, due to their tight decision-making structures, highly centralized companies may be better able to implement comprehensive changes regarding their strategic direction. Decentralized companies may find it difficult to secure the necessary commitments from all relevant departments when facilitating a company-wide change. Nevertheless, decentralized structures are better for addressing fast-changing market conditions. This is due to the fact that company units at lower management levels have the authority to decide independently and enforce changes, which enables them to respond quickly to new and emerging circumstances. (Pichler 2010, 30–32; Pichler 2010, 18; Hinds, Vogel, and Clarke-Steffen 1997, 210–12)

The hierarchy of authority describes a company's formal chain of command as well as its reporting and communication paths. It represents the vertical structure of a company´s organization chart. A company with a strongly vertical structure may be organized into functional departments. Depending on the industry and business model, other criteria (e.g. business units or divisions) may play a role. When a company is mainly controlled through a vertical hierarchy, little collaboration exists across functional departments or divisions. On the other end of the spectrum are companies with structures that are mainly constructed around horizontal workflows and processes rather than vertical, functional-based departments. Such companies focus on fostering collaboration across departments and functional areas to find solutions for business needs. (Pichler 2010, 30–32; Pichler 2010, 18; Hinds, Vogel, and Clarke-Steffen 1997, 210–12)

The characteristics of a company's hierarchy are related to the communication behavior within that organization. A vertically controlled company tends to organize communication and information flows along a vertical hierarchy. Managers inform employees below them of goals and strategy and pass corresponding instructions down, whereas employees provide relevant information (e.g. performance reports and financial information) up the hierarchy. Companies that emphasize horizontal collaboration manage information flows across departments and hierarchical levels, which enables employees to obtain a more complete perspective of the company and thus evaluate situations more comprehensively and respond faster. Such companies also tend to extend the horizontal communication to their

customers and partners, which often improves their own absorptive capabilities. (Pichler 2010, 30–32; Pichler 2010, 18; Hinds, Vogel, and Clarke-Steffen 1997, 210–12)

These dimensions are in accordance with the observations of (Lasserre 2012), who reports that the main dimensions in an organizational fit analysis are the degree to which decision-making is decentralized, the degree to which policies and rules are documented, accounting and reporting methods and systems, the degree to which decision-making is formalized, and the incentives used to motivate personnel.

In accordance with this perspective, (Greve, Rowley, and Shipilov 2013) argue that a highly hierarchical firm finds it easier to communicate and make decisions in a partnership with a firm that possesses a similar degree of hierarchy. A hierarchical organization finds it more difficult to communicate and make decisions with a partner that has a flat organizational structure. Likewise, (Tjemkes, Vos, and Burgers 2013) find that a firm with a centralized, "mechanical" structure that collaborates with a firm with an "organic," decentralized structure may be confronted with obstacles that impede constructive collaboration. In addition, when established firms partner with start-ups, their decision-making structures do not naturally align—which frequently leads to misunderstanding and conflicts (Tjemkes, Vos, and Burgers 2013).

„Poor organizational fit jeopardizes alliance development and could limit partners` ability to engage in collective sense-making, joint decision-making, or inter-firm learning" (Tjemkes, Vos, and Burgers 2013).

Organizational structures that are not compatible will counteract the achievement of the partnership's objectives. Partnerships are unlikely to succeed when organizational structures are incompatible.

Several authors have evaluated the role of organizational fit (i.e. compatible organizational structure), with most reporting that it is a crucial factor for partnership success on an operational level (e.g.Douma et al. 2000, Lewis 2002) (Schaan and Kelly 2007; Park and Ungson 1997; Lasserre 2012; Saxton 1997)). For example, in almost all of the in-depth case studies investigated by (Douma et al. 2000), the alliance managers indicated that organizational fit was a critical success factor and determined alliance feasibility. However, while a large portion of the standard literature seems to assert that organizational fit is relevant (e.g. Schaan and Kelly 2007; Lewis 2002; Doz and Hamel 1998; Lasserre 2012), only a few of the identified studies evaluate its role extensively (Douma et al. 2000; Park and Ungson 1997; Saxton 1997). This may be due to the fact that organizational fit is correlated with cultural fit (Lasserre 2012) and thus often analyzed as a constructing element of cultural fit. Nevertheless, the results of the SLR indicate overall that in the current body of theory, organizational fit is a relevant factor in relation to the selection of suitable partners.

7.5.3 Strategic Fit

(Greve, Rowley, and Shipilov 2013) describe strategic fit as the degree to which the involved partners have complementary strategies and objectives. This implies that a partnership should help both partners to reach their own long-term goals and avoid direct competition between the partners in key markets. Similarly, (Swoboda et al. 2011) argue that, strategic fit refers to the congruence of strategies and objectives between partners. Partners may agree on how they will create value, but (Doz and Hamel 1998, 93–119) argue that this is insufficient for attaining a successful partnership. The potential to create value is a necessary but insufficient condition for entering a partnership. A further—and often more demanding—condition is strategic compatibility between the partners´ interests. Operating with

incompatible goals undermine the basis for partners to cooperate and fosters distrust (Doz and Hamel 1998, 93–119). In alignment with this view, (Lasserre 2012) describes the purpose of strategic fit as assessing the degree of compatibility among partners' explicit and implicit strategic objectives.

Extensive research has been undertaken concerning the concept of strategic fit for partnerships or describing strategic fit as a relevant selection criterion for partners (e.g. Swoboda et al. 2011; Douma et al. 2000; Kelly, Schaan, and Joncas 2002; Chen, Lee, and Wu 2008; Cummings and Holmberg 2012; Bronder and Pritzl 1992; Lu 1998; Williams and Lilley 1993; Tsamenyi, Cullen, and Moeller 2010; K. D. Brouthers, L. Eliot Brouthers, and T. J. Wilkinson 1995; Saxton 1997; Niederkofler 1991; Al-Khalifa and Eggert Peterson 1999a; Stafford 1994).

For example, (Swoboda et al. 2011) demonstrate strategic fit's positive influence on the success of international partnerships in an empirical study of 168 SMEs. Likewise, in a study based on a longitudinal field survey of a strategic alliance of 98 partners (Saxton 1997) reports a positive relationship between the strategic similarity of the partners and the partnership's performance. In a study by (Kelly, Schaan, and Joncas 2002), survey results from 59 Canadian technology companies reveal that strategic agenda issues and problems related to a partnership's goals and objectives are among four key concerns when it comes to managing partnerships. A high degree of compatibility regarding business and alliance goals, appropriate competitive positioning, compatible strategic missions and visions, and a shared understanding of the business rationale are some of the indicators of strategic fit identified by (Tjemkes, Vos, and Burgers 2013). (Tjemkes, Vos, and Burgers 2013) argue that a good strategic fit is a precondition for any partnership, signals long-term commitment and increases long-term value creation potential. Conversely, a strategic misfit constitutes a threat to a partnership in the long term. Poorly fitting partners may be less committed and allocate resources to other more suitable business constellations. „Firms involved in alliances must have goals that support each other, not compete with each other" (K. D. Brouthers, L. Eliot Brouthers, and T. J. Wilkinson 1995, 21–22).

What is good for one firm may be a disaster for another (Williams and Lilley 1993). As such, a company needs to carefully evaluate the strategic fit of a potential partner as well as the possibility to strengthen a limited fit. For example, (Tjemkes, Vos, and Burgers 2013) and (Williams and Lilley 1993) argue that potential partners should not collaborate in the absence of strategic fit. Divergent industry visions, varying perceptions of a partnership's importance and partners that act as competitors are some signals of a strategic misfit (Tjemkes, Vos, and Burgers 2013). For example, (Lasserre 2012) suggests investigating strategic fit based on three parameters: an alliance's criticality for the partners, partners' relative competitive positions and the compatibility of partners' strategic agendas. These observations are in agreement with the findings of (Douma et al. 2000), who report six drivers that partners can use to determine the degree of strategic fit: a shared vision of future development, compatible corporate strategies, strategic importance of the partnership, mutual dependency of the partners, added value of the partnership and market acceptance of the partnership. (Bronder and Pritzl 1992) note that criteria harmony of business plans and strategic goals in relation to value potentials, products, markets and regional focus is one important aspect when evaluating the strategic fit of potential partners. (Varis, Kuivalainen, and Saarenketo 2005) use criteria for evaluating a partnership's business potential that are partially in line with the concept of strategic fit reported in several other studies. In conclusion, „the situation that holds the most promise (…) is one in which strategic goals converge while competitive goals diverge" (K. D. Brouthers, L. Eliot Brouthers, and T. J. Wilkinson 1995, 21).

7.5.4 Commitment

Researchers have also considered the impact that commitment has on the success of partnerships. Commitment is described as a pledge by a partnership's members to perform activities that contribute to achieving the partnership´s goals and objectives. According to (Shah and Swaminathan 2008), it is the foundation of successful long-term relationships.

Commitment to a relationship involves a desire to develop a stable relationship, a willingness to make short-term sacrifices to maintain the relationship and a confidence in the relationship's stability (Anderson and Weitz 1992). „An executive must determine whether a potential partner is willing and able to make the relationship work" (Williams and Lilley 1993). Managers responsible for partner selection should therefore demand a credible commitment of the resources that are required for a successful partnership (Shah and Swaminathan 2008). The degree of commitment can vary and may include for example training people to offer services related to the partner´s business solution (Anderson and Weitz 1992). Such a commitment increases the likelihood that the desired outcomes will be generated (Shah and Swaminathan 2008). Furthermore, after reviewing numerous studies (Shah and Swaminathan 2008) conclude that commitment can prevent partners from behaving in a manner that is harmful to the partnership and thereby increase the likelihood of an alliance's success.

Various scholars have come to similar conclusions and describe commitment as a relevant factor that contributes to the success of a partnership (e.g. Medcof 1997; Tsamenyi, Cullen, and Moeller 2010; Sarkar et al. 2001; Williams and Lilley 1993; Shah and Swaminathan 2008; Swoboda et al. 2011; Kauser and Shaw 2004; Varis, Kuivalainen, and Saarenketo 2005; Kelly, Schaan, and Joncas 2002; Angeles and Nath 2000).

Commitment is viewed as crucial in the inter-organizational partnerships research area. For example, (Medcof 1997) reports that commitment belongs to five traditional criteria for selecting suitable partners. This author also contends that commitment has two primary aspects. The first aspect refers to committing resources and effort to a partnership on a continuing basis. A partner without this kind of commitment may invest only the minimum to keep the partnership alive and behave opportunistically. The second aspect relates to the degree of dependence and thus how readily a partner will leave a partnership when unexpected challenges arise. A firm without such commitment may exit a partnership at a critical juncture, leaving its partner with significant investments (Medcof 1997). Commitment thus also involves a temporal aspect in terms of a partner´s intention to maintain the relationship in the future (Tsamenyi, Cullen, and Moeller 2010). (Sarkar et al. 2001) find empirical support that the mutual commitment of partners is positively associated with collaborative performance regarding project and strategic performance. (Angeles and Nath 2000) discovered through a questionnaire study with 152 respondents that six relevant factors including strategic commitment are relevant selection criteria for companies when they are choosing trading partners. As part of an „empirical investigation of strategic alliance agreements between UK firms and their European, Japanese and US partners", (Kauser and Shaw 2004) report that the levels of commitment demonstrated by a UK firm's partners constitute an important factor. Based on their research results, (Kelly, Schaan, and Joncas 2002) summarize the implication for partner selection as the need to evaluate partner compatibility in a deliberate and complete way and to evaluate commitment, "chemistry" and trustworthiness.

7.5.5 Ecosystem Fit

Evaluating a potential partner based on its fit to a software vendor's existing partner portfolio is not represented as a criterion in the identified studies.

7.5.6 Complementarity

Complementarity between partners is a prevalent topic in a vast majority of partner selection studies. These studies indicate that resource complementarity is a key element in successful collaboration. It has also been noted that in the network economy, many resources necessary to succeed within a market are transorganizational and external to a firm in nature and thus only accessible through inter-firm partnerships (Achrol 1997).

Complementarity is described as the extent to which the combined use of a set of individual resources leads to a higher benefit than the sum of the individual results. Joint use creates a special capacity for enhanced business development (Doz and Hamel 1998; Greve, Rowley, and Shipilov 2013; Tjemkes, Vos, and Burgers 2013; Lasserre 2012). (Sarkar et al. 2001) conclude that complementarity determines the combination of unique and valuable resources required to achieve strategic objectives and implies strategic symmetry, wherein a balanced share of unique strengths creates partner interdependence. Alternatively, as (Doz and Hamel 1998) note, „(…) partners with specific skills (…) find value in combining forces to create and exploit opportunities that call for a broader range of skills than either partner has on its own."

(Tjemkes, Vos, and Burgers 2013) distinguish two types of resource complementarity: complementary resource alignment and supplementary resource alignment. Complementary resource alignment refers to the dissimilar contributions of resources that enable partner firms to exploit synergies and capitalize on non-redundant distinctive competences. In contrast, supplementary resource alignment refers to contributions of similar resources to a partnership, e.g. to obtain economies of scale or increase market power. Combining forces in such a way enables firms that lack an entire set of resources to develop a competitive advantage in a particular domain (Doz and Hamel 1998; Greve, Rowley, and Shipilov 2013; Tjemkes, Vos, and Burgers 2013; Lasserre 2012). Evaluating a potential partner's complementarity is thus an important selection criterion (Tjemkes, Vos, and Burgers 2013).

(Shah and Swaminathan 2008) argue that complementary skills and resources are required in all alliance project contexts and are therefore a minimum requirement for partnering. Similarly, (Greve, Rowley, and Shipilov 2013) underline that firms should evaluate a potential partner's degree of complementarity and suggest a set of guiding questions for evaluating the degree of resource complementarity.

„The valuable, unique, and inimitable synergy that can be realized by integrating complementary resources provides an opportunity for the firm to create competitive advantages that can be sustained for a period of time" (Harrison et al. 2001).

Several studies demonstrate the importance of partner complementarity for inter-firm collaboration (Sarkar et al. 2001; Chung, Singh, and Lee 2000; Hitt et al. 2000; Shah and Swaminathan 2008; Nielsen 2007; Harvey and Lusch 1995; Geringer 1991; Glaister 1996; K. D. Brouthers, L. Eliot Brouthers, and T. J. Wilkinson 1995; Hoffmann and Schlosser 2001; Wu, Shih, and Chan 2009; Douma et al. 2000; Glaister and Buckley 1997a; Bronder and Pritzl 1992; Tatoglu 2000; Williams and Lilley 1993; Niederkofler 1991).

(Sarkar et al. 2001) show empirically that resource complementarity between partners is positively associated with the performance of joint projects. (Chung, Singh, and Lee 2000) find support that resource complementarity plays a significant role in driving alliance formation. The results of (Choi and Beamish 2013) suggest that a joint venture's performance is influenced by its partners' complementarity. Based on data collected from 1995 to 1998, (Hitt et al. 2000) identify in a study of international alliances that firms in emerging markets tend to select partners based on financial assets, technical capabilities, intangible assets and a willingness to share experts; in contrast, firms in developed markets leverage their resources (e.g. market knowledge/access and unique competencies). Firms in both markets select partners that provide access to resources that complement their own. In support of this conclusion, (Geringer 1991) argues that partnerships offer firms a possibility to access complementary resources that they lack. After analyzing data related to 81 international joint ventures, (Geringer 1991) concludes that companies that aim for complementary partnerships must specify and prioritize the task-related skills and resources that they need from a partner—which implies that they need to analyze themselves to identify which skills and resources they may need to compete successfully. (Geringer 1991) argues that prospective partners should be able to contribute the skills and resources that are necessary in both the short- and long-term to fill existing gaps. In support of this conclusion, (K. D. Brouthers, L. Eliot Brouthers, and T. J. Wilkinson 1995) recommend that partnerships should only be established with companies that strengthen a venture through complementary skills, experience and knowledge that are specific and applicable to a firm's own products or services. (Hoffmann and Schlosser 2001) undertook a questionnaire-based study with 164 participants from SMEs in Austria. They find that complementarity represents an important factor that determines a partnership's success or failure. The findings of (Douma et al. 2000) indicate that the more partners complement each other, the better the chances that the partnership will be successful. (Bronder and Pritzl 1992) call complementarity a fundamental fit between companies. Furthermore, (Tjemkes, Vos, and Burgers 2013) assert that complementarity might reduce the risk of opportunistic behavior and objective conflicts, because long-term value creation is likely to outweigh any short-term benefits. In accordance with this view, (Sarkar et al. 2001) demonstrate in an empirical study of 68 firms that „resource complementarity has a significant relationship with reciprocal commitment".

7.5.7 Market Access

A large body of studies addresses the critical aspect of market access as an evaluation criterion for selecting potential partners (Wu, Shih, and Chan 2009; Hitt et al. 2000; Lu 1998; Kauser and Shaw 2004; Glaister 1996; Tatoglu 2000; Stafford 1994; Glaister and Buckley 1997b; Bronder and Pritzl 1992; Al-Khalifa and Eggert Peterson 1999a; Cummings and Holmberg 2012).

One of these studies was undertaken by (Hitt et al. 2000), who compared desired partner characteristics in emerging and developed market contexts. Their analysis of a survey completed by executives from 202 companies reveals that market access is a significant selection criterion in both market types.

Moreover, a study that examines international joint ventures in China argues that market access through partners represents a vital element for a successful ventures (Lu 1998). Similarly, a survey that focuses on the Korean market identifies that cooperating with partners that possess local market knowledge is positively correlated to the performance of joint ventures (Choi and Beamish 2013).

An analysis of 114 international alliances formed by UK companies reveals that the three most important reasons for partnerships include the costs and risks of market entry, the need to gain access to a

foreign market and the opportunity to improve market share (Kauser and Shaw 2004). The main motives for forming partnerships indicated are consequently rooted in the objective of facilitating market access.

In alignment with these results, another study shows that UK firms seek partnerships mainly to facilitate access to new markets (Glaister 1996). (Glaister 1996) identifies three main strategic motives: to gain a presence in new markets, to enable faster entry into a market and to facilitate international expansion. He also lists three main task-related partner selection criteria: access to knowledge of a local market, access to distribution channels and access to knowledge of local culture (Glaister 1996).

A similar study investigates Western joint ventures in Turkey and reveals nearly identical selection criteria of Western firms for partnerships with companies in Turkey: access to knowledge of the local market, access to knowledge about local culture and access to distribution channels (Tatoglu 2000). This study also cites enabling fast market entry and gaining presence in new markets as two main motives for partnering.

7.6 Data Synthesis

This section compares and integrates the partner selection criteria that emerged from the current study's primary data with the results of the SLR conducted in relation to partner selection criteria.

7.6.1 Cultural Fit

A prevalent theme in the inter-firm cooperation literature is that cultural conflicts often lead to instability and poor performance. Congruence between different cultures represents a cornerstone in the success of inter-firm cooperation. These conclusions are in alignment with the GT data.

However, one major aspect of cultural fit in the context of partnerships is missing in the current body of literature: a partnership's impact on customer perceptions of a company culture. The way a partner does business with customers based on the partnering company´s products or services shapes how customers perceive the partnering company's culture. A customer does not differentiate between the company offering the core products/services and the partner implementing the final solution. If a partner behaves inappropriately or the solution does not fit a customer´s expectations, this will also have an impact on the partnering company. A potential partner's willingness and ability to represent the other company's core values and attitudes—or culture—is another aspect that has to be taken into consideration.

The absence of this aspect in the literature may be due to the fact that most studies focus on bi-lateral partnerships, whereas the current research aims to analyze the management of a whole ecosystem composed of a multitude of partners. One aspect of such ecosystems is to scale through partners. As such it is crucial that partners function as an extension of a company, with all consequences, such as aligned values and standards for customer interactions.

7.6.2 Organizational Fit

It emerged from the GT study that a potential partner has to possess a suitable organizational structure that allows it to deliver the complementary business. However, the vast majority of the selected studies

deviate from this perspective and focus mainly on the compatibility of the partnering companies' organizational structures. The perspective of the current study consequently differs to some extent from that of previously conducted studies.

Clearly, the two aspects are not contradictory. The fact that a partner's organizational structure is aligned with the disciplines required to offer complementary business offerings implies that the partner companies have compatible organizational structures. This is valid at least to the degree that it allows them to work reasonably together.

7.6.3 Strategic Fit

Strategic fit, which is the compatibility of partners' strategies and business objectives, has been highlighted in the present literature as a crucial element for the success of collaboration between partners. In contrast, partners with divergent objectives both destroy the foundation for collaboration and mutual benefit and foster serious conflicts. Numerous researchers have supported the relevance of strategic fit to the selection of suitable partners. The ideal situation can be described as one „in which strategic goals converge while their competitive goals diverge" (K. D. Brouthers, L. Eliot Brouthers, and T. J. Wilkinson 1995, 21). The findings of the GT study support this perspective and are aligned with the conclusions of other studies.

7.6.4 Commitment

The results of the SLR regarding commitment as a relevant factor for partnerships are consistent with the GT observations.

A credible assurance that a potential partner is willing and able to commit the resources necessary to make a partnership work and reach the desired outcome is viewed as a vital element for inter-organizational partnerships. Interestingly, the results of most studies indicate a correlation between commitment and the trustworthiness of a potential partner. For example, (Hoffmann and Schlosser 2001) argue that trust between partners can be built by unilateral commitments that emphasize the importance of the intended partnership.

7.6.5 Ecosystem Fit

As mentioned above, one of the gaps between the GT results and the state of the art in the literature is the absence of a potential partner's fit to a company´s existing partner portfolio as a selection criterion. This may be rooted in the fact that most traditional partner selection studies focus on a bilateral fit between two partners and thus do not usually address ecosystem fit as a crucial selection criterion. However, as (Varis, Kuivalainen, and Saarenketo 2005) mention, in a network economy a potential partner's position within the network also has to be considered. It is insufficient to focus solely on the limited perspective of a bilateral fit between two partners. Consequently, „the fit in the company's own alliance portfolio should also be evaluated" (Varis, Kuivalainen, and Saarenketo 2005).

7.6.6 Complementarity

The GT study underlines the importance of complementarity for the enterprise software industry. In particular, when it comes to selecting suitable partners, a potential partner's ability to offer complementary business services, products or components on top of a software vendor´s core software product represents a crucial criterion for partner selection (Avila Albez 2016). The primary data in the current study clearly shows that three main elements of complementarity exist in the enterprise software industry: complementary business services, complementary products and complementary components. In sum, the results underline that a partner has to be selected based on whether it can offer complementary capabilities.

This observation is in close agreement with the findings of the SLR. The review reveals that most of the selected studies report complementarity as a vital foundation for the establishment of partnerships and highlight the importance of complementarity for partnership success. The elements that represent complementary capabilities are usually not identical across the studies, which may result from the fact that complementary resources that are necessary to compensate existing gaps vary depending on the industry and its particular characteristics and needs. Nevertheless, a vast majority of partner selection studies and literature clearly identify complementarity as a vital element for successful partnerships.

7.6.7 Market Access

In the above-mentioned studies, market access is often operationalized differently and using a varied terminology depending on the research context and the industry. However, all of the mentioned studies come to a similar conclusion: market access is a relevant partner selection criterion and an important motivation for many partnerships. Furthermore, most of these refer to a growing body of literature that identifies market access as an important reason for partnerships.

In conclusion, the review of the current body of knowledge supports the observation that joining forces with suitable partners enables companies to both overcome market barriers faster and fulfill the preconditions for accessing new markets or extending market reach. Collaboration with partners allows companies to gain market understanding, access distribution channels/customers, build geographical presence and credibility, access knowledge and culture concerning local markets, and build critical mass.

This perspective strongly confirms the finding from the current GT research that market access is an important selection criterion for evaluating the benefits of potential partners. Finally, the GT-based assessment of a partner's potential ability to offer market access through its regional presence, existing customer bases and experience in the target market are also strongly aligned with the results and conclusions of the identified studies.

7.7 Conclusion and Implication of the Findings

Research on partner selection has been undertaken from different perspectives and within different industries. For example, (Douma et al. 2000) develop a generic fit framework for strategic alliances. (Geringer 1991) emphasizes the difference between task- and partner-related dimensions of selection criteria. (Glaister 1996) focuses on the strategic motivation and selection criteria for alliance formation between UK companies and partners in Western Europe. (Tsamenyi 2010} assert that within business

networks, the selection of a partner is a vital management task that controls behavior and network performance. In conclusion, the review of the selected studies clearly shows that no unique cross-industrial and universally applicable set of partner selection criteria exists.

Furthermore, none of the studies selected through the SLR covers the whole set of the identified selection criteria; they instead usually cover a subset of selection criteria as they emerged in the GT approach. Nevertheless, the conceptual comparison of the partner selection criteria identified through the GT research with the state of the art in the literature has shown that the GT selection criteria can indeed be found in numerous studies—many of which have come to similar conclusions. One exception is the absence in the literature of ecosystem fit as a selection criterion. As argued earlier, this can be attributed to the fact that most of the traditional partner selection research focuses on a fit between a limited number of partners; studies do not usually address the evaluation of a potential partner against an existing partner portfolio. This is considered an interesting finding and thought to play a role in many situations across different industries. For instance, partner conflicts do harm ecosystem performance and it is important to avoid them in the selection process.

Finally, as already pointed out, it is important to emphasize that the current study focuses on the enterprise software industry. While the set of identified selection criteria may serve as useful guidance for research in network-driven industries, the outcome of the present research is primarily applicable to partner selection in the enterprise software industry.

A comparison of the criteria that emerged through the GT research with their counterparts in the strategic alliances and partnerships literature led to a substantially deeper understanding and demonstrated that the GT criteria are compatible with the state-of-the-art criteria; it also showed that the GT criteria offer a more comprehensive and integrated view of the situation.

As such, this study contributes to research on partner ecosystems in the enterprise software industry by offering a sound set of partner selection criteria identified by integrating the GT results with the current body of knowledge regarding strategic alliances and general partnership management. This consolidated set of selection criteria provides executives in the enterprise software industry strong guidance for partner selection and allows them to focus on the key areas. The integrated results also serve as a valuable starting point for researchers in the business ecosystems domain and offer a blueprint for further research in relation to partner selection. Thus, the result has both very practical and scientific relevance.

7.8 Discussion and Limitations

In general, literature reviews can be criticized for lacking rigor, missing well-structured procedure, and tending to result in a bias regarding the identify studies. Thus, to reduce the possibility of research bias, the researcher decided to use a systematic literature review (SLR) based on the guidelines provided by (Kitchenham 2007) and (Tacconelli 2010). While the conduction of this approach is time-consuming, it provided a rigorous review of available research based on clearly defined stages: planning, conducting, and reporting. Rather than being driven by the researcher's expectation and random results, the researcher proceeded based on an upfront established research design and was guided by a structured process. The implementation of the SLR increased the rigor of the review results.

8 Quantitative Validation of Management Area One

8.1 Survey Development

The researcher used the findings from the exploratory GT approach to build quantitative measures. The objective was to test one crucial element of the theoretical model by a quantitative approach: the selection of suitable partners (area 1). To this end, the results of the qualitative analysis were used to create a survey instrument. A survey instrument can be described as a standardized instrument that is composed of a set of pre-formulated written questions with the purpose of collecting data through written responses. In the focal study, the identified and described partner selection criteria were the foundation for developing the survey instrument's core items and thus for developing the survey instrument. This instrument allowed the partner selection criteria to be further explored. This quantitative phase enabled the researcher to investigate if the partner selection criteria results of the qualitative phase can be generalized to a larger population sample. (Sreejesh, Mohapatra, and Anusree 2014; Porst 2008; Creswell 2013; Raab-Steiner and Benesch 2015; Sekaran and Bougie 2016)

8.1.1 Structure of the Survey

The structure of a survey is a crucial element in survey design. It defines a survey's dramaturgy with the objective of forming a proper sequence for effective responses (Sreejesh, Mohapatra, and Anusree 2014, 156; Porst 2008; Sekaran and Bougie 2016). In alignment with (Sreejesh, Mohapatra, and Anusree 2014), the researcher developed a sequence that guided participants through a funnel-shaped path. This means that the respondents were led from general questions to more specific questions and that the questions tended to increase in difficulty. Such a funnel approach enables participants to progress through a survey's items easily. (Sekaran and Bougie 2016) The researcher started with a short introduction to the research topic and described the survey setting (including data protection, anonymization and expected duration). Some basic introductions were also provided. Thereafter the survey's 35 questions were structured as a funnel. In alignment with (Sreejesh, Mohapatra, and Anusree 2014, 156), the survey was divided into the following six areas: lead-in questions, qualifying question, warm-up questions, specifics questions and demographics questions.

8.1.1.1 Lead-in Question

Lead-in questions are critical for gaining participants' confidence and increasing their willingness to respond. For this purpose, the survey started with a simple question that participants could answer yes or no. This question was also intended to establish the context as an icebreaker that introduces the survey's direction. The respondents indicated whether they agree with the statement that complementary activities such as consulting, customizing and training add value for the customer.

8.1.1.2 Qualifying Questions

This section comprised questions that evaluate participants and their qualifications and are relevant for the subsequent analysis of the survey. Such questions allow a researcher to obtain further insights into a data sample. They are also the basis for evaluating whether participants have the qualifications necessary to respond to questions properly, which is relevant for determining if their contributions can be used in a meaningful way. Consequently, this part of the survey consisted of questions that address issues such as the participant's work experience and current position.

8.1.1.3 Warm-up Questions

Warm-up questions help to create the right thinking-context by making a respondent think of certain facts related to the subsequent questions. The reported data can also be used to evaluate at a company level whether the survey contribution can be used for further data analysis. In the focal survey, the questions were also designed to be potentially useful for filtering and grouping the data. The participants indicated whether their company can be described as a reseller value add reseller (VAR), software integrator (SI), OEM partner, interface partner, development partner, technology partner, strategic partner; or a combination thereof. The respondents checked boxes according to the complementary services that their company offers on top of the software vendor´s product(s) and indicated the duration of the relevant partnership.

8.1.1.4 Specific Questions

This phase of the survey comprised questions that specifically addressed the research objective, with the goal of analyzing if the relevance of the identified partner selection criteria is generalizable. This section of the survey thus contained questions that addressed the operationalization of the independent and dependent variables. To this end, the respondents were asked to assess statements regarding their company with respect to the current fiscal year. However, while this section focused on the variables relevant for the targeted correlation analysis, questions that could be significant for further clustering, giving the collected data new meaning, gaining insights into hidden aspects or establishing a related context were also asked.

8.1.1.5 Demographic Questions

The last part of the survey consisted of a set of questions related to the company's demographics, such as its number of employees and legal form. Such demographic data can be useful for filtering data according to different characteristics. To avoid resistance and distraction of the participants, this section was kept at the end of the survey.

8.1.2 Response Format

A total of 19 independent and three dependent variables relevant for measuring the partner selection criteria model were included in the overall survey instrument. The independent variables measured the individual partner characteristics (partner selection criteria) and were captured as the degree to which a respondent agreed to a statement that operationalized a corresponding variable. These single statements constitute the survey's core items.

The degree to which participants could agree was represented by a five-point Likert scale with a range from 1 (strongly disagree) to 5 (strongly agree). As the items had pre-defined response options, they

could be considered what the literature often refers to as close-ended questions. Each element between the two end elements was labeled by a number (namely 2, 3 or 4), which guaranteed a constant distance between an item's response options. This allowed the researcher to perform interval-level measurements, which is the foundation of most of the statistical analysis. An identical approach was used to measure the three dependent variables of sales performance, project performance and customer satisfaction. Partner success was defined as the combination of these three single items.

In addition to the questions addressing the relevant independent and dependent variables, questions intended to gather additional data concerning a respondent's company and that company´s partnership with the software vendor were also asked. Here the researcher used mainly pre-defined response options with different structures. The major structures included binary questions (i.e. questions that permit only two mutually excluding answers), multiple-choice questions (where the participant has to select one option from a variety of responses), checklist questions (where the respondent can select one or more of the available options) and five-point Likert scales. Some of these questions also included an additional text field that allowed the participant to enter further answers manually. In addition, some qualitative questions with text fields were asked to collect descriptive data regarding a respondent´s company, e.g. its number of existing customers.

8.1.3 Question Wordings

The use of an understandable language and suitable wording was crucial for the design of the survey. In this context, the main concern was correctly translating the relevant variables into corresponding questions and items using appropriate wording and a vocabulary understandable by the respondents. It is essential to use a shared vocabulary and phrase questions in a way that participants can understand them. Incomprehensible or ambiguous questions may result in inappropriate answers and thus cause biased results in the data analysis. As such, the researcher used vocabulary and wording that approximated the respondents' level of understanding. To this end, the vocabulary of the previous interviewed experts was used whenever possible. This sample of experts represents a suitable base that is not too divergent from the survey respondents, and since they are part of the same industry they shared a vocabulary. Furthermore, guidelines for survey wording developed by specialists (e.g. Sekaran and Bougie 2016, Porst 2008 and Sreejesh, Mohapatra, and Anusree 2014) were carefully examined and used to write the survey. Recognized survey studies, e.g. from the Product Development and Management Association (PDMA), were also inspected and utilized to guide the development of appropriate question wordings. Finally, the first draft of the survey—including its wording—was intensively revised through a pretest.

8.1.4 Pretest

The survey was extensively pretested before being fielded. The objective was to improve its suitability and quality. Pretesting refers to testing a survey with the aim of identifying and eliminating any flaws or ambiguous questions. It addresses all aspects of a survey, including question content, question wording, question sequence and visual elements. Pretesting helps a researcher to identify issues such as incomprehensible meanings, an inconvenient sequence of questions, suggestive questions, awkward responses and misleading visual elements. (Sreejesh, Mohapatra, and Anusree 2014, 156) The researcher conducted pretest activities with two groups: academics/researchers and practitioners in the enterprise software industry. These different groups were addressed with the intention of covering a broad set of

issues that would help to improve the survey design. First, the researcher conducted four intensive feedback sessions with academics and researchers. Each of these sessions was conducted one-by-one using the think aloud method (Porst 2008), which involves participants thinking out loud as they complete a questionnaire. This approach was supported and complemented by a corresponding guide (cf. Appendix IV) as well as by a feedback form that allowed the researcher to capture information in a structured way (cf. Appendix IV). To cover the perspective of practitioners as well, intensive think aloud sessions were also conducted with three practitioners. Furthermore, individual in-depth review sessions were undertaken with four practitioners. These review workshops featured a discussion of both the survey design and the underlying measurement model. The researcher also discussed the survey and its measurement model during two sessions with a research methodology expert from the Research Lab of the House of Competence at KIT. In summary, the survey design was examined from academic, industrial and methodological points of view. The feedback from these three groups was used to modify the survey and increase its comprehensibility and clarity. Many questions were revised to improve the participant´s understanding and clarify some items. Several reported issues were addressed and participants' suggestions formed the basis for adapting wording, visualization, and the labeling of some items and questions. The final version of the survey was transferred to an online format. While some improvements were made, the overall pretest showed that the survey design contributes to validity and reliability.

8.2 Data Sample and Demographics

The ERP software company abas GmbH & Co. KG (in short abas) agreed to support the focal study, which included providing access to its partner network. This survey's target population was consequently the partners of abas. A link to the survey was emailed to all available partner employees, with a reminder being sent after three weeks. The email request was sent to a total of 750 individuals, of whom 333 started the survey. Of these 333 individuals, 125 aborted the survey. Consequently, 208 (333-125) responses were considered further. The researcher examined these 208 cases and conducted an intensive analysis to decide which were usable and which had to be removed from the sample due to missing data or a potential to counteract the analysis. At the end of the examination (described in chapter 8.3), 118 cases remained for further analysis. An overview of the decision steps is illustrated in Figure 8. Consequently, a total of 118 usable surveys were collected, which corresponds to a response rate of 15.73% (118 of 750). The survey participants included managers with and without supervisory responsibilities, managing directors and regular employees. The respondents represent a broad spectrum of work areas and key perspectives on their companies, e.g. consulting, sales and marketing. An overview of the sample's demographics is presented in Table 6. This overview indicates that a majority of the respondents (48) have more than 15 years of experience in the B2B software industry and that most have been working for more than three years in their current company (86).

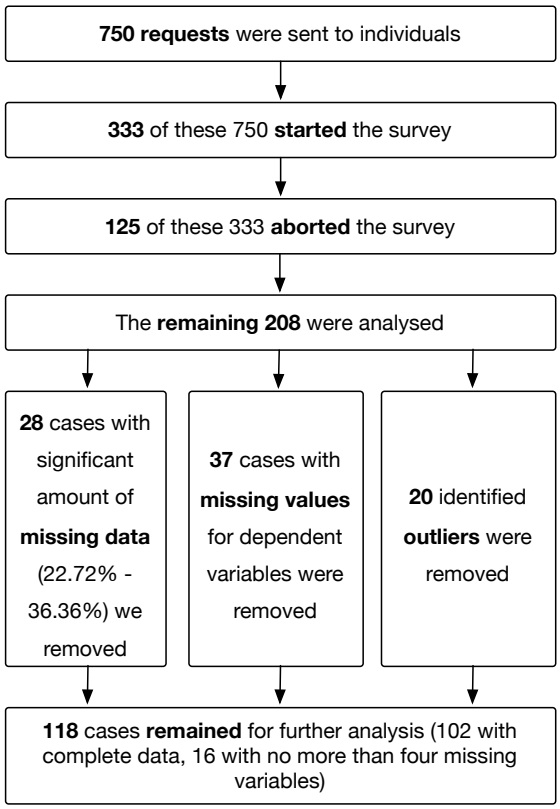


Figure 8: Overview Decision Steps

Table 6: Demographics of the Sample

		#	%
Work experience in the B2B software industry	Less than 1 year	6	5.08
	1–3 years	7	5.93
	3–5 years	13	11.01
	5–10 years	28	23.72
	10–15 years	16	13.55
	More than 15 years	48	40.67
Working at current company	Less than 1 year	13	11.01
	1–3 years	19	16.10
	3–5 years	13	11.01
	5–10 years	31	26.27
	10–15 years	20	16.94
	More than 15 years	22	18.64
Current position	Employee	64	54.23
	Manager without supervisory responsibilities	7	5.93
	Manager with supervisory responsibilities	17	14.40
	Managing director (executive level)	16	13.55
	Member of the management board	0	0.00
	Other	14	11.86
Work area	Consulting/Project management	61	51.69
	Sales	25	21.18
	Marketing	3	2.54
	Product management	4	3.38
	Partner management	1	0.84
	Product support	5	4.23
	Software development	13	11.01
	Test center	0	0.00
	Other	6	5.08

Figure 9 presents an overview of the partner categories indicated by the participants. Since a partner can be assigned to more than one category, multiple selections were possible. The reported data indicates that most respondents perceive their company as a System Integrator (82) or Value Add Reseller (76) vis-à-vis its partnership with the software vendor.

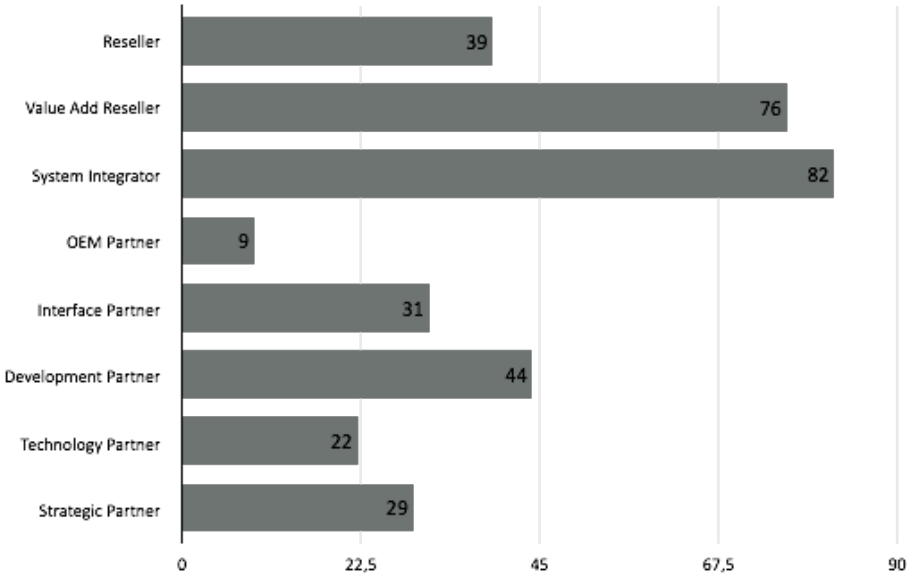


Figure 9: Partner Categories

8.3 Data Examination

Examining the data is an essential activity for any statistical analysis and represents a crucial element of preparing for the subsequent data analysis. The objective of examining the data before starting the statistical analysis is two-fold. First, the researcher aims to obtain a sound understanding of the cases and the relationships between the variables. Second, the researcher has to evaluate the degree to which the data meets the requirements related to applying the selected statistical methods. For this purpose, the researcher used data examination techniques to evaluate missing data, identify outliers and test the statistical assumption of normal distribution. (Hair et al. 2010)

8.3.1 Missing Data

Missing data is described as situations in which valid values of one or more variables are not available for analysis. The main concern when dealing with missing data is identifying the patterns and relationships that underlie the missing data with the purpose of maintaining the original distribution. In general, based on an analysis of the missing data the researcher has to assess which observations of missing data can be ignored, which cases/variables have to be deleted due to an excessive level of missing data and which cases are candidates for the use of imputation methods. (Hair et al. 2010)

In this first step, the researcher determined the extent of and patterns in the missing data. This was done in alignment with the process and the guidelines of (Hair et al. 2010). The analysis focused on missing data related to the independent and dependent variables of interest for the further correlation

analysis. Missing descriptive data and additional variables were initially not evaluated. Nonetheless, 28 cases had between 22.72% and 36.36% missing data. Due to the excessive amount of missing data, following the guidelines of (Hair et al. 2010) the researcher decided to remove the affected cases. This decision decreased the possibility that the subsequently performed imputation would affect the corresponding cases in a substantial way. The remaining 180 cases have no more than 18.18% missing data. However, to avoid imputation leading to any artificial increases in independent variable relationships, the researcher removed an additional 37 cases with missing values for the dependent variables. Finally, the researcher analyzed the remaining 138 cases for outliers and decided to delete 20 cases from that sample. At the end of the above-described procedure, 118 cases remained for further analysis: 102 with complete data and 16 with no more than four missing variables.

8.3.2 Outlier Identification

According to (Hair et al. 2010), outliers can be „described as observations with a unique combination of characteristics identifiable as distinctly different from other observations". Cases that may influence the objective of current analysis negatively were marked for further investigation. For this investigation, the researcher used a scatter plot for each of the 24 relevant variables to identify manually cases falling at the outer ranges of the distribution. They also used variable box plots for each variable to find (extreme) outliers. The box plots graphically depict the 25%, 50% and 75% percentiles as well as the minimum and maximum data within a 1.5 interquartile range (IQR). The IQR measures the statistical dispersion as the difference between 75th and 25th percentiles. It can be used to find potential outliers, which in this context are defined as observations below or above 1.5 IQR and marked with cycles. Extreme outliers are marked with asterisks and correspond to observations below or above 3 IQR. Within the context of this analysis, the merge of all potential outliers was thus carefully evaluated. The researcher examined the data and the context of each marked case to determine whether it may be indicative of the sample's characteristics or potentially counteract the analysis. The objective was to identify truly distinctive cases that may distort the results. Four of the identified outlier cases are abas employees. Two represents for the abas ecosystem unusually partner categories (one consulting partner, one API respectively development partner). Two outlier cases had less than one year of experience in the enterprise software industry; and two others are software developers. In total, 20 cases were identified as outliers and removed from the sample.

8.3.3 Analysis of the Statistical Assumptions

8.3.3.1 Normal Distribution

A crucial element for understanding the nature of data is an analysis of the shape of its distribution. It is especially important to assess whether variables are normally distributed, because the degree of normality has to be considered when selecting and correctly implementing appropriate statistical methods. The assessment of normal distribution is often the foundation for deciding which methods allow statistical inferences and results to be drawn. Some methods are less affected by violating the assumption of normal distribution than others. Depending on the data, the selection of more robust methods has to be considered. Researchers who are aware of the type and severity of non-normality can consciously examine the robustness of methods and undertake a suitable analysis (Cain, Zhang, and Yuan 2016). (Cain, Zhang, and Yuan 2016) emphasize that it is important to understand whether the data satisfies

the normality assumption—and if not, how severe the non-normality is, which variables are affected and what consequences and potential remedies exist.

Different significant tests of normal distribution exist. The most common tests are Shapiro-Wilk, Kolmogorov-Smirnov and the z-test under the null hypotheses for skewness and kurtosis. However, the literature suggests using such standardized tests only for smaller samples (Field 2009; Janssen and Laatz 2007; Wittenberg, Cramer, and Vicari 2014; Grüßing 2012). With large samples, these tests may not be useful as a result of mainly two effects: (1) when the sample size increases, the null hypotheses of normality tend to be rejected by these tests even for small deviations from normality; and (2) these tests do not evaluate whether the deviation from normality is large enough to affect statistical methods and results. According to (Janssen and Laatz 2007), the Shapiro-Wilk test should solely be used for samples n<50. (Wittenberg, Cramer, and Vicari 2014) emphasize using Kolmogorov-Smirnov only for continuous variables with a sample size of n<100. Relevant authors underline that when the sample size increases, the standard errors become smaller—which means that the z-tests under the null hypotheses of normal distribution tend to be easily rejected even for minor deviations from normality (Kim 2013; Kline 2015; Khine 2013; Tabachnick and Fidell 2007). In contrast, in small samples the z-test tends to be more easily accepted than necessary. As such, (Field 2009; Kline 2015; Khine 2013; Tabachnick and Fidell 2007) assert that this test may not be very useful when sample size increases.

Consequently, the above-mention standardized tests of significance were consequently not utilized in the focal study to evaluate the degree of normal distribution; the researcher instead used a more appropriate approach. The kurtosis index and the skewness index were respectively utilized to assess the degree of deviation from normality and the severity of non-normality for each relevant variable. These two measures describe the shape of any distribution. Kurtosis determines the height of the distribution compared to the normal distribution. Skewness describes a distribution's balance. A positive skew describes a distribution that is shifted to the left, whereas a negative skew represents a shift to the right. (Hair et al. 2010; Kline 2015; Wittenberg, Cramer, and Vicari 2014)

The values of the skewness and kurtosis indices can be used to examine the normal distribution as well as the severity of non-normality (Khine 2013). Perfect normality is ensured when the values of skewness and kurtosis are zero. However, if the deviation of both values is within a given value range, approximately normal distribution and moderately non-normal distribution can be respectively assumed. (Curran, West, and Finch 1996) consider the values of 2 for skewness and 7 for kurtosis as moderately non-normal. Similarly, (Kline 2015) concludes based on an analysis of several studies that skewness greater than 3 and kurtosis greater than 10 may indicate a problem.

In alignment with (Wittenberg, Cramer, and Vicari 2014), a more conservative value range was used to evaluate normality in the focal research. According to (Wittenberg, Cramer, and Vicari 2014), approximate data normality is ensured when the absolute value is within +/-1.96 (alpha<.05). Consequently, variables within this range can be described as approximately normal distributed with 95% accuracy. This corresponds to the null hypotheses for normal distribution: if the absolute index for either skewness or kurtosis is larger than 1.96 (alpha<.05), reject the null hypothesis and conclude that the variable's distribution is not approximately normal.

In the present sample, with one exception all relevant variables were within the range of -1.96 to 1.96. Table 7 shows that the relevant variables' skewness and kurtosis are noticeably below the absolute value of +/-1.96. Only the kurtosis of the variable market_access_existing_customer_base is slightly outside the specified range with a value of 1.969. However, this variable's value is noticeably below the

threshold of (Curran, West, and Finch 1996) (kurtosis<7). In addition, according to (Tabachnick and Fidell 2007) the influence of kurtosis deviation decreases in a large sample. It can thus be assumed that the value of the variable market_access_existing_customer_base does not deviate enough from normal distribution to have a significant impact on statistical inferences and results. Furthermore, since the skewness and kurtosis of all other variables fall between -1.96 and 1.96 and 72% of these variables (16 from 22) even range from -1.0 to 1.0, not much distortion can be expected in the further analysis.

In sum, the researcher concluded that the data can be treated as approximately normally distributed or moderately non-normal with no or just a moderate impact on statistical inferences and results. However, to reduce the risk of any negative influence on the analysis, the researcher subsequently carefully evaluated potential methods regarding robustness and selected mainly techniques that are not sensitive to deviations from the normality assumption.

Table 7: Overview of Skewness and Kurtosis

Variables	Skewness	Kurtosis	Within Range
fundamental_fit_reputation	-0.385	-0.87	√
fundamental_fit_financial_stability	-1.044	0.213	√
organizational_fit	-0.736	0.139	√
fundamental_fit_company_size	-0.947	-0.09	√
complementarity_products	-0.669	-0.86	√
complementarity_business_services	-1.601	1.547	√
culture_fit	-0.604	-0.717	√
market_access_existing_customer_base	-1.752	1.969	-
market_access_experience_in_the_target_market	-1.463	1.062	√
market_access_regional_presence	-1.656	1.417	√
fundamental_fit_expertise_industry	-1.505	1.115	√
commitment_staff_sales	-0.653	-0.594	√
commitment_staff_project_implementation	-0.635	-0.78	√
commitment_staff_product_support	-0.634	-0.684	√
best_practice	-0.673	-0.217	√
participation_education	-0.651	-0.293	√
participation_ce_program	-0.912	0.017	√
participation_update_training	-0.285	-0.655	√
strategic_fit_common_product_vision	-0.877	-0.339	√
performance_number_acquired_projects	-0.042	-0.649	√
performance_customer_satisfaction	-0.332	-0.388	√
performance_project_success	-0.426	-0.188	√

8.4 Imputation

In the next step, the researcher examined the remaining cases to determine whether the missing data was distributed randomly across the cases and variables. Two levels of randomness exist when missing data is being assessed: missing at random (MAR) and missing at complete random (MACR). The term

MAR is used if no systematic exists between the occurrence of a variable's missing values and the variable itself but does exist with the values of another variable. Situations in which the observed values of a variable represent a truly random sample with no underlying systematic are described as MCAR. In the current data, an empirical diagnostic test (Little´s MCAR test) determined that the missing data can be classified as MCAR (Sig.=0.217). This corresponds to the following null hypothesis: the data is completely randomly missing. The p-value is significant at level 0.05. This means that if the value is less than 0.05, the values are not completely random. This test essentially compares the pattern of missing data with the pattern expected from a random missing data procedure. Since no significant differences were found, the missing data can be described as MCAR. This circumstance allowed the researcher to choose from a wide range of imputation methods to replace the missing data with values.

Imputation can be described as the process of estimating a missing value based on valid values of other data in the existing sample (Hair et al. 2010). Imputation using predictive mean matching was applied to predict the missing values for the affected 16 cases. Many different methods of imputation are discussed in research and used by practitioners. Imputation by predictive mean matching (PPM) was used in the current research. Predictive mean matching, which is one of the most commonly used imputations, imputes missing values from among the observed donor values with similar predictive means. It therefore matches each non-respondent to the respondent with the closest predicted mean and then imputes that respondent's value directly. Each observation with missing data is paired with a similar record with valid values; thereafter the missing data is replaced with values from this similar but observed record in the same sample. The replaced values thus come from another observation in the sample. The advantage over other methods is two-fold. First, only eligible values of the missing variables are imputed, which ensures that imputed values are plausible. Second, PPM is robust against violations of the normality assumption and thus may be more appropriate than other methods that assume normal distribution (e.g. the regression method). (Little 1988; Di Zio and Guarnera 2009; Morris, White, and Royston 2014; Hair et al. 2010; Vink et al. 2014)

8.5 Goodness of Measures

This section describes the evaluation of the measurement instrument's appropriateness. For this evaluation, the researcher analyzed the degree of both validity and reliability. Validity is the extent to which an instrument measures what it is intended to, whereas reliability is the consistency with which it yields results and findings when the entity being measured has not changed. Depending on the research problem, the methodology being used and the nature of the data, validity and reliability can take different forms. (Leedy and Ormrod 2014)

In the current context, the primary objective was to assess the construct validity of the proposed measurement theory as well as the internal consistency reliability of the individual constructs. „Construct validity is the extent to which a set of measured items reflects the theoretical (latent) construct that they are designed to measure" (Hair et al. 2010). Internal consistency reliability is the extent to which all items related to a single construct yield similar results. (Leedy and Ormrod 2014)

8.5.1 Construct Validity

Factor analysis is an appropriate procedure for evaluating construct validity and thus investigating the relations among observed and latent variables. It examines the covariation among a set of observed

variables to gather information on their underlying latent constructs. In other words, factor analysis is a research method for analyzing the structure of interrelationships (correlations) among variables by defining sets of variables that are highly interrelated. These groups of highly intercorrelated variables represent dimensions within the data, known as factors or constructs that may correspond to concepts that cannot be adequately described by a single element. Factor analysis can be either exploratory or confirmatory in nature. As such, two main forms can be distinguished: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

Exploratory factor analysis is used to explore data and to identify and determine relations between observed variables and their underlying constructs. Its main purpose is to search for structure within a set of variables or serve as an approach to data reduction. The constructs are not derived from theory but from statistical results. As such, this form of factor analysis does not set any pre-specified constraints on the estimation of elements or the number of extracted elements. In general, EFA is designed for situations in which the number of constructs and the links between the variables and latent constructs are unknown. Basically, these relations are identified by factor loadings. (Hair et al. 2010; Byrne 2016) In contrast, CFA is designed to test the extent to which a pre-specified measurement theory represents actual data. The researcher therefore predetermines the number of constructs that exist for a set of variables and which construct each variable will load on. As CFA determines how well a theoretical specification matches reality, it constitutes a confirmatory test of a predefined measurement theory. (Hair et al. 2010; Byrne 2016)

However, this theoretical distinction does not represent the application of factor analysis in a real research context. Research projects usually combine elements from both the EFA and CFA approaches. This is due to the fact that EFA is often used in situations in which assumptions regarding variables and construct already exist. However, it is also because CFA is frequently used to explore possible measurement models and then modify them to obtain an optimal model. The literature recommends using a combined approach to validate a model's construct. (Schütter 2016) This is also true for circumstances in which previous research activities have already led to a pre-specification of a measurement model. Based on a review of different works, (Schütter 2016) concludes that a sequential application of EFA and CFA constitutes a suitable research approach that combines the approaches' strengths and takes advantage of their complementarity. A combined application of the methods improves the construct validation's robustness.

In the first step, the researcher conducted an EFA to explore and refine the model based on the already existing preconceptions. In contrast to CFA, an EFA conducted upfront allows a researcher to observe cross-loadings (i.e. loadings on more than one construct) that are not directly visible through a CFA since the loading structure is predefined. As such, applying only the CFA would a priori exclude some potential loadings, even if there were a better fit of variables for a construct respectively a higher loading. While the main elements of the pre-specified model were confirmed through the EFA, new insights were obtained based on the statistical results (i.e. the variable's factor loadings). This led to a slight but important modification of the initial model structure. The researcher subsequently conducted a CFA for the adapted model, which confirmed the model's overall fit. The initial results of the CFA were used as the basis for realizing some adjustments to the model, which led to an improved model fit.

8.5.2 Exploratory Factor Analysis

As noted above, EFA identifies the underlining structure of relationships based on an analysis of the correlations among variables. Variables that are assigned to a construct (factor) are highly correlated to each other. Two widely used methods exist for extracting the constructs (factors) that represent the structure among the variables: principal component analysis (PCA) aka component analysis and principal axis factor analysis (PAF) aka common factor analysis. The former considers the total variance and derives factors with a small share of unique variance and, in some instances, error variances. The primary concern of PCA is data reduction, with a focus on the minimum number of factors necessary to account for the maximum portion of the total variance represented in the original set of variables. As such, this method is usually selected to summarize most of the original information (variance) in a minimum number of factors for the purpose of prediction. In contrast, PAF is used when the main objective is to identify underlying constructs/dimension (factors) that reflect what variables have in common. To this end, PAF considers only the common or shared variance and assumes that the unique and error variances are irrelevant for extracting the variables' factors. (Bühner 2011; Hair et al. 2010)

Even though the current research possessed a strong conceptual foundation (gained through previous research activities), the objective was still to identify the latent constructs (factors) represented in the original variables. The researcher thus selected the PAF to extract the factors. Hereby solid conceptual knowledge helped the researcher to assess the structure suggested for the variables. Furthermore, since the objective was to obtain the most suitable interpretation of the variables, the researcher used a rotational approach to extract the factors. In short, factor rotation means that the factors' reference axes of are turned about the origin until some other position that may lead to more meaningful factor solutions has been reached. According to (Hair et al. 2010), in most cases factor rotation improves interpretation. Unrotated solutions yield data reduction but usually do not deliver a meaningful pattern of factors; as a result, they are not sufficient (Hair et al. 2010). Researchers can select between two main rotation options: orthogonal and oblique. The approaches are similar, but oblique rotations allow correlated factors while orthogonal rotations maintain independence among the rotated factors. According to (Hair et al. 2010), orthogonal rotation approaches are widely used whereas oblique rotation is not as widespread. This is due to the fact that analytic procedures for performing oblique rotations are not as well developed as orthogonal techniques and are often subject to some controversy (Hair et al. 2010). (Gerbing and Hamilton 1996) demonstrate that little difference exists between the rotation approaches. However, (Gerbing and Hamilton 1996) conclude that the orthogonal varimax rotation generally yields more accurate results. The researcher thus decided to use the widespread and sophisticated orthogonal varimax rotation in the current context. The aim of this technique is for each variable to load on one factor highly while loading as low as possible on the others, which may lead to a simplification of the structure. (Hair et al. 2010; Bühner 2011)

In sum, the researcher used PAF in combination with the orthogonal varimax rotation approach to extract the underlying latent constructs.

8.5.2.1 Assumptions for EFA

In the first step, the researcher ensures that the data meets the statistical requirement for the factor analysis. In factor analysis, attention is focused on the degree of interrelatedness from both an overall and an individual variable perspective. Departure from normal distribution is a negligible factor and only relevant to the extent that it may diminish the observed correlation. In the current analysis the researcher used three empirical measures to ensure that the data matrix had sufficient correlations and

thus justified the application of factor analysis. The Barlett test of sphericity and Kaiser-Meyer-Olkin (KMO) test overall appropriateness, whereas the measure of sampling adequacy (MSA) can be used to evaluate individual variables. The Barlett test of sphericity is a statistical test for the presence of correlations among variables. For the current data, a statistically significant Barlett test of sphericity indicated that sufficient correlations existed among the sample's variables. The Bartlett test was significant (α = 0.00), which meant that the null hypothesis that all variables are uncorrelated could be rejected. The KMO, which is also called the MSA, measures whether the correlations among variables can be explained by the other variables. As such it examines not only the correlations but also patterns in the variables. Its index ranges from 0 to 1, with 1 indicating that each variable is perfectly predicted without error by the other variables. This measure can be interpreted as follows: Below 0.50: unacceptable, 0.50–0.59: miserable, 0.60–0.69: mediocre, 0.70–0.79: middling, 0.80–0.89: meritorious, and 0.90 and higher: marvelous. The current analysis revealed a KMO value of 0.850, which is meritorious. This MSA analysis can also be extended to individual variables. The variable-specific MSA values (cf. Table 8) extracted from the diagonal of the anti-image correlation matrix were satisfactory, as they were above 0.80 (meritorious) for most variables and above 0.70 (middling) for all variables. In sum, the researcher could conclude that the data was appropriate for conducting an EFA. (Hair et al. 2010; Bühner 2011; Sarstedt and Mooi 2014)

Table 8: MSA for Individual Variables

Variables	MSA
fundamental_fit_reputation	.833
fundamental_fit_financial_stability	.845
organizational_fit	.886
fundamental_fit_company_size	.878
complementarity_products	.791
complementarity_business_services	.938
culture_fit	.855
market_access_existing_customer_base	.915
market_access_experience_in_the_target_market	.882
market_access_regional_presence	.856
fundamental_fit_expertise_industry	.902
commitment_staff_sales	.853
commitment_staff_project_implementation	.744
commitment_staff_product_support	.764
best_practice	.838
participation_education	.825
participation_ce_program	.833
participation_update_training	.845
strategic_fit_common_product_vision	.824

8.5.3 Initial Measurement Models

The researcher conducted the EFA for two main sets of variables (or two measurement models). The first set of variables represented the criterion from which the researcher assumed an impact on partner performance (i.e. the partner characteristics measurement model); the second represented the different aspects of partner performance (i.e. the partner performance measurement model). Before starting to examine the final results, the researcher introduced the initial structure of both measurement models. This structure was derived from previous GT research activities and served as the starting point for the analysis. The researcher consequently used the EFA to also test the assumption derived from the GT

results regarding the number of factors to be extracted (seven factors regarding the partner characteristics measurement model, one factor regarding the partner performance measurement model).

8.5.3.1 Initial Measurement Model Partner Characteristics

Fundamental fit

In the focal research, the researcher operationalized the fundamental prerequisites essential for a partner to carry out its role in a stable way through a multi-item construct consisting of three items. Based on the previous GT findings, fundamental fit included the items *reputation, financial stability*, and *company size*. The results of this earlier work indicated that the item *expertise in the enterprise software industry* also belongs to the fundamental fit construct. However, based on the results of the EFA, it become clear that this item may be more appropriate as part of the market access construct.

Cultural fit

Cultural fit was measured by two items indicating the overall cultural fit between a software vendor and a partner. The item *cultural compatibility* addresses the degree of culture compatibility regarding direct work between a partner and the software vendor. *Customer-perceived culture* assesses the partner´s willingness to perform the complementary business services in alignment with the software vendor´s values. Respondents were therefore asked to indicate their company's use of the software vendor´s best practices methods.

Organizational fit

Organizational fit was operationalized by one item, namely the availability of an organizational structure that allows the partner to distribute and implement the software vendor's product(s) effectively. It reflects the availability of an organizational structure to address the disciplines of the business, such as sales, professional services, consulting and customer support.

Strategic Fit

In general, strategic fit has different aspects and may vary depending on the partnership and the partnering companies. However, one element is always crucial: the degree to which the partner has a compatible vision in relation to the software vendor´s core product. As such, the researcher decided to measure this aspect through a corresponding item. In this single item, respondents were asked to assess their company's alignment with the software vendor´s product vision.

Commitment

In the current study, commitment refers to the assurance of resources. It was initially measured as a two-dimensional construct. The two dimensions were as follows: the partner´s commitment to providing employees who will devote their time to businesses based on the software vendor´s product(s) (i.e. *resource commitment*) and its commitment that relevant employees will regularly participate in the software vendor's training and certification program to attain and demonstrate the necessary skills (i.e. *education commitment*). Resource commitment was measured through three items (*sales, project implementation*, and *product support*); education commitment was measured through three items as well (namely *training, update training* and *certification*).

Complementarity

A partner's ability to offer complementary business services and products/components on top of the software vendoŕs product was operationalized through two items: *complementary business services* and *complementary product*.

Market access

Market access, which is a partneŕs potential to enter a market with the software vendoŕs product, was initially captured through three items: *regional presence, existing customer bases, market knowledge*. These items report the conditions to enter a market as perceived by partners.

8.5.3.2 Initial measurement model partner performance

To assess a partner's economic performance, the researcher initially used one factor (*partner performance*) consisting of three items: *sales performance*, *project performance*, and *customer satisfaction*.

8.5.4 Assessing the Factor Loadings (EFA)

8.5.4.1 Partner Characteristics Measurement Model

The researcher began the EFA based on the initially hypothesized model and thus on the hypotheses that seven relevant constructs (factors) exist. However, the EFA revealed that the relevant variables could be summarized to six underlining constructs. Table 9a illustrates the results of the EFA. Once the EFA was conducted, the extracted factors were interpreted. Reviewing the variables' maximum factor loading enabled the researcher to obtain the following result: almost all variables had a significant loading on only one factor (in alignment with Hair et al. 2010 defined as above .50). However, three exceptions merit additional attention.

(1) The variable *complementary business services* had correlations with factor 1 (.520) and factor 6 (.341). While the variable clearly loaded higher on factor 1, it can be argued that on a logical level it is more reasonable to assign the variable to factor 6. Doing so increased the face validity in this context. The particular aspect is discussed in conjunction with the following factor interpretations.

(2) The variable *organizational fit* loaded on two factors almost identically (with a loading of .463 on factor 2 and of .462 on factor 4). The cross-loading thus requires a deeper evaluation on a logical level.

(3) The loading of the variable *complementary products* on factor 6 was .402, which means it fell within the range of .30 and .40 and was thus according to (Hair et al. 2010) acceptable for interpretation. Factor loadings under 0.3 were interpreted as irrelevant and therefore not displayed; only factor loadings over 0.3 were considered for the analysis. As such, row 7 (cf. Table 9a) remained empty.

The following sections discuss the identified factors in the context of the researcher's preconceptions.

Table 9a: Results of the EFA (Factor Loadings) Partner Characteristics

Factors Variables	1	2	3	4	5	6	7
market_access_experience_in_the_target_market	.813						.341
fundamental_fit_expertise_industry	.799						
market_access_regional_presence	.713						
market_access_existing_customer_base	.660						
complementarity_business_services	.520					.341	
commitment_staff_project_implementation		.891					
commitment_staff_product_support		.848					
commitment_staff_sales		.513					
organizational_fit		.463		.462			
partner_behaviour_alignment_participation_education			.789				
partner_behaviour_alignment_participation_ce_program			.746				
partner_behaviour_alignment_participation_update_training			.704				
fundamental_fit_reputation				.626			
fundamental_fit_financial_stability				.508			
fundamental_fit_company_size				.503			
strategic_fit_common_product_vision					.681		
culture_fit					.552		
partner_behaviour_alignment_best_practice					.506		
complementarity_products						.402	

Extraction method: Principle axis factor analysis. Rotation method: Varimax with Kaiser normalization. [a,b]

a. Imputation = 5
b. Rotation converged in 10 iterations.

Factor 1 (market access)

The factor matrix (cf. Table 9a) indicates that the variables *regional presence* (.713), *existing customer bases* (.660), *market knowledge* (.813), *expertise in the enterprise software industry* (.799) and c*omplementary business services* (.520) have high correlations with factor 1. Such high loadings (>.50) are considered practically significant and indicate that the variables are well represented by the factor. Loadings above .70 are considered especially indicative of a well-defined structure. (Hair et al. 2010) In the initially hypothesized model, the variables r*egional presence*, *existing customer bases* and *market knowledge* were associated with the construct (factor) *market access.* The specification of this factor was extended by the variable *expertise in the enterprise software industry*. The variable e*xpertise in the enterprise software industry* was initially associated with the factor *fundamental fit.* However, based on new evidence it was re-assigned to factor 1. Based on the essence of this variable, it can be argued that this item, which represents a partner´s degree of expertise in the enterprise software, contributes to its ability to access new markets or extend its presence in existing markets. It is thus appropriate and logical to re-specify the factor *market access* as described above.

The variable *complementary business services* loads on factor 1 (.520) and factor 6 (.341). While the loading on factor 1 (market access) is higher than on factor 6 (complementarity), the researcher argues that on a logical level it is reasonable to assign the variable to factor 6. The ability to offer *complementary business services* can clearly be seen as an important factor for *market access*. However, this variable represents one of two fundamental aspects of complementarity. As such, for the moment both aspects should be considered as an integrated part of one construct (factor). Consequently, the variable *complementary business services* was assigned to factor 6 (*complementarity*).

Factor 2 (resource commitment)

In the initial structure, the researcher considered commitment as a fundamental construct (factor). This factor contained six variables *(sales resources, project resources, product support resources, training, update training* and *certification*). Although theses six variables reflected two different dimensions of commitment (namely *resource commitment* and *education commitmen*t) in the initially hypothesized model, they were assigned to only one common construct. However, the interpretation of the factor loadings of the corresponding variables revealed that the two aspect of commitment can be seen as two independent but complementary factors (i.e. factors 2 and 3). Based on this observation and evidence from the investigators' previous research, it was considered appropriate to restructure the model using two different constructs. Focal factor 2 addresses the aspect of commitment regarding the assurance of resources necessary to complement the software vendor´s core product; it is consequently composed of the variables *sales resources* (.513), *project resources* (.891) and *product support resources* (.848) and labeled *resource commitmen*t. The high loading of the variables indicates a suitable representation of the variables by these underlining constructs. In addition, it has to be noted that the variable *organizational fit* cross-loads to factor 2 as well as to factor 4, with almost identical loadings (.463 versus .462). It thus requires a deeper evaluation on a logical level. At this point, however, the variable was assigned to factor 4; an analysis of this decision is presented later.

Factor 3 (education commitment)

Factor 3 (*education commitment*) represents the counterpart of factor 2 (*resource commitment*) and thus the second aspect of commitment. It contains all variables that were also substantively meaningful

for building the factor *education commitment* in the initial model, including the items *training* (.789), *update training* (.704.) and *certification* (.746). Based on the variables' high factor loadings and findings related to previous studies, the construct is highly suitable to represent the structure of the data.

Factor 4 (fundamental fit)

As can be observed (cf. Table 9a), the loadings of the variables on factor 4 are all above 0.5: *reputation* has a loading of .626, *financial stability* a loading of .508 and *company size* a loading of .503. The only exception is the variable *organizational fi*t (.462); however, according to (Hair et al. 2010) it is still acceptable for interpretation and thus satisfactory. As introduced above, the variable *organizational fit* has an additional cross-loading on factor 2 (*resource commitment*). While on a content level its assignment to both factors could make sense, the subsequently conducted CFA revealed that assigning *organizational fit* to factor 4 leads to a model that better represents the data. Initially, *organizational fit* was considered to be a single construct; based on the new evidence, it makes perfect sense to consider *organizational fit*, which is the availability of an appropriate organizational structure to address the necessary disciplines, as an item of *fundamental fit* (factor 4). *Organizational fit* can clearly be considered a fundamental characteristic essential for carrying a partnership out in a stable way.

Factor 5 (company alignment)

The variables *strategic fit* (.681), *cultural fit* (.552) and *customer-perceived culture* (.506) load on factor 5, which can be interpreted as the degree of alignment between partnering companies. Alignment with the software vendor´s product vision *(strategic fit)*, the degree of cultural compatibility regarding direct work between the partners *(cultural fit)* and a partner´s willingness to perform complementary business services that are in accordance with the software vendor´s values (*customer-perceived culture)* are important aspects that need to be alignment to ensure a suitable partnership. In agreement with evidence from the researcher's primary search of the conducted SLR (Chapter 7), it was considered appropriate to consolidate the above-mentioned variables under a join construct (namely *company alignment*).

Factor 6 (complementarity)

The latent factor 6 describes *complementarity* through the two variables: *complementary business services* (.341) and *complementary products* (.402). Although the loading of the variable c*omplementary product* is acceptable, the researcher is cognizant that the loading of the variable *complementary business services* is not as high as would be desired. However, since the assignment of variables to a factor should always be substantively meaningful and relevant, in accordance with previous results the researcher decided it was both convincing and logical to keep these two variables under a common umbrella for the moment.

Modifying the initial model enabled the researcher to obtain an optimization of the overall structure for the data. The resulting model is presented in Table 10.

Table 10: Adapted Partner Characteristics Model (EFA)

Factor	Items
Market Access	Regional Presence
	Existing Customer Base
	Market Knowledge
	Expertise in the Enterprise Software Industry
Resource Commitment	Sales Resources
	Project Resources
	Product Support Resources
Education Commitment	Training
	Update Training
	Certification
Fundamental Fit	Reputation
	Financial Stability
	Company Size
	Organizational Fit
Company Alignment	Strategic Fit
	Cultural Fit
	Customer-Perceived Culture
Complementarity	Complementary Business Services
	Complementary Products

8.5.4.2 Partner Performance Measurement Model

An EFA was also conducted for the initial structure that measures partner performance. In this case, the researcher started with the hypothesis that three items (*project success*, *customer satisfaction* and *acquired projects*) were assigned to a single construct (*partner performance*). However, through an iterative process the final results of the EFA demonstrated that two of the variables load on one factor, while the third loads on another. Table 9b illustrates the results of the EFA. The variables *project success* (.728) and *customer satisfaction* (.718) have an essential loading on factor 1 and are consequently well defined through that factor. Since both variables cover the aspect of satisfactory project implementation, the researcher labeled this factor *implementation success*. The variable *acquired projects* has a relatively low loading on factor 2 (.265) and is thus a candidate for being removed. This factor was excluded from the analysis of model fit (CFA). However, the decision to do so was not only based on the variable's low loading; it also reflected the fact that the corresponding factor possesses only one item and consequently cannot be treated as a latent construct that needs to be evaluated in terms of measurement fit. Even though the variable was removed from the model fit analysis, it still plays a prominent role in the subsequently conducted correlation analysis. Accordingly, the factor was named *sales performance*. An overview of the model is provided in Table 11.

Table 11b: Results of the EFA (Factor Loadings) Partner Performance

Factors Variables	1	2
M_performance_project_success	.728	.357
M_performance_customer_satisfaction	.718	.386
M_performance_number_acquired_projects		.265

Table 12: Adapted Model Partner Performance (EFA)

Factor	Items
Implementation Success	Project Success
	Customer Satisfaction
Sales Performance	Acquired Projects

8.5.5 Confirmatory Factor Analysis (CFA)

Statistical models are an appropriate way to describe the latent structures underlining a set of observed variables. In this context, CFA is an efficient approach for testing how well observed variables represent the underlining construct. In the first step, the researcher specifies the measurement model to be

tested. In this case, the specification was constructed based on the results of the EFA and embodied a combination of the two models that emerged therefrom (namely the partner characteristics and partner performance measurement models). The specification necessary for the CFA contains five basic elements: the latent constructs, the observed/measured variables, the relationship between the constructs, the variables' loadings on the specific constructs (which indicates the relationship between the latent construct and the corresponding observed variables) and the error terms for each variable (which describes the extent to which the latent factor does not explain the measured variable). The first three elements have to be specified by the researcher, while the others are computed based on the his or her input. (Byrne 2016; Hair et al. 2010) The model to be tested was a seven-factor model consisting of the constructs market access, resource commitment, education commitment, fundamental fit, company alignment, complementarity and implementation success. This model, which is schematically described in Table 12, serves as the blueprint for the model specification with the statistic software tool AMOS. The corresponding structural equation model is illustrated in Figure 10.

Table 13: Consolidated Model

Factor	Items
Market Access	Regional Presence
	Existing Customer Base
	Market Knowledge
	Expertise in the Enterprise Software Industry
Resource Commitment	Sales Resources
	Project Resources
	Product Support Resources
Education Commitment	Training
	Update Training
	Certification
Fundamental Fit	Reputation
	Financial Stability
	Company Size
	Organizational Fit
Company Alignment	Strategic Fit
	Cultural Fit
	Customer-Perceived Culture
Complementarity	Complementary Business Services
	Complementary Products
Implementation Success	Project Success
	Customer Satisfaction

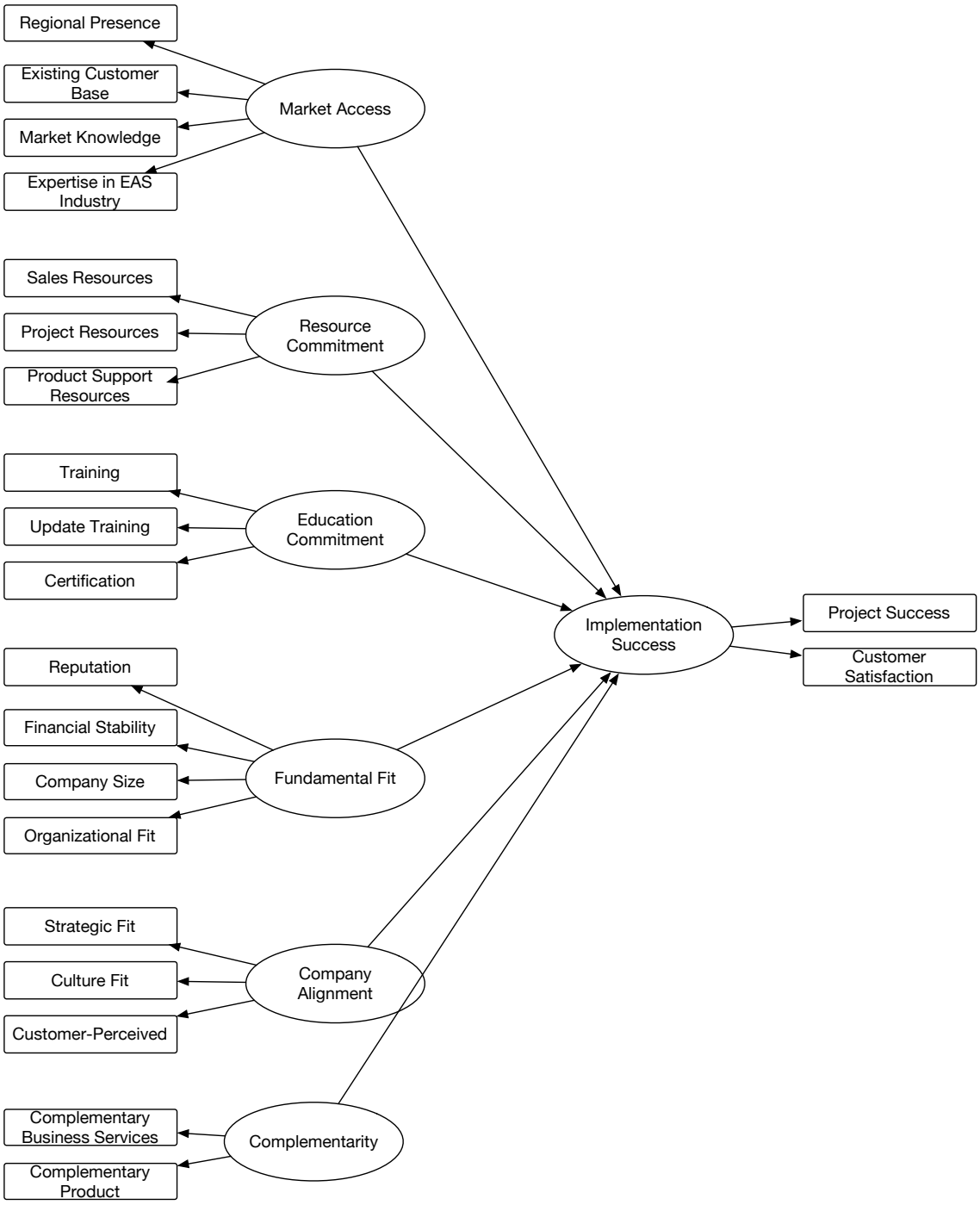


Figure 10: Structural Equation Model (SEM)

In the next step, the researcher tested the plausibility of the specified model (cf. Table 12 and Figure 10) based on the survey data, which contains all relevant variables. To this end he determined the goodness of fit between the hypothesized model and the collected data. Both the overall degree of model fit and the local fit of the construct has to be examined. A variety of key statistics exists to evaluate overall model fit. The chi-squared indicates a good fit by a nonsignificant chi-squared. The chi-squared test is based on a comparison of a sample and estimated covariance matrices. In the literature, this test is

viewed as highly problematic. This is mainly based on the fact that the null hypothesis is almost always rejected as a result of minimal deviations, which indicates that the model represents an unlike event. This test assumes that the model fits perfectly in the population. (Tabachnick and Fidell 2007; Byrne 2016; Bühner 2011) However, (Byrne 2016) asserts that postulated that no matter how good models are, they can only fit real-world data approximately—never exactly. Given this widely known problematic, experts such as (Hurley et al. 1997) often suggest ignoring the test and examining other fit indices. According to the literature (e.g. Tabachnick and Fidell 2007; Hair et al. 2010), good-fitting models lead to consistent results on many different indices. (Hu and Bentler 1999) suggest using two types of fit indices: the standardized root mean square residual (SRMR) and a comparative index. According to (Tabachnick and Fidell 2007), comparative fit index (CFI) and root mean square error of approximation (RMSEA) are among the most reported fit indices. Similarly, (Bühner 2011) advises reporting CFI, RMSEA and SRMR. In conclusion, based on established recommendation in the literature, the researcher decided to report multiple indices: SRMR, CFI, and RMSEA.

The SRMR, which is based on residuals, is an **absolute fit index**. Residuals indicate the difference between a hypothesized model and observed data. The SRMR measures the average discrepancy between the sample's variance and covariances and the estimated population's variances and covariances. It ranges from 0 to 1, with small values indicating a good model fit. Values of 0.08 or smaller are the target. The cut-off value is SRMR ≤.11. (Bühner 2011; Tabachnick and Fidell 2007; Byrne 2016)

As the name implies, the CFI belongs to the **comparative indices** category. It assesses fit relative to other models, namely the independent and saturated models. The independent model is a model of completely unrelated variables, whereas the saturated model is a perfect (saturated or null) model. The CFI has a range of 0 to 1. Values of approximately .95 or higher are considered to indicate a superior model fit, with a CFI ≥.90 reflecting an acceptable model-fit. (Schütter 2016; Byrne 2016; Tabachnick and Fidell 2007)

The RMSEA estimates the lack of fit in a model compared to a perfect (saturated or null) model (**badness of fit**). This estimation is based on a comparison of the observed variance-covariance matrix with values implied by the model's specification. Values larger than .10 reflect a poor model fit, whereas small values are indicative of a good fit. For a sample size <250, an RMSEA value ≤.08 represents a good fit. (Hair et al. 2010; Tabachnick and Fidell 2007; Bühner 2011)

Table 14: Overview Fit Indices

Fit Index good	Type of Index	Value Range	Value	Value Interpretation
SRMR	absolute fit index	0≤SRMR≤1	0.0732	small values indicating a good model fit ≤0.08 good fit ≤0.11 acceptable fit
CFI	comparative index	0≤CFI≤1	.915	High values indicating a good model fit ≥0.95 good fit ≥0.90 acceptable fit
RMSEA	badness of fit	0≤RMSEA≤1	0.072	small values indicating a good model fit ≤. 08 good fit ≤0.11 acceptable fit

After reviewing these three fit indices (cf. Table 13), the researcher concluded a relatively well-fitting model as indicated by an SRMR value of 0.0732, a CFI value of 0.915 and an RMSEA value of 0.072. Since all indices lead to similar conclusions, the researcher can assume that a goodness of fit has been established for the described model.

8.5.5.1 Convergent Validity

Establishing a goodness of fit for the hypothesized model made it possible to evaluate the overall model's construct validity; the next step was then for the researcher to proceed to assessing the goodness of measurement for the individual constructs. While goodness of model fit can be seen as an overall quality criterion for construct validity, convergent validity of the constructs contributes to an assessment of construct validity on a local level. To this end the researcher examined the standardized loading. According to (Hair et al. 2010), individual loadings should be at least .5 and preferably exceed .7 for construct validity. The researcher used these guiding values to evaluate the individual constructs, as reported in the following section. An overview of the loadings is presented in Table 15.

Table 15: Individual Factor Loading for Convergent Validity

Factor	Items	Loading
Market Access	Regional Presence	.806
	Existing Customer Base	.699
	Market Knowledge	.878
	Expertise in the Enterprise Software Industry	.837
Resource Commitment	Sales Resources	.556
	Project Resources	.887
	Product Support Resources	.941
Education Commitment	Training	.902
	Update Training	.738
	Certification	.748
Fundamental Fit	Reputation	.493
	Financial Stability	.666
	Company Size	.690
	Organizational Fit	.808
Company Alignment	Strategic Fit	.686
	Cultural Fit	.693
	Customer-Perceived Culture	.645
Complementarity	Complementary Business Services	.829
	Complementary Products	.307
Implementation Success	Project Success	.755
	Customer Satisfaction	.876

The only loading that is clearly below .5 is the loading of the item *complementary products* on the factor *complementarity*; with .493, *reputation* loads only modestly below the .5 standard. Table 15 reveals that

the values of all other variables clearly exceed the .5 standard. Approximately half of the variables even exceed a factor loading of .7, with loadings ranging from .738 to .941. As such, the presented evidence supports the convergent validity of the hypothesized model and thus helps to support the construct validity of the measurement model. Although two factor loadings are below .7, one is just modestly below .5 and can therefore be neglected. Since only one variable is significantly below the .5 standard, it can be assumed that this single variable does not negatively affect the model fit or construct validity. Furthermore, since the overall model fit has been computed as relatively good, the researcher decided to include all of the variables in the measurement model at this point in the analysis.

In sum, the evaluation of the overall model fit and the analysis of the relationships between the constructs and their assigned variables both support the model's construct validity.

8.5.6 Reliability

Determining internal consistency is one of the most common ways to assess reliability. In general, internal consistency measures how strongly a construct's items are related to each other. Strong relationships among the items indicate a considerable degree of internal consistency. Cronbach´s alpha is the most common measure of internal consistency reliability. It measures the extent to which responses are consistent across items within a data sample. A low value indicates a low degree of internal consistency, which indicates that a scale's items are heterogeneous and that the construct may not be a suitable tool for consolidating the items for the measure. The Cronbach's alpha coefficient ranks from 0 to 1. Values that exceed .70 are preferable. Values around .80 are considered good. In exploratory research, a threshold of .60 is acceptable (cf. Table 15). While the goal was values that exceed .70, the researcher used .60 as the required minimum value. (Kline 2015; Hair et al. 2010; Field 2009; Sarstedt and Mooi 2014; Kline 2015)

Table 16: Cronbach´s Alpha Value Range

	Value Range	Value Interpretation
Cronbach´s alpha	0≤ Cronbach´s alpha ≤1	≥0.80 good ≥0.70 preferred ≥0.60 acceptable

As described above, Cronbach´s alpha was calculated to analyze the internal consistency of the seven constructs (scales).

The results (cf. Table 16) indicate that the constructs' internal consistency is largely satisfactory, with the exception of the construct *complementarity*. The values of Cronbach´s alpha for the other constructs rank from .757 to .878. As such, they clearly exceed the minimum required value of .60; indeed, they also surpass the target threshold of .70. In sum, despite the deficit in relation to the construct *complementarity*, the overall construct's measurement quality can largely be considered good.

Table 17: Cronbach's Alpha

Factor	Cronbach's alpha
Market Access (4 items)	.878
Resource Commitment (3 items)	.830
Education Commitment (3 items)	.839
Fundamental Fit (4 items)	.757
Company Alignment (3 items)	.715
Complementarity (2 items)	.312
Implementation Success (2 items)	.796

However, the results indicated that the construct *complementarity* required further examination. This examination revealed that the items *complementary business service*s and *complementary products* should not be considered as complementary items that measure the same construct (i.e. the degree of a partner's complementarity to the software vendor); they instead need to be distinguished in terms of measurement. The first indication that the two items may not represent a common underlining construct came from the results of the EFA. While the variables' loadings were acceptable, the results were clearly under the preferred value of .5 (*complementary business services* was .341 and *complementary products* was .402). However, based on the results of the researcher's previous studies, this single indicator was not sufficient to conclude that the two items should be separated. Nevertheless, the results of the CFA regarding the loading of the items on the construct *complementarity* also indicated the possibility to separate *complementary business services* and *complementary product*s. While the item *complementary business services* loaded significantly on the factor *complementarity* with .829, the loading of the item *complementary products* (.341) was noticeably below the .5 threshold. Finally, as described above, the results of Cronbach´s alpha indicated that the two items may not be strongly related to each other. Based on all of these indications, the researcher could assume that the two items do not measure the same construct and thus decided to separate them.

Based on the study's primary interview data, the researcher distinguished mainly two relevant complementary capabilities: a partner's ability to offer complementary business services and its ability to develop and offer products on top of a software vendor´s own core software product. A partner´s ability to provide complementary capabilities that have a strong fit to the software vendor´s effort to address the market is an important criterion for success. However, when it comes to evaluating the degree of a partner's complementarity, it is not mandatory that a single partner covers both aspects of complementarity; it can also address just one. This means that a partner can achieve a high degree of complementarity even if its business is based on only one aspect of complementarity. This is also reflected by the different categories of partners. For example, SIs specialize in integrating subsystems into whole customer solutions; as such they focus on offering complementary services and not necessarily also on

developing complementary products. Other partners (e.g. development partners) may concentrate on developing complementary products or components on top of a software vendor's product, without offering complementary business services for end-users. Moreover, other partners—such as VARs—may provide both complementary services and products. The degree of required complementarity does not need to be calculated as a combination of offered services and products. A software company that offers complementary software products does not necessarily offer complementary business services. In contrast, a partner can be highly complementary by offering solely complementary business services. A software vendor's concrete needs also play a role. It can make perfect sense for a software vendor to search for only sales partner that offer solely complementary sales activities. In such cases, offering complementary products may be a factor that can be neglected. While two aspects of complementarity exist, both aspects do not necessarily have to be fulfilled for complementarity to be achieved. Consequently, it makes sense to split the two aspects and evaluate them separately. As a result of this refinement of the measurement model (cf. Table 17), complementarity is no longer measured by the combination of these two aspects' values; *complementary business services* and *complementary product*s are instead measured as two independent aspects (constructs) of complementarity.

Table 18: Adapted Model

Factor	Items
Market Access	Regional Presence
	Existing Customer Base
	Market Knowledge
	Expertise in the Enterprise Software Industry
Resource Commitment	Sales Resources
	Project Resources
	Product Support Resources
Education Commitment	Training
	Update Training
	Certification
Fundamental Fit	Reputation
	Financial Stability
	Company Size
	Organizational Fit

Company Alignment	Strategic Fit
	Cultural Fit
	Customer-Perceived Culture
Complementary Business Services	Complementary Business Services
Complementary Products	Complementary Products

8.6 Research Approach

8.6.1 Measures and Hypotheses

According to the current study's research results, choosing partners according to selection criteria that are based on specific partner characteristics has a positive influence on partner performance. Selecting partners based on these characteristics consequently affects the performance of a software vendor´s partner portfolio.

The following sections quantitatively assess the impact of a partner's characteristics on its performance. It is argued that partners with specific characteristics perform better than partners that lack them. As the previously discussed partner selection criteria represent these underlying partner characteristics, the researcher used them to operationalize the relevant partner characteristics. In the current context, "partner selection criteria" and "partner characteristics" are synonymous and interchangeable terms.

In this section, the researcher first describes the relevant dependent and independent variables. He then articulates hypotheses based on these defined variables. Dependent variables are the variables of primary interest, and the goal is to predict them. To do so, the researcher also captured independent variables that influence the dependent variables in either a positive or negative way. In other words, the independent variables account for variance in the dependent variables. (Sekaran and Bougie 2016)

8.6.1.1 Dependent Variables

A partner's performance can be assessed from different perspectives. However, in the focal study the researcher measured partner performance based on a partner´s economic performance. Measuring economic performance can be problematic, given that different types of partners (e.g. resellers, VAR, Sis and OEM partner) provide a software vendor with different direct and indirect economic incomes; as such, the source of revenue may differ by partner. Revenues are based mainly on complementary business services, software licensing, or items such as maintenance services. A combination of different revenue streams is often involved. However, independent of the type of partners and their business focus, in the enterprise software industry the foundation of almost all business with customers is a project. Project management is essential for addressing individual customer needs and implementing the software. This is due to the need to supplement a software product with complementary business services to leverage its value, deliver an individually customized solution, integrate the software into the

customer's existing infrastructure and connect the solution with other software components to cover the customer's entire value chain. Such exemplary but widely implemented activities are usually managed and synchronized as part of a comprehensive project. Since projects create a frame for nearly all business activities and given the multidimensionality of assessing a partner's economic performance, the researcher decided to measure partner performance related to projects. Three measures of partner performance were used to this end: sales performance, project performance and customer satisfaction. Sales performance refers to the number of acquired customer projects, whereas project performance determines if projects were successfully implemented. Finally, customer satisfaction determines whether the customer was satisfied with the project results. This third measure is an important additional perspective, since projects may be successfully implemented (which usually means in time, in scope and in budget) while the customer is not satisfied with the final result. For each of these measures, the researcher used a single-item Likert scale to record how partners perceive performance. With respect to the current fiscal year, the scales reflect the general alignment of the number of expected project acquisitions with the number of actually won customer projects (i.e. sales performance), the degree to which the implemented projects were successfully implemented (i.e. project success) and overall customer satisfaction regarding the implemented projects (i.e. customer satisfaction). Further analysis of this measurement model revealed that the elements project performance and customer satisfaction are highly related, whereas sales performance represents a different aspect of partner performance. Project performance and customer satisfaction were thus clustered together under the umbrella of implementation success—which consequently reflects the degree of a customer project's success based on these two items. While implementation success addresses project success, sales performance addresses the success of a partner´s sales activities.

8.6.1.2 Independent Variables

Fundamental fit

In the focal research, the researcher operationalized the basic prerequisites essential for a partner to execute its role in a stable way through a construct consisting of four items. Fundamental fit includes the items *reputation, financial stability, company size* and *organizational fit*. In this context, o*rganizational fit* was operationalized as the availability of an appropriate organizational structure that allows a partner to distribute and implement the software vendor's product(s) effectively. It reflects the availability of an organizational structure suitable for addressing the disciplines of the business, such as sales, professional services, consulting and customer support.

Market access

Market access, which is a partner`s potential to enter a market with the software vendor´s product, was assessed by the respondent through four items: *regional presence, existing customer bases, market knowledge* and *expertise in the enterprise software industry*. These items reflect the conditions for entering a market as perceived by the partners.

Resource commitment

Resource commitment addresses the first aspect of commitment, namely a partner´s assurance that it will provide employees who devote their time to businesses based on the software vendor´s product(s). It was measured by the items *sales resources*, *project resources* and *product support resources*.

Education commitment

The second aspect of commitment is represented by the construct education commitment. It addresses the fact that relevant employees must regularly participate in the software vendor's training and certification program to attain and demonstrate the necessary skills. Education commitment consists of three items, namely *training*, *update training* and *certification*.

Complementary business services

This construct addresses the availability of complementary business services to the software vendor´s product portfolio, such as consulting, training and project management. It is measured through a single item.

Complementary products

Similar to complementary business services, the construct complementary products uses one item to measure a partner´s offer of complementary products on top of the software vendor´s product portfolio.

Company alignment

Alignment with the software vendor´s product vision (i.e. strategic fit), the degree of cultural compatibility regarding direct work between partners (i.e. cultural fit), and the partner´s willingness to perform complementary business services in accordance with the software vendor´s values (i.e. customer-perceived culture) are important aspects that need to be alignment to ensure a suitable partnership. Each of these aspects was measured by a single item and summarized under the construct company alignment. In general, strategic fit has different aspects and may vary depending on the partnership and the partnering companies. However, one element is always crucial: the degree to which a partner has a compatible vision regarding the software vendor´s core product. The researcher thus decided to measure this aspect through a corresponding item, through which respondents were asked to assess their company's alignment with the software vendor´s product vision. To capture the customer-perceived culture, respondents were also requested to indicate their company's use of the software vendor´s best practices methods.

8.6.1.3 Hypotheses

As described above, the analysis of the measurement model showed that the elements project performance and customer satisfaction are highly related, whereas sales performance represents a different aspect of partner performance.

Implementation Success: Project performance and customer satisfaction were grouped under the construct implementation success. It expresses the degree of a customer project's success. The researcher analyzes the influence of the partner characteristics (i.e., the above described independent variables) to the construct implementation success. Since this construct consist of the two items project performance and customer satisfaction, it was analyzed whether a significant positive correlation exists between the partner characteristics and at least one of these two items. Considering that the researcher aimed to investigate the relationship between the partner characteristics and the implementation success, he argued that it is sufficient that the partner characteristics have a positive correlation to (at least) one of the two items of the construct partner implementation. The corresponding Hypotheses H1a-H7a are defined in the following section.

Sales Performance: Sales performance addresses the success of a partner´s sales activities through one single item. Thus, the researcher analyzed whether a significant positive correlation exists between the partner characteristics and this item. The corresponding Hypotheses H1b-H7b are defined in the following section.

Hypothesis 1a (H1a)

A significant positive correlation exists between each variable in the category *fundamental fit* and at least one of the variables in the category *implementation success*.

Hypothesis 1b (H1b)

A significant positive correlation exists between each variable in the category *fundamental fit* and the variable *sales performance*.

Hypothesis 2a (H2a)

A significant positive correlation exists between each variable in the category *company alignment* and at least one of the variables in the category *implementation success*.

Hypothesis 2b (H2b)

A significant positive correlation exists between each variable in the category *company alignment* and the variable *sales performance*.

Hypothesis 3a (H3a)

A significant positive correlation exists between each variable in the category *market access* and at least one of the variables in the category *implementation success*.

Hypothesis 3b (H3b)

A significant positive correlation exists between each variable in the category *market access* and the variable *sales performance*.

Hypothesis 4a (H4a)

A significant positive correlation exists between each variable in the category *resource commitment* and at least one of the variables in the category *implementation success*.

Hypotheses 4b (H4b)

A significant positive correlation exists between each variable in the category *resource commitment* and the variable *sales performance*.

Hypothesis 5a (H5a)

A significant positive correlation exists between each variable in the category *education commitment* and at least one of the variables in the category *implementation success*.

Hypothesis 5b (H5b)

A significant positive correlation exists between each variable in the category *education commitment* and the variable *sales performance*.

Hypothesis 6a (H6a)

A significant positive correlation exists between the variable in the category *complementary business services* and at least one of the variables in the category *implementation success*.

Hypothesis 6b (H6b)

A significant positive correlation exists between the variable in the category *complementary business services* and the variable *sales performance*.

Hypothesis 7a (H7a)

A significant positive correlation exists between the variable in the category *complementary products* and at least one of the variables in the category *implementation success*.

Hypothesis 7b (H7b)

A significant positive correlation exists between the variable in the category *complementary products* and the variable *sales performance*.

8.6.2 Method

The researcher used the statistical approach of correlation analysis to test the above hypotheses regarding the relationship between the dependent and independent variables. A correlation exists between two variables when the change of one variable's magnitude occurs along with the change of another variable's magnitude. These two variables can consequently be (1) positive related, which means that an increase (respectively decrease) in a variable leads to an increase (decrease) in the correlated variable; (2) negative related, which indicates that an increase (decrease) in a variable decreases (increases) the correlated variable; or (3) not related at all. (Verma 2012; Field 2009)

To determine how strongly a given (dependent) variable is associated with another (independent) variable, the correlation coefficient between these two variables has to be calculated. This correlation coefficient „gives fair estimate of the extend of relationship between any two variables" (Verma 2012). Different types of correlation coefficients exist, such as Pearson´s correlation coefficient, Spearman´s correlation coefficient, Kendall´s tau coefficient and the point-biserial correlation. (Cleff 2014)

The researcher analyzed the correlation based on the Pearson´s correlation coefficient. This approach was developed by the physicist Auguste Bravais and the British mathematician Karl Pearson (Cleff 2014). The correlation coefficient between variables j and k is calculated by dividing the covariance by the product of the square roots of the variances of variables j and k (i.e. by the standard deviations of j and k) (Adachi 2016). The result defines an absolute measure with the following properties: (1) its absolute value lies between -1 and 1 ($-1 \leq r \leq 1$); (2) it takes a positive value when variables j and k have a positive correlation; (3) the closer the correlation coefficient is to 1, the stronger the linear positive relationship between variables j and k. It takes the value 1 when the two variables are perfectly positive-

ly and linearly correlated; (4) it takes a negative value when variables j and k have a negative correlation; (5) the closer the correlation coefficient is to -1, the stronger the linear negative relationship between variables j and k. It takes the value -1 when the two variables are perfectly negatively and linearly correlated; and (6) the closer the value is to 0, the more the variables diverge from a perfect linear relationship. The correlation coefficient has the value of 0 when no correlation between the variables exists. The analysis based on the Pearson´s correlation coefficient allowed the researcher to capture the correlation's strength. (Cleff 2014; Adachi 2016; Field 2009). In alignment with (Kuckartz et al. 2013), the researcher used the following differentiation to assess the relationships between the variables:

$0.00 \leq r < 0.10$ No correlation
$0.10 \leq r < 0.30$ Weak correlation
$0.30 \leq r < 0.50$ Middling correlation
$0.50 \leq r < 0.70$ Strong correlation
$0.70 \leq r < 1.00$ Very strong correlation

Spearman´s correlation coefficient was also computed. Given that unlike its Pearson's counterpart Spearman´s correlation coefficient is not based on a normal distribution and is thus robust against violation of the normality assumption, the researcher decided to use it to conduct another correlation measurement (Field 2009). Furthermore, Pearson´s correlation coefficient is very sensitive to outliers, which may lead to restricted reliability. Moreover, it indicates a linear relationship. In situations with non-linear but monolithic relationships, it can thus be expected that the coefficient is low even if a (monotonic) relationship exists. In linear relationships, the rates of change are constant. Monotonic relationships require an approach that measures the strength of monotonic relationships. Thus, even though the researcher conducted a comprehensive analysis of outliers and the analysis of the distribution indicated an approximate normality, the researcher also calculated Spearman´s correlation coefficient. However, this was only done as an additional control mechanism to compare the results of Pearson´s correlation coefficient with those of Spearman´s correlation coefficient.

Spearman´s correlation coefficient describes the degree to which two numeric variables are monotonically related. It is computed by first ranking the data and subsequently applying Pearson´s equation. Since it is a non-parametric statistic, it can be used when the normality assumption is violated. Moreover, because the calculation is based on the ranking of the values and not on the actual values, the approach is robust to outliers. Similar to Pearson´s coefficient, the values of the correlation lie within the following range: $-1 \leq r \leq 1$; other properties and interpretations are also essentially the same. Data that is linearly related is necessarily also monotonically related. As such, Spearman's correlation is often used in situations in which Pearson's correlation may be used. (Field 2009; Cleff 2014; Miah 2016)

Comparing the two approaches to correlation analysis revealed that while the measured values differ marginally, the results and their weightings are essentially the same. Statistically significant relationships that emerged through Spearman´s test were identically identified by Pearson´s test. The interpretation of the values is also basically identical. In sum, since the values and interpretations are similar, according to (Miah 2016) it can be assumed that the captured relationships between the variables are linear. Within the focal study, the researcher considered solely statistically significant correlations ($\alpha<0.05$ indicated with the symbol *, $\alpha<0.01$ indicated with the symbol: **).

To test hypotheses 1a–7b in a structured way, the researcher specified a corresponding theoretical framework (models 1a–7b) for each category of partner selection criterion. These theoretical models (cf. Figure 11) are aligned with the survey design and the results of the previously performed research

activities regarding the measurement models (validity, reliability). According to (Sekaran and Bougie 2016), a „theoretical framework represents and elaborates the relationships among the variables, explains the theory underlying these relations, and describes the nature and direction of the relationships“.

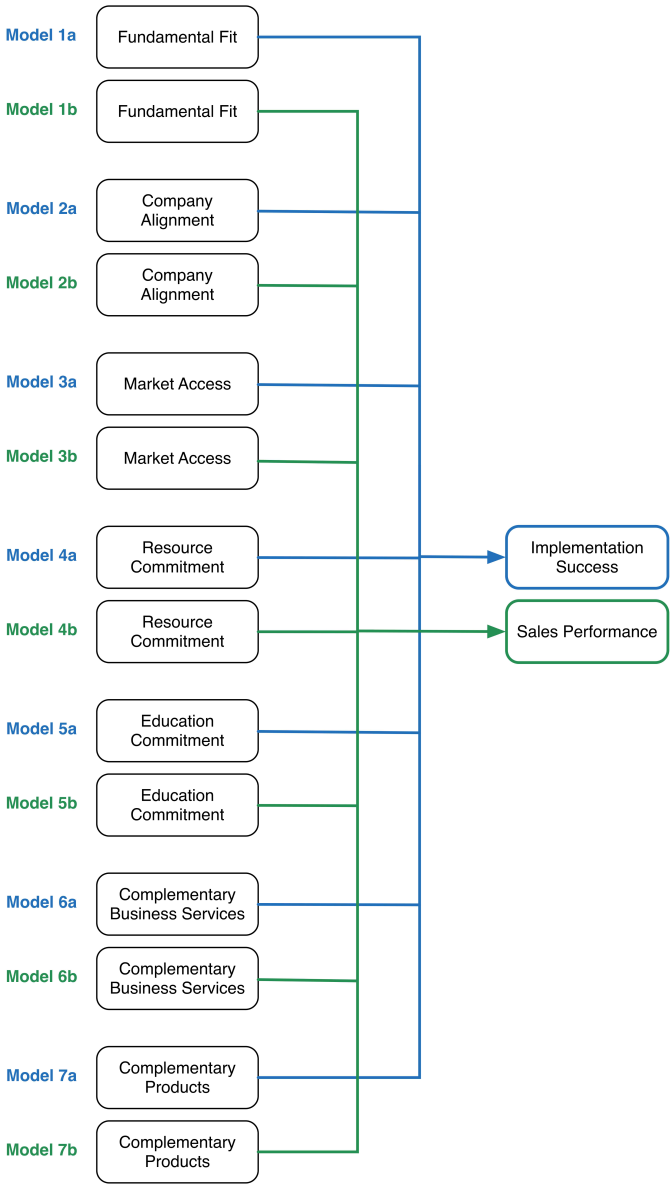


Figure 11: Overview of Models 1a–7b

8.6.3 Fundamental Fit Models

The following models (1a and 1b) allow the examination of how fundamental partner characteristics including *reputation*, *financial stability*, *company size* and *organizational fit* affect partners' *implementation performance* and *sales performance*, respectively.

8.6.3.1 Model 1a Fundamental Fit – Correlations of the Fundamental Fit and Implementation Performance Categories

Table 19: Correlations of the Fundamental Fit and Implementation Success Categories

Fundamental Fit	Implementation Success				H1a
	Project Success		Customer Satisfaction		
	Pearson	Spearman-Rho	Pearson	Spearman-Rho	
Reputation	.168*	.95*	.261**	.285**	√
Financial stability	.09	.113	.286**	.301**	√
Company size	.254**	.280**	.357**	.381**	√
Organizational fit	.347**	.357**	.541**	.498**	√

As shown in Table 18, all variables associated with the category *fundamental fit* indicate a significant and positive correlation with at least one variable in the category *implementation success.* Hypothesis H1a can thus be confirmed, as it predicted a significant correlation between each variable in the category *fundamental fit* and at least one of the dependent performance variables. The results suggest that *organizational fit* represents a more relevant determinant of the variable *customer satisfaction*, based on its strong Pearson correlation (.541**) and middling Spearman-Rho correlation (.498**). They also reveal that *financial stability* has no significant correlation with the variable *project success* but does have a significant correlation with the variable *customer satisfaction.* This may be related to the circumstance that a project's success represents a more unique measurable event at the end of a project (in time, in budget, in scope), while customer satisfaction may also reflect a long-term status. A partner without a stable financial situation may obviously have multiple possibilities in the long term to affect customer satisfaction negatively, e.g. by not offering product support. This may explain the result that *financial stability* has a positive correlation with *customer satisfaction* but no statistical relationship with *project success.*

8.6.3.2 Model 1b Fundamental Fit – Correlations of the Fundamental Fit and Sales Performance Categories

Table 20: Correlations of the Fundamental Fit and Sales Performance Categories

Fundamental Fit	Sales Performance		H1b
	Pearson	Spearman-Rho	
Reputation	.251**	.253**	√
Financial stability	.294**	.293**	√
Company size	.213*	.188*	√
Organizational fit	.331**	.335**	√

The correlation analyses based on both Pearson and Spearman-Rho (cf. Table 19) showed that the coefficients for the variables *reputation, financial stability, organizational fit* (a<0.01) and *company size* (α<0.05) are significant. As such, the findings offer support for hypothesis H1b. The correlation coefficient for the variable *organizational fit* indicates a middling correlation, while the other variables correlate weakly with the variable *sales performance.*

8.6.4 Company Alignment Models

Models 2a and 2b isolate the effect of the independent variables *strategic fit*, *cultural fit* and *customer-perceived culture* on partners' *implementation performance* and *sales performance*, respectively.

8.6.4.1 Model 2a Company Alignment

Table 21: Correlations of the Company Alignment and Implementation Success Categories

Company Alignment	Implementation Success				H2a
	Project Success		Customer Satisfaction		
	Pearson	Spearman-Rho	Pearson	Spearman-Rho	
Strategic fit	.334**	.280**	.399**	.384**	√
Cultural fit	.224**	.294**	.462**	.477**	√
Customer-perceived culture	.411**	.428**	.465**	.493**	√

The results (cf. Table 20) capture a middling correlation between the independent variables *strategic fit*, *cultural fit* and *customer-perceived culture* and the performance variable *customer satisfaction*. Regarding the relationships with the dependent variable *project success*, the independent variable *customer-perceived culture* indicates a middling correlation while the other independent variables show a weak correlation. Since all variables in the category *company alignment* correlate significantly with all variables in the category *implementation performance*, hypothesis H2a can be confirmed.

8.6.4.2 Model 2b Company Alignment

Table 22: Correlations of the Company Alignment and Sales Performance Categories

Company Alignment	Sales Performance		H2b
	Pearson	Spearman-Rho	
Strategic fit	.06	.093	-
Cultural fit	.135	.135	-
Customer-perceived Culture	.269**	.295**	√

For the variables *strategic fit* and *cultural fit*, no statistically significant correlations were found concerning the dependent variable *sales performance*. As a result, compatibility regarding the software vendor´s product vision (strategic fit) or culture (cultural fit) does not affect a partner´s sales performance. In other words, no strategic or cultural alignment is required to sell projects successfully. The *customer-perceived culture* has a weak but statistically significant ($a<0.01$) correlation with the variable *sales performance*. This makes sense since the *customer-perceived culture* was operationalized by specifying the use of the software vendor´s best-practice methods. It is logical and intuitive that the use of proven methods in relation to particular activities, e.g. sales, may also have a positive impact on the success of those activities. Nevertheless, two of the analyzed independent variables have no statistically relevant relationships to the dependent variable *sales performance*. Hypothesis H2b was thus rejected, as it assumes a significant correlation between each variable associated with the category *company alignment* and the dependent variable *sales performance* (cf. Table 21).

8.6.5 Market Access Models

Models 3a and 3b analyze the influence a partner`s potential to enter a market (regional presence, existing customer bases, market knowledge, expertise in the enterprise software industry) has on partners' *implementation performance* and *sales performance*, respectively.

8.6.5.1 Model 3a Market Access

Table 23: Correlations of the Market Access and Implementation Success Categories

Market Access	Implementation Success				H3a
	Project Success		Customer Satisfaction		
	Pearson	Spearman-Rho	Pearson	Spearman-Rho	
Regional presence	.348**	.283**	.180*	.214**	√
Existing customer base	.224**	.225**	.282**	.304**	√
Market knowledge	.261**	.244**	.236**	.244**	√
Expertise in the enterprise software industry	.204*	.175*	.198*	.216**	√

Each of the four independent variables correlates significantly and positively with all of the dependent variables in the category *implementation performance* (cf. Table 22). The values of the correlation coefficients have a primarily weak strength level and influence the dependent variables at approximately similar levels. Consequently, hypothesis H3a can be confirmed.

8.6.5.2 Model 3b Market Access

Table 24: Correlations of the Fundamental Fit and Sales Performance Categories

Market Access	Sales Performance		H3b
	Pearson	Spearman-Rho	
Regional presence	-0.041	-0.078	-
Existing customer base	-0.014	0.015	-
Market knowledge	0.077	0.047	-
Expertise in the enterprise software industry	0.037	0.031	-

Interestingly, no statistical correlation between any of the variables in the category *market access* and the dependent variable *sales performance* could be detected (cf. Table 23). While the market access variables have an effect on implementation performance, they have no statistically relevant influence on sales performance. This is especially counterintuitive for the variables *existing customer base* and

market knowledge, as one would expect that an existing customer base and market knowledge would reduce the barriers to selling new projects. However, as one of the experts argued when discussing these statistical results, „If you are excellent in selling, you are excellent in selling. Nothing else is necessary to acquire new projects."

8.6.6 Resource Commitment Models

Models 4a and 4b address the influence that a partner´s ability to provide sufficient resources for sales, project implementation and product support have on partners' *implementation performance* and *sales performance*, respectively.

8.6.6.1 Model 4a Resource Commitment

Table 25: Correlations of the Resource Commitment and Implementation Success Categories

Resource Commitment	Implementation Success				H4a
	Project Success		Customer Satisfaction		
	Pearson	Spearman-Rho	Pearson	Spearman-Rho	
Sales resources	.283**	.314**	.330**	.354**	√
Project resources	.480**	.495**	.539**	.542**	√
Product support resources	.549**	.561**	.610**	.594**	√

All three independent variables in the category *resource commitment* have a significant positive correlation with each of the variables in the category *implementation performance* (cf. Table 24). Hypothesis H4a can consequently be confirmed, as it expects a significant correlation between each variable in the category *resource commitment* and at least one variable in the category *implementation success*. Since sufficient project and product support resources are usually important for the successful implementation of a project, it is no surprise that the correlation coefficients of the variables *project resources* and *product support resources* are stronger than for the variable *sales resources*. They fall within a range from a middling correlation to a strong correlation, with a tendency to a strong level. However, sales activities are also part of any project and have a certain influence on project success and customer satisfaction. Table 24 supports this assumption, showing significant positive correlations in a range from weak to middling with a clear tendency to a middling correlation level.

8.6.6.2 Model 4b Resource Commitment

Table 26: Correlations of the Resource Commitment and Sales Performance Categories

Resource Commitment	Sales Performance		H4b
	Pearson	Spearman-Rho	
Sales resources	0.283**	0.251**	√
Project resources	0.106	0.086	-
Product support resources	0.076	0.04	-

It seems both obvious and logical that the availability of resources for project implementation and product support has no impact on sales performance, whereas the ability to provide sufficient sales resources has a statistically significant and positive correlation with the variable *sales* performance (cf. Table 25). However, the values of the correlation coefficient indicate a weak correlation. A possible reason for the relatively low level of correlation may be the fact that the sales process is long-lasting and depends not just on pure availability but also on the sales force's skills and experience. Nevertheless, the statistical analysis reveals that providing sales resources has a statistical influence on sales performance. H4b is rejected, as it predicted a significant correlation between each variable in the category *resource commitment* and the variable *sales performance*.

8.6.7 Education Commitment Models

The models regarding educational commitment (H5a and H5b) enabled the researcher to capture the statistical relationships between the commitment to participate in educational activities (namely training, update training and certification) and partners' *implementation performance* and *sales performance*, respectively.

8.6.7.1 Model 5a Education Commitment

Table 27: Correlations of the Education Commitment and Implementation Success Categories

Education Commitment	Implementation Success				H5a
	Project Success		Customer Satisfaction		
	Pearson	Spearman-Rho	Pearson	Spearman-Rho	
Training	.452**	.372**	.475**	.409**	√
Update training	.335**	.333**	.243**	.281**	√
Certification	.388**	.400**	.286**	.333**	√

As expected, participation in *training, update training*, and *certification programs* has a significant and positive relation to *project success* and *customer satisfaction* (cf. Table 26). This is no surprise, since regular participation in the software vendor´s training and certification program helps a partner to develop the required skills. Since a significant correlation exists between each variable in the category *education commitment* and between both variables in the category *implementation success,* H5a can be confirmed.

8.6.7.2 Model 5b Education Commitment

Table 28: Correlations of the Education Commitment and Sales Performance Categories

Education Commitment	Sales Performance		H5b
	Pearson	Spearman-Rho	
Training	.175*	.185*	√
Update training	.200*	.200*	√
Certification	.203*	.189*	√

Hypothesis H5b can also be confirmed. Each variable in the category *education commitment* correlates significantly and positively with each of the *sales performance* variables (cf. Table 27). This makes sense since the software vendor´s educational programs usually also cover training units for sales activities.

8.6.8 Complementary Business Services Models

The complementary business services models (6a and 6b) isolate the effect of a partner´s ability to offer complementary business services on variables in the *implementation performance* and *sales performance* categories, respectively.

8.6.8.1 Model 6a Complementary Business Services

Table 29: Correlations Complementary Business Services and Implementation Success Categories

Complementary Business Services	Implementation Success				H6a
	Project Success		Customer Satisfaction		
	Pearson	Spearman-Rho	Pearson	Spearman-Rho	
Complementary business services	.242**	.237**	.279**	.307**	√

The variable *complementary business services* correlates significantly and positively with each of the variables in the category *implementation performance* (cf. Table 28). This is comprehensive, since complementary services enhance a software product's value and offer the customer a whole solution. As a result, hypothesis H6a can be confirmed.

8.6.8.2 Model 6b Complementary Business Services

Table 30: Correlations of the Complementary Business Services and Sales Performance Categories

Complementary Business Services	Sales Performance		H6b
	Pearson	Spearman-Rho	
Complementary business services	0.084	0.058	-

In contrast to model 6a, with respect to the variable *complementary business services* no statistically significant correlations were detected with the variable *sales performance* (cf. Table 29). Consequently, offering complementary business services has a positive influence on *implementation performance* but no measurable effect on a partner´s *sales performance*. Having complementary business services in a portfolio thus does not automatically increase the number of projects won. Hypothesis H6b therefore has to be rejected.

8.6.9 Model Complementary Products

The next models (7a and 7b) allowed the researcher to examine how offering complementary products on top of the software vendor´s product portfolio affects variables in the categories *implementation performance* and *sales performance*, respectively.

8.6.9.1 Model 7a Complementary Products

Table 31: Correlations of the Complementary Products and Implementation Success Categories

Complementary Products	Implementation Success				H7a
	Project Success		Customer Satisfaction		
	Pearson	Spearman-Rho	Pearson	Spearman-Rho	
Complementary products	-0.003	0.021	0.049	0.063	√

Table 30 reveals that no noticeable correlation exists between the variable *complementary products* and the variables in the category *implementation performance*. Hypothesis H7a must thus be rejected. In other words, offering one's own complementary products has no positive affect on project success or customer satisfaction. A possible explanation for this result may be that the customer expects a comprehensive solution and that the ability to perform customization activities (e.g. complementary business services) is more relevant for reaching this objective than the ability to develop one's own complementary products. If the goal is to implement a successful and satisfactory project, it does not matter if a partner develops and offers his own complementary products as long as the whole solution is integrated and fits customers' needs.

8.6.9.2 Model 7b Complementary Products

Table 32: Correlations of the Complementary Products and Sales Performance Categories

Complementary Products	Sales Performance		H7b
	Pearson	Spearman-Rho	
Complementary products	-.191*	-.180*	√

Interestingly, the statistical analysis indicates a significant negative correlation between the *complementary products* and *sales performance* variables (cf. Table 31). The data suggests that offering complementary products in addition to the software vendor´s product has a negative impact on sales performance. As later discussed with an expert, such evidence may stem from the fact that a complex offer with complementary products may confuse a customer and create doubt regarding the necessity of additional products and consequently also affect the entire project offer. Since the relationship is inverse, hypothesis H7b is rejected.

8.7 Conclusion and Implications of the Findings

As a starting point for the data analysis, the researcher utilized the evaluation of the measurement models undertaken through a combination of EFA and CFA. As a consequence of the findings, they refined the structure of the measurement models. The researcher subsequently conducted a correlation analysis. The results encourage the interference between partner characteristics and implementation performance and between partner characteristics and sales performance. The correlation analysis made it possible to conclude that two relevant subsets of partner characteristics (partner selection criteria) exist. One set of partner characteristics is relevant for partners' implementation performance, while the other has an impact on their sales performance. This finding allows a software vendor to optimize its partner selection. A software vendor that searches for sales partners may use the corresponding set of selection criteria, while a software vendor that needs partners capable of implementing projects successfully and satisfactory can employ the other set of selection criteria. An overview of the results of correlation analysis is illustrated in Figure 12 and Figure 13 (pearson´s correlation coefficient).

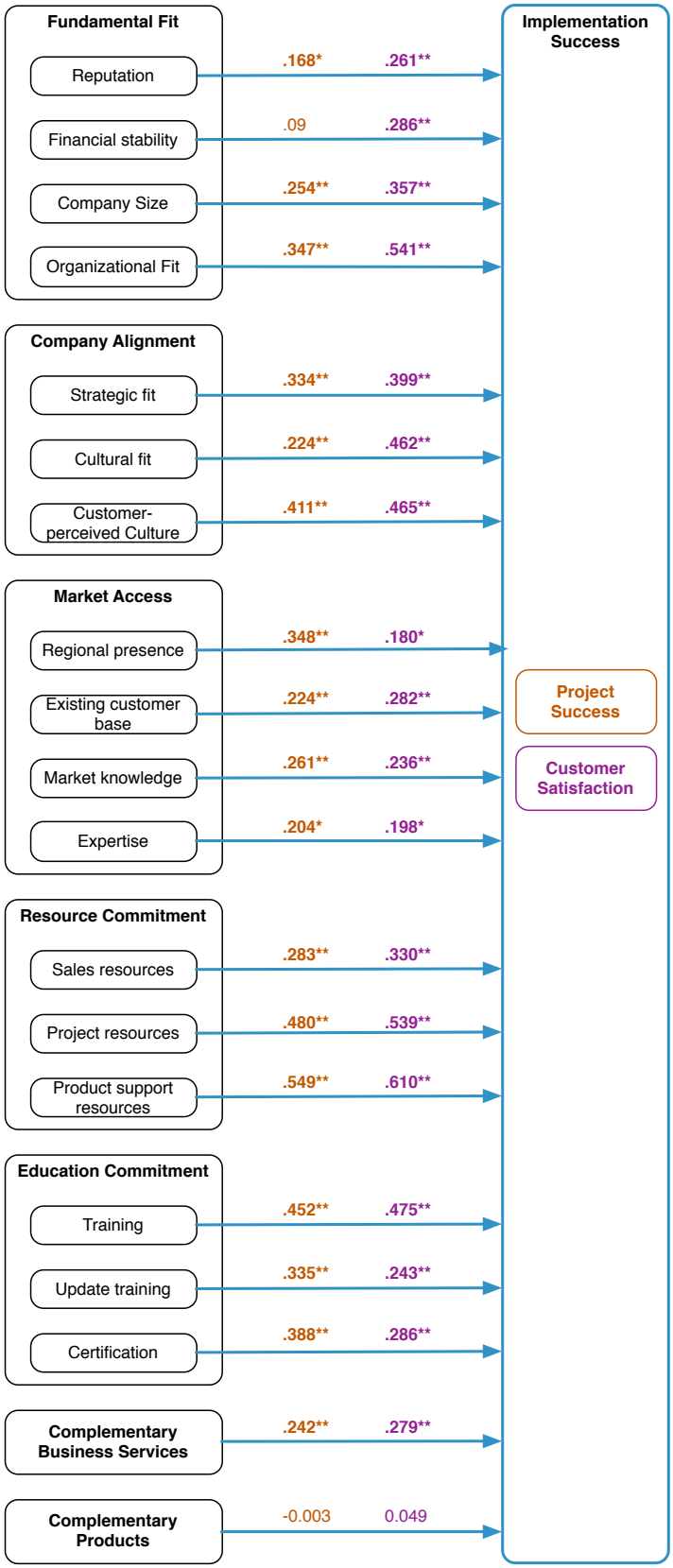


Figure 12: Results of the Correlation Analysis (Implementation Success)

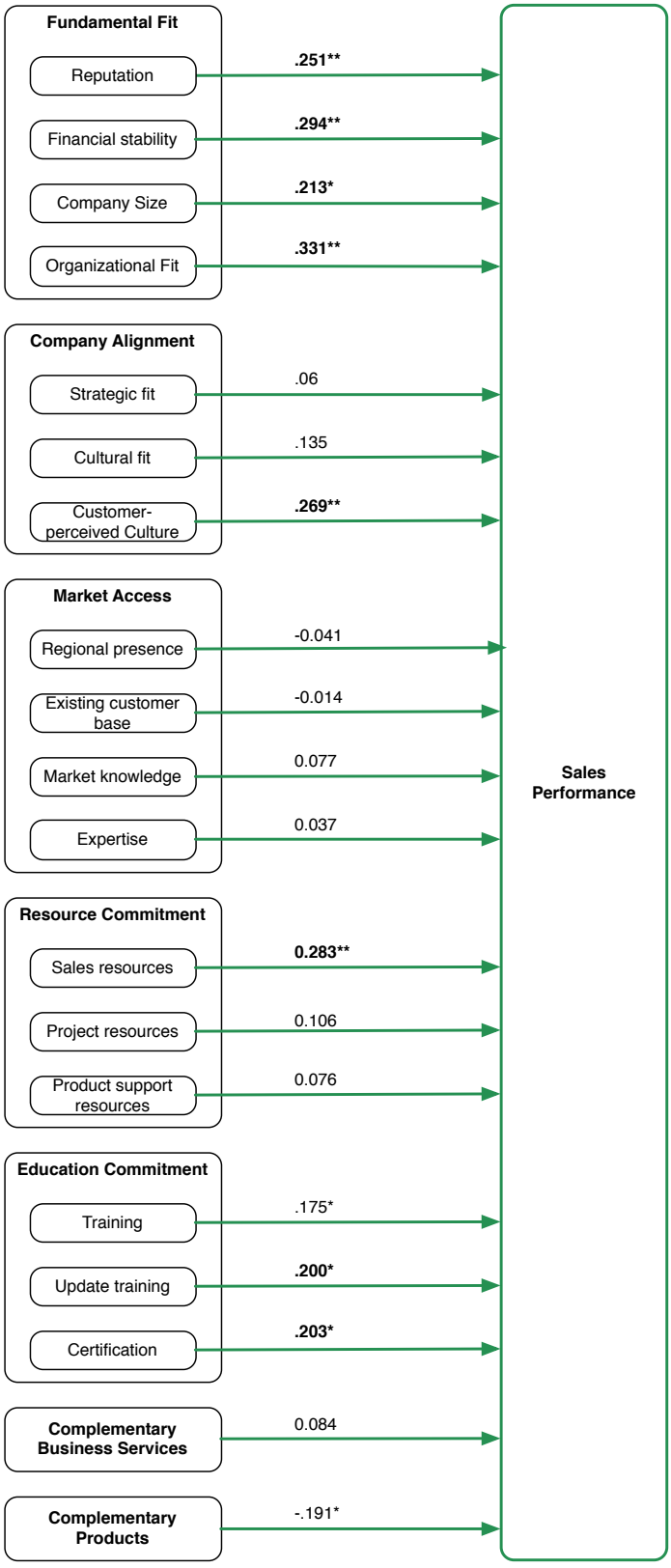


Figure 13: Results of the Correlation Analysis (Sales Performance)

In the following chapter, the results of the statistically tested hypotheses are first summarized. Based on the integrated results, how the overall model was adjusted for partner selection is then described. For this purpose, variables that correlated significantly and positively with at least one of the dependent variables in the category *implementation performance* were included as relevant selection criteria for implementation partners. Moreover, variables that correlated significantly and positively with the dependent variable *sales performance* were listed as relevant selection criteria for sales partners.

Table 32 highlights the results of the correlation analysis regarding hypotheses H1a–H7b. Hypotheses H1a, H1b, H2a, H3a, H4a, H5a, H5b and H6a were confirmed, whereas hypotheses H2b, H3b, H4b, H6b, H7a and H7b were rejected. Independent variables that have no significant positive correlation with the dependent variables of their corresponding hypotheses and caused the rejection of these hypotheses are marked with ***. These variables are candidates to be removed from the corresponding partner selection model.

Table 33: Overview of the Hypotheses

H	Independent Variables	Dependent Variables	Result
H1a	**Fundamental Fit** (reputation, financial stability, company size, organizational fit)	Implementation Performance (project success, customer satisfaction)	√
H1b	**Fundamental Fit** (reputation, financial stability, company size, organizational fit)	Sales Performance	√
H2a	**Company Alignment** (strategic fit, cultural fit, customer-perceived culture)	Implementation Performance (project success, customer satisfaction)	√
H2b	**Company Alignment** (strategic fit,*** cultural fit,*** customer-perceived culture)	Sales Performance	-
H3a	**Market Access** (regional presence, existing customer base, market knowledge, expertise in the enterprise software industry)	Implementation Performance (project success, customer satisfaction)	√
H3b	**Market Access** (regional presence,*** existing customer base,*** market knowledge,*** expertise in the enterprise software industry***)	Sales Performance	-

H4a	**Resource Commitment** (sales resources, project resources, product support resources)	Implementation Performance (project success, customer satisfaction)	√
H4b	**Resource Commitment** (sales resources, project resources,*** product support resources***)	Sales Performance	-
H5a	**Education Commitment** (training, update training, certification)	Implementation Performance (project success, customer satisfaction)	√
H5b	**Education Commitment** (training, update training, certification)	Sales Performance	√
H6a	Complementary Business Services	Implementation Performance (project success, customer satisfaction)	√
H6b	Complementary Business Services***	Sales Performance	-
H7a	Complementary Product***	Implementation Performance (project success, customer satisfaction)	-
H7b	Complementary Product***	Sales Performance	-

8.7.1 Theory Adjustment

The above-summarized results of the correlation analysis were used to adapt and refine the model for the partner selection. The adjusted model indicates the statistically confirmed criteria for partner selection. Tables 33 and 34 present the refined partner selection approach that serves as a guiding blueprint for software vendors when they are scouting for and selecting suitable partners. The findings allow for a two-fold approach that enables software vendors to use two focused sets of selection criteria. One set addresses the selection of implementation partners, i.e. partners who offer complementary activities, components or both (cf. Figure 14). The other focuses on the selection of suitable sales partners; namely partners that can function as an additional sales force (cf. Figure 15). In Figure 14 and Figure 15, elements that have been consolidated under a new or existing construct are marked green. Similar, new constructs are also highlighted in green.

Table 34: Partner Selection Criteria for Implementation Partners

Selection Category	Selection Criteria
Fundamental Fit	Reputation
	Financial Stability
	Company Size
	Organizational Fit
Company Alignment	Strategic Fit
	Cultural Fit
	Customer-perceived Culture
Market Access	Regional Presence
	Existing Customer Base
	Market Knowledge
	Expertise in the Enterprise Software Industry
Resource Commitment	Sales Resources
	Project Resources
	Product Support Resources
Education Commitment	Training
	Update Training
	Certification
Complementary Business Services	Complementary Business Services

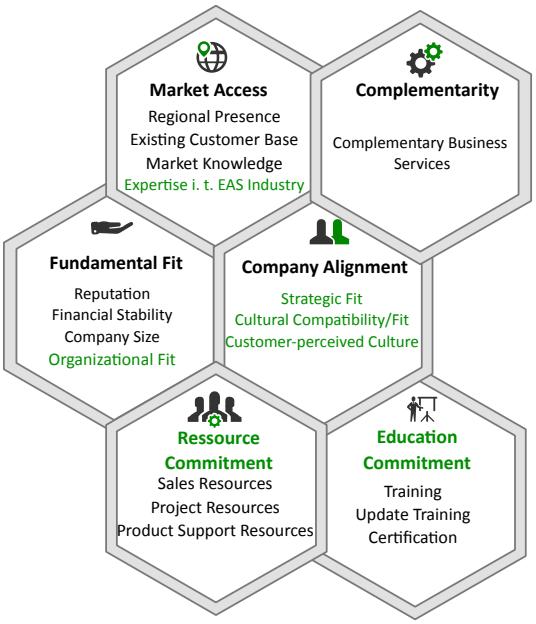


Figure 14: Partner Selection Criteria for Implementation Partners

Table 35: Partner Selection Criteria for Sales Partners

Selection Category	Selection Criteria
Fundamental Fit	Reputation
	Financial Stability
	Company Size
	Organizational Fit
Company Alignment	Customer-perceived Culture
Resource Commitment	Sales Resources
Education Commitment	Training
	Update Training
	Certification

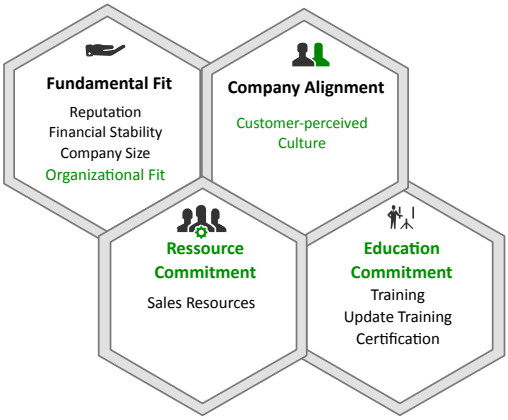


Figure 15: Partner Selection Criteria for Sales Partners

8.8 Discussion and Limitations

This study has certain limitations that should be pointed out. One limitation is the exclusion of the output variable sales performance from the examination of the model fit. Through the analysis, it turned out that the construct sales performance addresses the success of a partner's sales activities through one single item. Since the construct possesses only one item, it could not be treated as a latent construct that needs to be evaluated in terms of measurement fit. Consequently, it was removed from the model fit analysis. Similar, as a result of the refinement of the measurement model, complementarity is no longer measured by the combination of complementary business services and complementary products. Instead, complementary business services and complementary products are measured as two independent aspects (constructs) of complementarity. After this adaption of the measurement model, it could be argued to revisit the validity and reliability values. However, since each of these two constructs possesses only one item, they could not be treated as a latent construct that needs to be evaluated in terms of measurement fit. One inherent limitation is the time difference between partner selection and observation of the underlying partner characteristics. While some selection criteria (e.g. financial stability and company size) are easily measurable up front, other partner characteristics (such as cultural fit and market knowledge) require a deeper analysis of potential partners. Moreover, some partner characteristics may be fully evaluable only after a common period of collaboration. However, the results of this empirical study remain valid. In praxis, some software vendors tend to start with a joint project before committing to a full partnership. This allows them to evaluate a potential partner profoundly, guided by suitable selection criteria. A further limitation of this study lies in the inherent limitation of the data sample. The survey's target population consisted of partners within an established partner ecosystem, who were asked to provide data regarding their role as a partner. They were not asked to evaluate things such as their impact on the ecosystem's stability or value, which would not make sense given that they do not have the data to evaluate such circumstances; only the owner of a partner ecosystem could convey this perspective. As a result, the study focuses on how partner characteristics affect commercial success related to participating partners' implementation performance and sales performance, which facilitates business improvement of the ecosystem. Measurements other than implementation performance and sales performance have not been taken into account. However, a software vendor may not aim solely to improve business performance; it may also wish inter alia to leverage network effects or reduce costs. Based on the inherent limitation of the survey´s perspective, such potential objectives of a software vendor have not been considered.

Regarding the survey responses of company-related questions, a common method bias may have occurred in that way that the survey participants might tend to present the company in a more favorable light, regardless of their actual perspective about the topic. This tendency may have led to bias in the response of the survey participants or even mask relevant relationships between variables (Podsakoff 2003). Furthermore, a potential bias could be inherited in the fact that individual study participants interpreted individual items such as project success and customer satisfaction differently. This may have led to a distortion of the responses but also to a different evaluation of particular topics. The researcher invested significant effort in using a wording that approximated the respondents' level of understanding and in developing items that are clear and specific (e.g., by conducting pretests and involving experts). However, a common method bias that can´t be excluded is that the participants may have perceived some items as fairly complex or ambiguous. This may have increased random responding or the probability that participants used their own systematic response tendencies. This, in turn, can lead to influence the relationships obtained between the variables of interest. (Podsakoff 2003)

Despite the limitations mentioned above, the focal study offers deep insights into the impact that partner characteristics have on partners' business performance. The researcher hypothesized and found that partner characteristics affect partner performance. Furthermore, it has been identified that at least two different sets of partner selection criteria exist, each focusing on partners with different natures. The research results also statistically support the results of related qualitative research activities and suggest that partner selection based on distinct and evaluated characteristics has a significant effect on both implementation performance and sales performance. As such, partner selection is a crucial activity in the management of partner ecosystems. Overall, the results do extend the understanding of partner selection in the enterprise software industry.

9 Management Area Two: Partner Life Cycle

Significant parts of chapter 14 were presented at the IWSECO 2016 (Avila and Terzidis 2016) and subsequently published in the conference proceedings (cf. Appendix I, Table A). In addition, some elements and figures of chapter 14 appeared at the conference proceedings of the EWSECO 2015 (Avila Albez and Terzidis 2016).

The conducted GT study allowed the researcher to identify four main areas for the management of partner ecosystems in the EAS industry. The following paragraphs describe the GT findings regarding the management area two: partner life cycle.

9.1 Manage Individual Partner Relationships

A software vendor has to systematically manage the individual relationship with each of the partners of its partner ecosystem. For this purpose, the software vendor needs to be aware of the relevant management areas that have to be addressed to manage the individual partner relationships. Five areas that a software vendor must systematically manage vis-à-vis its relationship with each individual partner have been identified: design, enablement, ramp up, operation and revision (cf. Figure 16). (Avila Albez 2016)

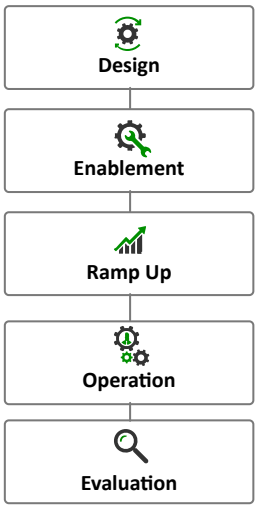


Figure 16: Five Areas for the Management of Partner Relationships

9.1.1 Design

This management area is crucial for the development of a mutual understanding of a partnership and defines the nature of the relationship. The main results of this stage should be a clear understanding of the partnership and its objectives and a commitment on behalf of both the partner and the assets it will contribute to the partnership. The key deliverables are thus a definition of the partnership's operational scope, a set of defined business objectives for the partner and a partner-specific business plan. A defined development path for the partner, including specific activities (e.g. participation in training or the realization of marketing activities) should also emerge. It is additionally important to define a clear set of criteria for evaluating achievement of the partner´s objectives. (Avila Albez 2016)

9.1.2 Enablement

A software vendor needs to ensure that its partner develops the skills base necessary to offer complementary services, components, products or a combination thereof on top of the vendor´s product. These skills serve as the cornerstone for the partner to build a complementary business. Depending on the scope determined for a partnership, the partner has to cover different aspects of the software vendor´s product value chain. This means that it must fully understand the product and its functionalities, the technical foundation, how to market and sell the product, how to customize or extend the product, how to implement the product within the customer environment and how to manage software projects. The software vendor must thus train the partner in the corresponding disciplines. The enablement can consequently be differentiated into product enablement, sales enablement and implementation enablement. The focus of the enablement depends on the partnership's defined operational scope. For instance, implementation enablement includes the training in best practices project management specific for the implementation of the software product, training in activities necessary to integrate the product within the customer environment, and training that addresses requirements management to identify and capture customer needs, or how to plan and deliver training for the product's end-users. (Avila Albez 2016)

9.1.3 Ramp Up

The first steps in a partnership are crucial and demand intensive attention to ramp the partnership up successfully. A key aspect of the initial stage of partnership implementation is providing the conditions and assistance necessary to enable the partner to achieve a quick win. This is important for developing early confidence in the partnership and keeping the partner motivated. It can be addressed through intensive assistance and close collaboration for the first customer project(s). Joint projects and sales activities may lead to a shared understanding of the business, effective knowledge transfer, reduced uncertainties and the development of confidence. (Avila Albez 2016)

9.1.4 Operation

From the moment a partnership is established, the relationship requires continuous management. The formation of a partnership is just the beginning. The software vendor has to take different aspects (e.g. partner assistance and communication) into consideration. (Avila Albez 2016)

9.1.4.1 Partner Assistance

To be able to conduct its business, a partner needs access to assistance on a regular basis. For instance, it may require access to either the software vendor´s product support to obtain technical information or professional services such as consulting to receive assistance to implement a customer project. A partner may also need support through joint sales or marketing activities. As such, the software vendor needs to provide the partner with easy access to support personnel and documentation. (Avila Albez 2016)

9.1.4.2 Communication

The establishment of strong communication linkages between the software vendor and its partner are required to develop a beneficial relationship. Regular communication keeps the parties aligned and contributes to building trust. Communication thus represents a vital management instrument and builds the foundation for a well-operating partnership. (Avila Albez 2016)

Regular communication allows a partner to keep up to date regarding new developments and changes and provides it with insights into the software vendor and its business. The establishment of effective communication is the basis for knowledge and experience transfer. It fosters collaboration and contributes to building a mutual understanding of the business and all parties' expectations. (Avila Albez 2016)

Furthermore, an established communication path to partners allows a software vendor to leverage partners' market insights. Partners that offer complementary activities for customers (such as consulting, product implementation and sales efforts) have continuous access to the target market and are thus an ideal source of valuable cross-customer information regarding current and future customer needs. To foster a good communication path, software vendors may establish formal systems (e.g. web-portals that allow partners to report and rank both customer needs and partner requests). (Avila Albez 2016)

9.1.5 Evaluation

Continuous performance measurement is a vital management task in relation to partnerships. The maintenance and evolution of a partnership represent a significant investment on behalf of a software vendor. The software vendor thus has to regularly evaluate if a partnership is still beneficial. The degree to which annually agreed objectives are achieved and performance metrics are the basis for evaluating partner performance. The most important metric is the revenue generated by the partner. However, a comprehensive evaluation should include multiple aspects and not be reduced to just revenue. A proper evaluation of partner performance may include an assessment of the partner's engagement level (e.g. sales activities or event participation), customer satisfaction, service quality, lead conversion rate, continuity, sustainability of the partner activities, new customer acquisition and participation in the software vendor´s training. A systematic evaluation of a partner´s performance based on a well-defined set of metrics provides the software vendor with the information required to assess if a partnership is generating the expected results. It also allows the software vendor, if necessary, to take appropriate measures to improve the partnership outcome and assist the partner with well-aimed activities. However, the obtained insights may also lead to the conclusion that a partnership should be ended. (Avila Albez 2016)

10 Qualitative Confirmation of Management Area Two: A Comparative Literature Review

10.1 Objective and Research Question

A significant number of studies on strategic alliances and partnerships have identified a wide range of relevant management disciplines across different industries and from different perspectives. However, in an attempt to provide additional structure to the specifically identified management areas, the researcher focused the SLR on literature that considers relevant partnership management areas as an integrated construct. Within the research domain of strategic alliances and partnerships, the body of literature on alliance life cycle (ALC) management is suitable for further investigation.

The ALC describes the stages through which alliances are created, grow, mature and are terminated when they no longer offer mutual benefits (Sluyts, Martens, and Matthyssens 2008; Steinhilber 2008). This life cycle approach has been studied from a number of perspectives, with different stages being distinguished and stages being described using various levels of abstraction (Sluyts, Martens, and Matthyssens 2008). For example, (Steinhilber 2008) describes the life cycle of alliances using six phases: evaluation, formation, incubation, operation, transition and retirement. Similarly, (Tjemkes, Vos, and Burgers 2013) identifies seven development stages through which alliances progress: strategy formulation, partner selection, negotiation, design, management, evaluation and termination. (Schaan and Kelly 2007) illustrates the partnering process using strategic rational, partner selection, negotiation and implementation phases. (Lasserre 2012) utilizes a framework to divide the stages of alliance formation and implementation into four major steps: strategic context and value potential, partner analysis, negotiation and design, and implementation. Stages are usually described as a set of sequential phases in which progress is seen as activities running through these phases. However, most authors (Sluyts, Martens, and Matthyssens 2008) note that these stages often overlap in business practices.

The researcher integrated the finding of the current GT study with the relevant body of knowledge in the ALC domain. An SLR and comparative analysis were used to explore the related literature and identify different life cycle stages. The researcher then discussed the findings and proposed an integrated partnership life cycle, which was subsequently incorporated into the overall partner ecosystem management framework. The identified literature evaluates the different management areas as part of a partner life cycle and thus adds depth to the current research results.

The SLR was guided by RQ1: What partnership phases are discussed in the current body of literature on ALC? The corresponding answer can help to structure the study's results and potentially identify new aspects of the defined management areas. In alignment with RQ1, the SLR was conducted within the domain of strategic alliances and partnerships across different industries and from distinctive perspectives. The decision to do so was based on the fact that to the best of the researcher' knowledge, a significant number of studies that develop an integrated partner life cycle model specific to the enterprise software industry does not exist. The purpose of the SLR was to relate the GT results concerning

the management of individual partner relationships with the current body of knowledge on ALC across industries. In particular, the researcher focused on integrating the GT results into the current body of knowledge.

10.2 Method

To achieve the objective of integrating the current findings into the relevant body of knowledge, the researcher conducted an SLR based on (Kitchenham 2007) and (Tacconelli 2010). Doing so made it possible to undertake a rigorous review of the relevant literature based on well-defined stages and discrete activities (Kitchenham 2007, 2–6). The SLR process comprised the following stages: planning the review, conducting the review and reporting the review. In alignment with these stages, the subsequent sections describe how the SLR was implemented in the focal study. An overview of the SLR is presented in Figure 17.

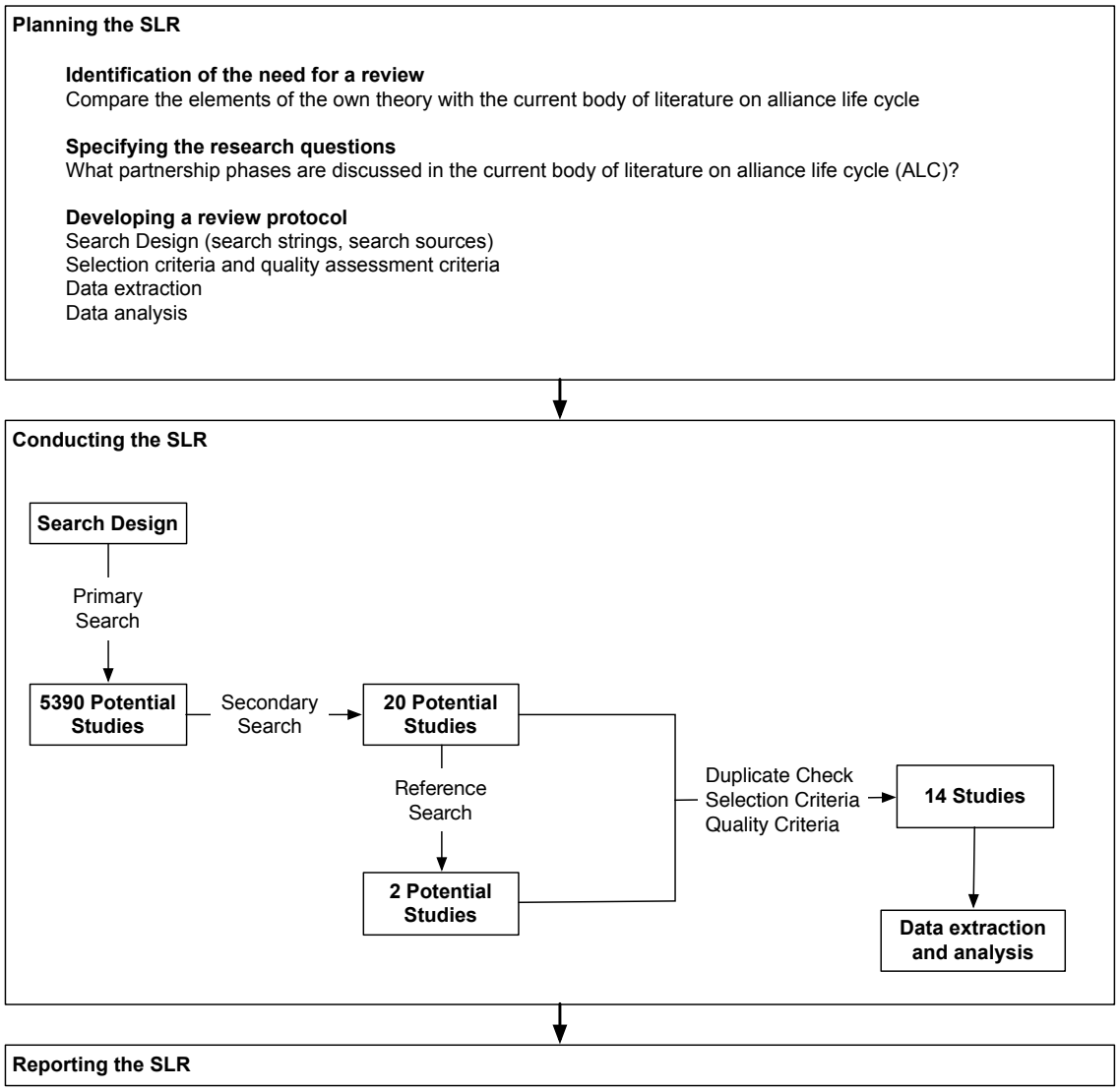


Figure 17: Structure of the Systematic Literature Review

10.3 Planning the SLR

10.3.1 Identifying the Need for a Review

In agreement with (Kitchenham 2007), the necessity of a literature review must be evaluated before an SLR is undertaken.

As part of a GT study, the researcher has to relate the own emerging theory to relevant work to „draw comparisons, build on, or offer an alternative perspective“ (Goulding 1998). As such, a systematic review of relevant literature is required for this part of the current research. To compare the emergent management areas of the GT study with the current body of ALC literature and relate the theory to it, the researcher decided to conduct an SLR based on the guidelines provided by (Kitchenham 2007) and (Tacconelli 2010).

10.3.2 Specifying the Research Question

The following RQ is addressed through this SLR. RQ1: What phases of a partnership are discussed in the current body of literature on ALC? This specific RQ is the guiding element for the SLR. Corresponding literature has to be identified, with relevant content being be extracted and compiled to answer the RQ (Kitchenham 2007, 2–6).

10.3.3 Developing a Review Protocol

As illustrated in previous chapters, a review protocol describes the specific process used to undertake an SLR. Such a specification is required before conducting an SLR to reduce the possibility of research bias (Kitchenham 2007, 2–6)

The following sections describe the elements of the review protocol for the conducted SLR, including the search design, the selection and quality assessment criteria, the data extraction approach, and the data analysis and synthesis procedures.

10.3.3.1 Search Design

This section describes the search strings defined for the search as well as the sources to be considered.

A search string appropriately derived from the RQ is crucial for identifying befitting research studies. To this end, the researcher developed an appropriate search string iteratively using a variety of different trial search strings. They initially broke the RQ down into various aspects; thereafter they reviewed the terminology in the partnerships and strategic alliances domain and identified keywords and possible synonyms that address RQ1 and its aspects. The researcher also inspected studies already identified as suitable to derive alternative and complementary search terms, which they subsequently checked against a set of known studies. Using Boolean operators, the researcher then iteratively constructed the following search string in relation to the RQ:

RQ1 search string: within the subject areas business, management or economics: (Partner life cycle) OR (Alliance Life Cycle) OR (Alliance AND phases) OR (partner AND phases) OR (Alliances AND stages) OR (partner AND stages)

The pre-defined search sources listed below were used to identify suitable studies.

Search engines:

- BASE - www.base-search.net
- CiteSeer - citeseer.ist.psu.edu
- Microsoft Academics - academic.microsoft.com
- GoogleScholar - scholar.google.de

Journal databases:

- Emerald - www.emeraldinsight.com
- IEEE Xplore - ieeexplore.ieee.org/Xplore/
- JSTOR - www.jstor.org
- ScienceDirect - www.sciencedirect.com
- Scopus - www.scopus.com
- Springer Link - link.springer.com
- While Online Library - onlinelibrary.wiley.com

10.3.3.2 Selection and Quality Assessment Criteria

The following criteria were used to determine which studies were and were not considered in the SLR. To support a deliberate selection of studies, they needed to be evaluated for each study (Kitchenham 2007, 13).

Exclusion criteria:

The prerequisites for selecting a study were the subject area (business, management, economics), the availability of an abstract for a preliminary review and full access to the paper. Studies that did not meet these criteria were excluded without further evaluation.

Inclusion criteria:

The main selection criterion was a contribution to the specified RQ. Furthermore, the RQ has to be addressed within the context of the partnerships and strategic alliances research domain. The researcher defined sets of general, RQ-specific and quality assessment criteria to evaluate each study's suitability.

General criteria:

- The study is relevant to the research domain of partnerships and strategic alliances; and
- The study is based on empirical research methods (e.g. a case study, survey, action research, GT) or offers aggregated knowledge (e.g. a literature review).

Criteria specific to the research question:

- The study contains a structured analysis or discussion regarding the selection of partners as a potential success factor for partnerships; and
- The study identifies, analyzes and discusses a set of selection criteria that are transferable/relevant to the focal study.

Quality criteria:

- The aim of the study, the RQs, the research constructs (e.g. elements of a theoretical framework) to address these RQs, the research measures to evaluate the research constructs and the results are clearly described;
- The research measures used actually measure the research constructs in question (i.e. the study has construct validity);
- The study's design and data make it possible to draw accurate conclusions about relationships within the data and these relationships are well described (i.e. internal validity exists);
- The study's findings can be generalized and are applicable to the setting of the focal study (i.e. the study has external validity);

(Leedy and Ormrod 2014; Saunders 2011)

10.3.3.3 Data Extraction

To capture the data in a consistent and structured manner, the researcher designed a data extraction form. This extraction form provided an overview of key information from the chosen studies and supported the subsequent analysis of the studies. The following list summarizes the information captured for each selected study:

- Standard information: ID, source, title; and
- Specific information: phases of the partnership life cycle.

10.3.3.4 Data Analysis and Synthesis

The researcher identified different partnership life cycle models across the relevant literature and conducted a qualitative synthesis to summarize the results of the comparison of these models. The results were discussed and an integrated partnership life cycle was proposed. The researcher then incorporated the GT results into the integrated partnership life cycle.

10.4 Conducting the SLR

10.4.1 Identifying Research Sources

The researcher used research search engines and journal databases as the main sources for the primary search. To build on this, they then reviewed the reference lists of the chosen work and identified promising references to utilize as the basis for conducting an additional search (reference search). The author also scanned online bookshops for standard literature addressing the partnerships and strategic alliances topic.

10.4.2 Selecting Primary Studies

Based on the defined search string, the researcher conducted a primary search that resulted in 5390 potential studies. Table 35 lists the number of potential studies by source. After more closely analyzing these studies' suitability for the current research context, the researcher reduced the number of potential studies to 20 (secondary search). Before the specified inclusion and exclusion criteria were applied, a decision was taken to search the reference sections of each of these 20 studies for additional relevant work (reference search). This process led to the selection of two additional references. The results from the secondary and reference searches were them merged, with joint studies being checked for duplicates. The inclusion and exclusion criteria were also applied. Finally, 14 studies/sources were selected for further investigation.

Table 36: Number of Potential Studies by Source

Source	Number of potential studies
BASE	79
CiteSeer	96
Microsoft Academics	30
Google Scholar	552
Emerald	644
IEEE	1004
JSTOR	446
Scopus	325
ScienceDirect	141
Springer Link	144
While Online Library	1940

10.4.3 Extracting and Analyzing Data

10.4.3.1 Data Extraction

The researcher extracted relevant data using the designed data extraction form. Appendix II presents the final results of this extraction. This overview supported the further analysis of the studies.

10.4.3.2 Data Analysis and Synthesis

In alignment with the determined RQ, the researcher identified different partnership life cycle models across relevant literature and conducted a qualitative analysis of the studies. The results were discussed

and an integrated partnership life cycle was proposed. To this end, the researcher summarized the results of the comparison of the partnership life cycle models using five generic synthesis stages: strategic decision, partner selection, negotiation and design, implementation and evaluation. They subsequently incorporated the GT results into the relevant stages of the integrated partnership life cycle.

The researcher first described the general findings regarding the identified generic stages of the integrated partnership life cycle. In the subsequent chapter (data synthesis) the researcher concluded their integration of the GT results into the proposed integrated life cycle.

10.5 Results

Based on the SLR and the fit between the identified ALC approaches, the researcher derived five life cycle stages (cf. Table 36) that can be distinguished in the literature on a common abstraction level. These life stages represent a sequence of steps through which an evolving partnership moves on its journey to maturing and fulfilling its purpose. These stages together form an integrated partnership life cycle model. The different stages are discussed in the current section; their alignment with the results of the conducted GT study is discussed in chapter 15.6. The objective is to enhance the current research results and develop an integrated model that combines these findings with the current body of ALC knowledge. The combined results will facilitate the management of individual partnerships within a partner ecosystem.

Table 37: Five Life Cycle Stages

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Strategic Decision	Partner Selection	Design	Implementation	Evaluation

10.5.1 Strategic Decision

The first stage is to understand the reason for establishing a partnership with an external company. In other words, a company that is considering partnering needs to deeply understand the problems that have to be addressed and the potential benefits that a partnership may bring to the company and its customers. (Lasserre 2012) The decision to partner thus has to be aligned with a company´s business strategy (Schaan and Kelly 2007; Steinhilber 2008; Sluyts, Martens, and Matthyssens 2008). (MacAvoy, Spekman Forbes III Isabella et al. 1998) reveal through a review of the extant knowledge concerning strategic alliances that the rationale for alliances reflects five main themes. Managers must comprehend the rationales underpinning partnerships and the differences between alternative paths. Companies need to take a make, buy or partner decision to reach their objectives. A make-decision indicates that a company is aiming to realize its objectives through internal activities, whereas a buy-decision means that it prefers to obtain the resources it requires through market transactions. Finally, a partner-decision implies that a company is opting to establish partnerships with external parties to gain access to desired resources. (Tjemkes, Vos, and Burgers 2013; Steinhilber 2008) „Leaders need to sit down (…) to understand the opportunities and challenges they are trying to address, determine where gaps exist in the value chain, and drill down into potential partnering options. It is critically important that you understand the problem and the requirement you are trying to address with a partner option. That way, you´ll

understand when it´s better to build something in-house, when it´s preferable to buy something you need, or when you must ally to grow“ (Steinhilber 2008, 19). A company that decides to opt for partnerships should formulate a partnership strategy. It has to prepare a partnership business case in which it analyzes the specific problem and the related costs and expected benefits that will accompany addressing it through partnering (Sluyts, Martens, and Matthyssens 2008). In alignment with this perspective, (Man 2013) argues that a clear view of the strategic rationale behind a partnership is essential for developing an appropriate partnership design. As such, “strategic imperatives“ are a fundamental element in an alliance design framework. Similar, (Wahyuni, Ghauri, and Karsten 2007) underlines that the articulation of goals and reasons for partnering is crucial for evaluating the success of a partnership. For example, (Doz and Hamel 1998) classifies a partnership’s primary objective into three distinct areas: co-option, co-specialization, and learning and internalization. Co-option turns potential competitors into complementary partners, whereas co-specialization aims at synergistic value creation. Finally, learning and internalization target the development of skills that are hard to obtain and internalize apart from through partnering. However, the starting point for a strategic rationale for establishing partnerships is a deep understanding of the problem and the requirements that a company is trying to address by pursuing partnering options. (Steinhilber 2008) The commitment to developing partnerships should thus be directly proportional to the degree to which partnerships are expected to support a company’s corporate strategy and targeted objectives. (Schaan and Kelly 2007; Tjemkes, Vos, and Burgers 2013)

10.5.2 Partner Selection

This stage entails choosing suitable partners with which a company will aim to address its objectives (Douma et al. 2000). It thus comprises a company´s efforts to find and select suitable partners (Sluyts, Martens, and Matthyssens 2008). Partner selection involves analyzing the extent to which a relationship with a potential partner is viable and valuable (Lasserre 2012). Most authors of relevant ALC literature describe partner selection as a stage with a significant impact on the partnership success. For example, (Schaan and Kelly 2007, 93) emphasizes that this stage is an „area where taking shortcuts come back to haunt companies later.“ A significant number of studies integrate partner selection as a mandatory stage in their ALC models (e.g. Sluyts, Martens, and Matthyssens 2008; Steinhilber 2008; Lasserre 2012; Douma et al. 2000; Schaan and Kelly 2007; Gulati, Wohlgezogen, and Zhelyazkov 2012; Kale and Singh 2009). Most of these researchers argue that the analysis of potential partners should be grounded on using specific partner selection criteria. For example, (Tjemkes, Vos, and Burgers 2013) describes the use of different partner fit types to select suitable partners. Likewise, (Lasserre 2012) advises the application of four specific assessment criteria. (Steinhilber 2008) suggests using an assessment grid to evaluate partners on key criteria. Moreover, a large body of studies in the context of strategic alliances and inter-firm partnerships addresses the importance of partner selection based on specific criteria. For instance, research studies have been conducted on R&D alliances (Tai, Watada, and Su 2012; Chen, Lee, and Wu 2008; Li et al. 2008; Wei and Gu 2014), global strategic alliances (e.g. Parkhe 1991; Harvey and Lusch 1995; Evans 2001; Swoboda et al. 2011) and joint ventures (e.g. (Glaister and Buckley 1997b; Geringer 1991; Salavrakos and Stewart 2006)}. Partner selection criteria play a vital role in the selection of suitable partners.

However, the above-refered literature focuses primarily on the selection of companies only for the establishment of individual partnerships and addresses mostly one-dimensional objectives. It leads to the selection of fitting partners, mainly to address a single venture. For the focal study, the researcher argues that selection has to consider an ecosystem perspective and not be focused solely on a bilateral

fit. Furthermore, the researcher strongly advocates keeping the selection of suitable partners on a separate management level across all partnerships and not integrating it into the life cycle of each partner. Further discussion can be found in Chapter 10.6 and 10.7.

10.5.3 Negotiation and Design

This stage marks the partnering process's transition from the evaluation stages to partnership formation (Steinhilber 2008). It defines the setting of the future relationship and results in an agreement between the partnering companies (Schaan and Kelly 2007). According to (Schaan and Kelly 2007), this agreement should comprise elements such as the partnership's mission, its structure and governance, ownership and control details, and performance objectives and milestones. Similarly, (Steinhilber 2008, 26) suggests that a partnership agreement should contain the overall aspirations for the partnership in addition to the relationship's terms, scope and governance. This phase defines the complementarities that will be available in the partnership, describes the nature and the amounts of committed resources, ownership, expected outcomes and contractual provisions (Tjemkes, Vos, and Burgers 2013). The parties to the partnership have to decide on the partnership's value and the contributions they are willing to commit to (Sluyts, Martens, and Matthyssens 2008). An alliance agreement clearly describes the mutual rights and obligations of the involved partners (Kale and Singh 2009). An explicit clear partnership agreement thus helps partners to articulate their mutual contributions and ensures that they will fulfill their obligations (Wahyuni, Ghauri, and Karsten 2007). In sum, „the key deliverable at this stage is a joint business plan that outlines the opportunity, the assets each company will bring to the relationship, and the investment model that will establish the foundation for the relationship" (Steinhilber 2008, 26). Since partners are interdependent but still remain independent companies, specification of the nature of a partnership and development of an agreement involve negotiation. Parties must approach each other and negotiate an alliance. The negotiations should focus on setting short- and long-term goals, creating a timetable for each milestone, determining what resources to invest, allocating accountability and responsibility, and developing principles for profit appropriation" (Yu-Chieh 2011). The objective of these negotiations is to address the partnering companies' different interests to obtain a maximum level of synergy (Tjemkes, Vos, and Burgers 2013). The exact conditions of the partnership—including organizational, financial and legal issues —have to be determined through the negotiations. It is also important at this stage to agree on expected outputs. (Sluyts, Martens, and Matthyssens 2008; Lasserre 2012; Gulati, Wohlgezogen, and Zhelyazkov 2012; Yu-Chieh 2011; MacAvoy, Spekman Forbes III Isabella et al. 1998)

10.5.4 Implementation

The negotiation and design stage and resulting agreement result in the specification of the aspects of a partnership, which lays the groundwork for the implementation stage. The previous stage positively affects the success of partnerships, but companies must proactively manage their partnerships to achieve the planned outputs (Kale and Singh 2009). The negotiated partnership is launched during the implementation stage. (Schaan and Kelly 2007; Tjemkes, Vos, and Burgers 2013) „The partners must deploy their resource contributions, implement coordination mechanisms, act on expressed commitments and begin to execute the tasks assigned to them" (Tjemkes, Vos, and Burgers 2013, 81). Partners have to manage a partnership's day-to-day operations. Resources and staff also need to be assigned to a partnership. (Sluyts, Martens, and Matthyssens 2008) Partnering companies collaborate and implement specified agreements. (Das and Teng 2002; Lasserre 2012). During this stage, actual coordination chal-

lenges arise and failures occur (Gulati, Wohlgezogen, and Zhelyazkov 2012). „It is in this phase that many of the preceding factors such as trust, partner motives and behaviors, learning capability, cultural compatibility and openness will truly come to light“ (Taylor 2005). It is also possible that the initial agreement between the parties is no longer sustainable and demands revision or even the termination of the partnership (Das and Teng 2002). Monitoring and coordinating a partnership's activities to foster value-creating conditions and reduce potential risks are crucial tasks throughout this stage. (Lasserre 2012) Consequently, these stages also comprise the establishment of organizational and inter-organizational mechanisms to enable effective communication, conflict resolution and decision management; overcome cultural differences; manage intellectual properties and sensitive information; and establish a suitable learning process. (Schaan and Kelly 2007; Tjemkes, Vos, and Burgers 2013). For example, (Lasserre 2012) describes integration/cooperation and learning as two critical aspects of the implementation stage. It is crucial to put the involved partners and the partnership structure to work so that the parties are able to achieve the planned results (integration and cooperation). Furthermore, companies involved in partnering should be prepared to cope with the “death valley,” a fractious phase during which a partnership is questioned and disillusions can rise. Learning is an embedded part of any established partnership. (Yu-Chieh 2011; Lasserre 2012) However, it demands the establishment of suitable organizational mechanisms that enable the parties to learn from each other. Commonly used databases and centralized platforms that allows for the effective interchange of information can be implemented to this end. In addition, forums for joint seminars, conferences and review sessions should be offered. (Lasserre 2012) Similarly, (Kale and Singh 2009) emphasizes the importance of managing the coordination between partners and developing mutual trust. (Kale and Singh 2009) argues that partnering companies have to coordinate their actions to manage their interdependence and attain the benefits of their partnership. Trust between the partners is also crucial to success. it facilitates partnership governance and fosters a cooperative work environment. (Kale and Singh 2009) However, as (Tjemkes, Vos, and Burgers 2013) mentions, the management efforts required in relation to a partnership depend on an individual partnership’s design and agreement.

10.5.5 Evaluation

To determine if any aspect of a partnership requires adaptation, partners should evaluate the partnership through joint assessments, individual assessments or both. Based on these measures, partners often need to update the partnership’s strategic objectives and reconfirm their joint commitment. Companies should compare the original partnership’s objectives with partnership performance along different performance dimensions. (Tjemkes, Vos, and Burgers 2013; Yu-Chieh 2011; Steinhilber 2008; Sluyts, Martens, and Matthyssens 2008) „As an alliance unfolds, the partners may choose to alter and adapt organizational and administrative arrangements made for the alliance at the outset to improve the efficiency and effectiveness of coordination, and to improve alliance performance. They may revise their division of labor, formalizing their learning in contract clauses that specify accountability, contingency planning, and communication channels.“ (Gulati, Wohlgezogen, and Zhelyazkov 2012)

This evaluation is based on key performance metrics. The benefit of such a metric-based measurement is that it provides reliable information regarding the extent to which an alliance has achieved its specified objectives. (Wahyuni, Ghauri, and Karsten 2007) Such measures should reflect a balanced composition of different perspectives. (Schaan and Kelly 2007; Tjemkes, Vos, and Burgers 2013). (Schaan and Kelly 2007) underlines that the measurement should encompass a breadth of indicators and not be based on a single limited perspective. (Schaan and Kelly 2007) suggests using the four measurement

quadrants of financial, customer, internal systems and employees. Similarly, (Tjemkes, Vos, and Burgers 2013) argues that only a collection of conceptual measures can properly align a company's efforts with its objectives. (Tjemkes, Vos, and Burgers 2013) focuses on the following five performance approaches: economic, strategy, operational, learning and relational. Moreover, (Sluyts, Martens, and Matthyssens 2008) reports that several performance indicators should be taken into account. Depending on the evaluation's results, four outcomes are possible: stabilization, reformation, decline and termination. (Das and Teng 2002; Sluyts, Martens, and Matthyssens 2008)

An evaluation based on metrics can also indicate that terminating a partnership may be a valid decision. (Tjemkes, Vos, and Burgers 2013; Steinhilber 2008; Sluyts, Martens, and Matthyssens 2008). In this situation, a company has basically two options: it can try to reduce the scope of the partnership and focus on more limited collaboration areas that still bring value to the parties or it can terminate the partnership. Terminating a partnership implies retiring the partnership agreement and corresponding business development and customer engagements. It thus requires addressing critical aspects, such as the protection of mutual customers and clear communication to the parties involved in the partnership. (Steinhilber 2008). Termination is an intrinsic element of the partnership life cycle and thus must be managed actively. (Tjemkes, Vos, and Burgers 2013). However, the adaptation or termination of a partnership does not necessarily imply that the relationship was not successfully implemented; external or internal changes can lead to a situation in which adaptation or termination is just the best option for the partners. (Sluyts, Martens, and Matthyssens 2008)

The evaluation of a partnership does not necessarily take place at the end of the partner life cycle. Companies should instead evaluate a partnership over its whole life cycle. (Sluyts, Martens, and Matthyssens 2008; Schaan and Kelly 2007) For example, (Schaan and Kelly 2007) describes evaluation of a partnership as a continuing part of the implementation stage.

10.6 Data Synthesis: Management Areas 2 in Relation to the Relevant Body of Literature

The researcher initially considered the identified areas for the management of individual partnerships as vital but individual factors. However, the data implies a tentative logical sequence of activities, such as determining the conditions of the partnership (design) before a partner is trained to develop the required skills base (enablement). This observation and the findings of other researchers that management areas are strongly associated with the stages of the partnership life cycle induced the researcher to combine the own findings with the body of literature on ALC management. The researcher did so by conducting an SLR and consolidating the results in an integrated partnership life cycle that comprises the different life cycles proposed in the relevant literature. This integrated partnership life cycle creates the structure for the comparative analysis that was conducted. It consists of five phases: strategic rationale, partner selection, design and negotiation, implementation and evaluation. These phases were the foundation of the comparative analysis. Using the integrated partnership life cycle, the findings from the GT study were assigned to the appropriate phases and compared with the results of the current study. Table 37 summarizes the results of the comparative analysis.

Based on the SLR, the researcher consolidated the description of the identified ALC model into five life cycle stages. These stages are essentially differentiated by the current ALC literature. In the next step, the researcher integrated the own findings associated with management areas with the relevant life

cycle stages. The following chapter compares and integrates the management area two that emerged from the current study's primary data with the proposed partnership life cycle generated based on the SLR conducted on ALC literature. To this end, the identified management areas were grouped under the corresponding stages of the integrated partnership life cycle. Table 37 presents the summary of the findings from this integrative analysis.

Table 38: Integrated Partnership Life Cycle

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Strategic Decision	Partner Selection	Design	Implementation	Evaluation
		Design	Enablement Ramp up Operations	Evaluation

As indicated in Table 37, of the five stages identified through the current literature review only the design and negotiation, implementation and evaluation stages are relevant for integrating the GT results associated with management area two. This management area comprises the five categories detailed in Chapter 14, namely design, enablement, ramp up, operation and evaluation. The adapted partnership life cycle (management area two) is illustrated in Figure 18.

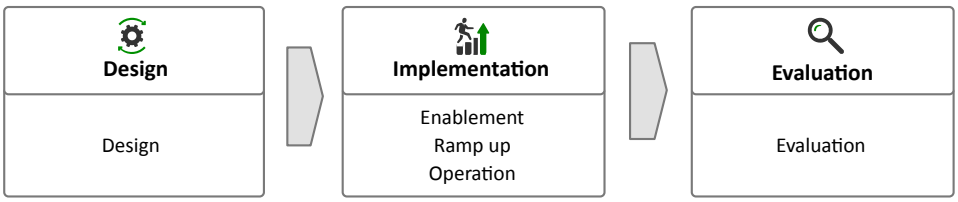


Figure 18: Adapted Partnership Life Cycle

10.6.1 Design and Negotiation

The importance of defining a partnership's setting and objectives is supported by the results of the SLR. The GT study emphasizes the relevance of gaining a clear understanding of the future partnership and the commitment a potential partner is willing to make to a partnership. These findings are in alignment with the perspectives of researchers such as (Steinhilber 2008), (Schaan and Kelly 2007), (Tjemkes, Vos, and Burgers 2013) and (Sluyts, Martens, and Matthyssens 2008). In relation to relevant elements of a partnership agreement, the ALC literature was supportive and identified various deliverables (e.g. the partnership's aspirations, terms and scope; governance of the relationship; the investment model; and a business plan that outlines the opportunity). However, the concrete elements relevant for defining the nature of a partnership depend on the situation and circumstances at hand. The reviewed literature also underlines the importance of using negotiation to address partnering companies' different interests and determine the exact conditions of a partnership. Thus, the researcher replaced the term "design" with "design and negotiation."

10.6.2 Implementation

As discussed in the results chapter, a range of authors describe the implementation phase as the stage in which a negotiated partnership is launched and partnering companies collaborate to implement the specified agreements. According to the authors, this stage comprises the establishment of all mechanisms relevant for attaining a partnership's benefits. It is vital to put the involved partners to work so that they are able to achieve the planned results. Doing so also enables the parties to learn from each other. The current GT research supports the views of these authors and identifies three critical elements relevant to the successful implementation of a partnership: enablement, ramp up and operations. While the current GT study describes these three elements as separate management areas, based on the close fit in nature between the results of the SLR and those reported in the GT study, the researcher decided to group these three elements under the above-described implementation stage.

10.6.3 Evaluation

One element identified for the management of a partnership is continuous performance measurement to determine if the partnership is still beneficial, requires adaptation or should be terminated. Previous research has confirmed the importance of regularly evaluating partnerships and addresses this management discipline through a dedicated stage in the partner life cycle. However, the literature also emphasizes the fact that evaluation of a partnership does not necessarily take place at the end of the partner life cycle and should instead be conducted throughout the partnership's duration.

In relation to evaluating partnerships, the literature emphasizes that it is crucial to use key performance metrics. An evaluation based on specified metrics provides reliable information regarding partnership performance. According to the literature, the measurement should encompass a wide set of indicators and offer a balanced composition of different perspectives. This view is in alignment with the current findings.

In sum, no significant difference exists between the way in which the literature describes the stage evaluation and the findings of the GT study. The authors consequently assigned the aggregated GT *evaluation* category that emerged from the primary interview data to the evaluation stage of the integrated partnership life cycle.

10.6.4 Differences

The management areas identified in the GT study are in general consistent with the life cycle approaches described by a range of ALC authors. The results are consequently also aligned with the integrated partnership life cycle proposed in the previous chapter. However, the ALC studies differ from the researcher's ecosystem perspective in two essential areas:

First, the integrated life cycle begins with a strategic rationale, and this pre-forming phase is considered vital for understanding the potential benefits that a partnership may offer a company and its customers. According to the literature, a company has to understand the differences between the alternative ways it has to address its business needs (that is, make, buy or partner). While this perspective aligns with many aspects of the current study, in the focal study this decision is considered fundamental for the development of a partner ecosystem and not just for the establishment of individual partnerships. In the

current body of literature, the strategic decision of whether to partner or not was restricted to individual partnerships. In the context of partner ecosystems, the strategic decision to establish partnerships is not taken for a limited number of partners or a single partnership through a stage of the partnership life cycle. A company that aims to establish and manage an entire partner ecosystem instead has to decide consciously if it wants to address its business objectives through a network of interconnected partners. This decision has to be taken on a strategic level in alignment with a company´s objectives and vision and has company-wide consequences on how that company will operate in the market. Consequently, the strategic rationale stage does not take into account on the management areas 2, but on an overall strategic decision level.

Second, the conceptualization of management area one ("partner selection") reported in the previous chapters is broadly consistent with the basic concept of the partner selection stage in the vast majority of the ALC frameworks described by different authors. However, these authors focus mainly on the selection of companies solely for the establishment of individual partnerships. This stage leads to the selection of suitable partners, mainly to address a single venture; as such it addresses mostly one-dimensional objectives. While each potential partner has to be analyzed based on specific criteria, the researcher argues in this study that selection has to consider an ecosystem perspective and not be focused solely on a favorable bilateral fit. Ecosystem fit as a selection criterion is significantly absent from the literature. As argued in previous chapters, this may be based on the fact that most traditional partner selection research focuses on a fit between a limited number of partners. This is also true for the ALC literature. Previous work usually does not address the evaluation of a potential partner against an existing partner ecosystem. However, in the focal study the researcher strongly contend that it is important to consider an ecosystem perspective in the selection of partners. For instance, partner conflicts do harm an ecosystem's performance and avoiding potential conflict situations is important in the selection process. While bilateral fit is still important for partner selection, it has to be enhanced by an ecosystem view. The researcher advocates keeping the selection of suitable partners on a separate management level across all partnerships and not integrating it into the life cycle of each individual partner.

Understanding the reason for establishing partnerships with external companies (strategic rationale) and choosing suitable partners based on selection criteria (partner selection) are of fundamental importance for managing partner ecosystems. However, the focal study contends that these two aspects have to be addressed on a different management level.

10.7 Conclusion and Implications of the Findings

Conducting the literature reviews revealed that the structured management of partnerships is fundamentally relevant for the establishment of beneficial partnerships. The results support and enhance the identified management areas of the current study.

Furthermore, a comparative analysis of the own findings and the aggregated results of the SLR supports the researcher's decision to associate the results of the GT study with the integrated partnership life cycle derived from the relevant body of literature. The result is an integrated model that combines the own findings with the current body of ALC knowledge. Grouping the identified management areas into a partnership life cycle thus offers an additional structure for management area two.

However, while the literature focuses mainly on the management of bilateral partnerships or partnerships with a limited number of companies, the researcher discusses the management of partnerships in the context of an overall partner ecosystem approach. The differences were particularly noticeable when the researcher compared the strategic decision and partner selection life cycle stages with the own research. Both elements are discussed in the literature from an individual perspective rather than from an ecosystem perspective.

The results that emerged from the GT study were compared with the relevant body of literature. Based on the SLR, an integrated partner life cycle model that synthesizes the findings of the relevant body of knowledge was developed. This model was the foundation for a comparative analysis. The author compared and associated their own findings with the relevant stages of the integrated partner life cycle. The result was an integrated model that combines these findings with the findings of relevant authors, which support and enhance the management areas identified in the current study. Grouping the identified management areas into a partnership life cycle thus offers an additional structure for management area two.

Consequently, the results of this chapter contribute to the current body of knowledge by adopting an ecosystem perspective for the management of individual partnerships within a network of several partners.

10.8 Discussion and Limitations

The guidelines for conducting a systematic literature review (SLR) provided by (Kitchenham 2007) and (Tacconelli 2010) have been rigorously implemented to reduce the possibility of research bias. However, the researchers realized that while the SLR in the domain of ALC was conducted very carefully and conscious, some potentially relevant literature was not identified by the process. This is a general problem when conducting a literature review. Literature reviews can be accused of lacking rigor, missing well-structured procedure, and having a tendency to result in a bias regarding the identify studies. Therefore, to reduce the possibility of research bias, the researcher decided to use a systematic literature review (SLR) based on the guidelines provided by (Kitchenham 2007) and (Tacconelli 2010). While the conduction of this approach is time-consuming, it provides a rigorous review of available research based on clearly defined stages: planning, conducting, and reporting. Rather than being driven by the researcher expectation and random results, the researcher proceeded based on an upfront established research design and guided by a structured process. Even it missed some potentially relevant literature; the use of the SLR increased the rigor of the review results.

11 Management Area Three and Four

Significant parts of chapter 11 were presented at the IWSECO 2016 (Avila and Terzidis 2016) and subsequently published in the conference proceedings (cf. Appendix I, Table A). In addition, some elements and figures of chapter 11 appeared at the conference proceedings of the EWSECO 2015 (Avila Albez and Terzidis 2016).

The conducted GT study allowed the researcher to identify four main areas for the management of partner ecosystems in the EAS industry. The following paragraphs describe the GT findings regarding the management area three and four: partner program and partner network.

11.1 Management Area Three: Partner Program

In order to streamline and scale partner activities, management area one and two needs to be complemented through a standardized partner program. The goal is to manage a multitude of partners simultaneously and reach a consistent level of quality across them. For this purpose, a software vendor has to incorporate a company-wide program integrated into the very nature of the company. Through this partner program, the software vendor provides a solid foundation for the partner ecosystem by offering a precise reference point for the partners. The software vendor creates through a structured program a robust platform offering vital partner services, enabling and supporting the partner ecosystem to develop complementary businesses, and framing quality standards. The researcher identified four main company areas that need to be aligned to implement a partner program successfully: structure, culture, strategy, and core competencies (cf. Figure 19) (Avila Albez 2016)

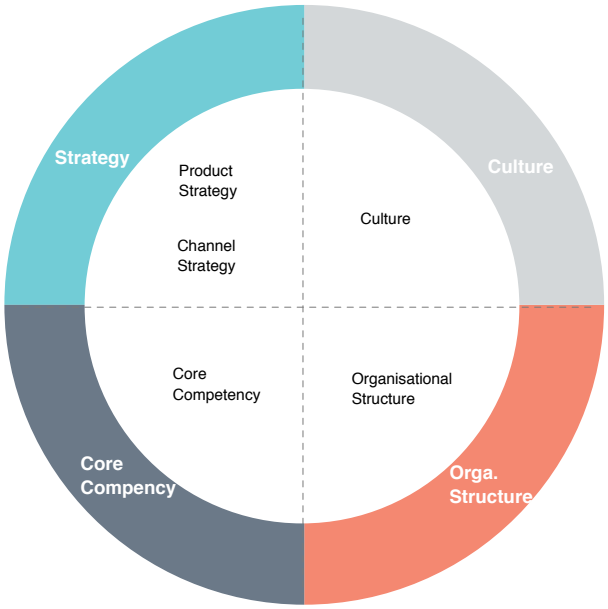


Figure 19: Partner Program

11.1.1 Organizational Structure

The interview data revealed that the organizational structure needs to provide the appropriate framework required for the collaboration with a multitude of partners. The development of a partner program and the achievement of its objectives require the availability of a supporting structure. The central organizational unit for the governance, management, and orchestration of all activities regarding the partner ecosystem within and beyond the company borders is the partner management organization. In addition, to scale the partner assistance and enablement, organizational units and resources need to be assigned. These organizational units include product support, professional services, sales assistance, and marketing assistance. Moreover, a vital element of a partner program is to reach a homogenous quality across the partner portfolio. Thus, a dedicated organizational unit (the partner academy) that is operationally capable of training and certifying a multitude of partners is a crucial building block of a partner program. (Avila Albez 2016)

11.1.2 Culture

The software vendor has to understand the fact that its success depends not solely on his internal execution but depends significantly on the willingness and ability of his partners to succeed as well. This requires company culture that shifts its focus from an internal execution perspective to a comprehensive view of a partner ecosystem. The decision to develop a partner program is the decision to develop an ecosystem focus. Success in such a context depends significantly on the degree of alignment of the software vendor with a multitude of complementary partners. Thus, the development of a partner program requires a strong collaborative culture, beyond the software vendors own company borders. The software vendor has to foster a company culture that encourages internal and external collaboration. (Avila Albez 2016)

11.1.3 Strategy

The software vendor has to understand that the development of a partner program and the ecosystem perspective are vital parts of the strategy. The partner channel represents a vehicle to reach competitive advantage and to develop a strategic position in order to achieve above-average performance in the industry. Consequently, aspects of the software vendor´s strategy need to be aligned to address the development of the strategic position of an ecosystem leader. The required alignment has an impact mainly on two strategic disciplines: channel strategy and product strategy. (Avila Albez 2016)

11.1.3.1 Channel Strategy

The channel strategy of the software vendor must integrate the building of an indirect channel structure through partners that offer complementary services and products along the value chain of the software vendor´s core products. This has enormous strategic and operational implications. The software vendor needs to decide which element of its business value chain should be addressed by partners and to which extent, and which elements should be kept in-house. (Avila Albez 2016)

This implies, that the software vendor has to evaluate which of the business elements represents core competencies and are considered to be central to sustain and extend the software vendors market position and thus should be kept within the company borders. The company should cooperate with partners that complement the value chain through complementary services and products and are crucial

to complete its value chain. Products, services, and competencies that are vital elements may be built and maintained within the company. Typically, the software vendor retains the sensitive core elements of its business such as the product source code in-house. Furthermore, despite the shift to partner channels, it is still important to cultivate distinctive skills such as product development and consulting within the own company borders. The maintenance and development of distinctive internal capabilities and the ability to absorb new knowledge is important to maintain the market position as an ecosystem hub. In addition, it is crucial to stay in close contact with the market e.g. through the direct implementation of customer projects. Without the direct access to the customer, the software vendor is likely to disconnect from the market and its needs. While the objective is to scale through partners, to rely too much on external partner products and services represents a risk and may end up in significant disadvantages. This balance between control and dependency has to be addressed through a well-defined multi-channel strategy. The channel strategy has to strive for a high degree of mutual complementarity between the software vendor and his partners. (Avila Albez 2016)

11.1.3.2 Product Strategy

The decision to develop a core product on which partners offer complementary products and services has an important impact on the software vendor's *product strategy*. This impact arises mainly from the mutual dependency of the core product and the complements. The strategy for a core product that builds the platform for further value creation differs from traditional one-product strategy. Software vendors that rely heavily on the cooperation with complementors to scale and address markets, need to approach the core product not only from the limited perspective of the own company´s border but to extend the circle to external partners. Since the partners are an important element for the product launch and diffusion, it is necessary to evaluate if the product is aligned with the knowledge, skills, experience and resources of the company´s extension - the partners. Moreover, the company needs to consider that complementary partners expect benefits from the software vendor´s core products. The product needs to offer the partners a solid basis for profitable complementary services and product enhancements. It is unlikely that partners are going to invest in complementary activities for products without sufficient incentives and financial prospects. This has as well technical as commercial implications for a product. Consequently, a company needs not only to identify and address the customer needs, but also to understand and fulfill the needs of their partners. As a result, the product needs to fit specific characteristics to be material for complementary partner business: market-oriented product, unique superior product, effective customizable, modular architecture, open interfaces, allow the development of integrated modules, offers standard connectors to common third-party software products, possesses effective development tools, offers the fundament for complementary partner services and products. These characteristics foster complementary innovation and facilitate the development of complements that increase the value of the platform. (Avila Albez 2016)

11.1.4 Core Competency

The essential competencies of a software vendor that has to manage a partner program include the ability to collaborate with a multitude of partners in a structured and scalable way, enabling the partners to do complementary business, building consensus with them while offering guidance and keeping control over essential elements and set up quality standards

- To build a consensus among partners and align the direction of SV and its core products with the partners' effort, a software vendor may involve the partners in the roadmap of the company and its products.
- To ensure a homogenous quality standard and ensure the use of best practice approaches the SV usually provides partner certifications concerning third-party products and business services.
- To enable and supporting the partners to develop complementary business services and products, SVs offer its partners a comprehensive spectrum of enabling services and support. Partners get professional services and support from marketing, sales, product support, professional services, partner management, partner academy, and software development units.

11.2 Management Area Four: Partner Network

This area includes attributes that are related to the management of business areas beyond the software vendor´s own company borders. In order to foster innovation and collaboration among the partners, a software vendor may move into domains beyond his direct control (area 1-3) and develop new paradigms of more indirect influence. This area focuses consequently on the means and measures that address the influence area of the software vendor. (Avila Albez 2016)

The objective of this management area is to set up the necessary conditions that enable and foster interconnections and collaboration among the partners. The software vendor aims to create an environment that facilitates communication, information exchange and the development of trust among the partners. For this purpose, the software vendor has to fulfill the role of a supporting hub for communication, mutual support, exchange of experiences and collaboration between the partners. This can be addressed by providing supporting elements such as partner conferences and events, a partner community platform, a partner portal or a partner board. Furthermore, in case of conflicts between partners, the software vendor may play an important role as mediator and handle the escalation. (Avila Albez 2016)

12 Qualitative Validation of Management Area Three and Four: Primary Case Study Research

Some parts of chapter 12 were presented at the IWSECO 2016 (Avila and Terzidis 2016) and subsequently published in the conference proceedings (cf. Appendix I, Table A).

12.1 Primary Case Study Research

The researcher identified four categories that represent the management areas an SV must address to manage a partner ecosystem. Management areas 1 (partner selection) and 2 (partner lifecycle) were qualitatively validated and extended through an intensive literature review in the research domain of strategic alliances and partnerships. In addition, management areas 1 (partner selection) was quantitatively validated and further explored.

Regarding management areas 3 and 4, the researcher was unable to find relevant literature that would further illuminate the identified concepts. Further investigation of the phenomenon was necessary. Case study research is a suitable research methodology when a holistic, in-depth investigation of a phenomenon is required. (Yin 2012a; Runeson et al. 2012; Feagin, Orum, and Sjoberg 1991) Thus, to gain a deeper and more comprehensive understanding of the building blocks of management areas 3 and 4, the researcher conducted three primary case studies, which allowed the researcher to develop an in-depth understanding of the investigated management areas set up in their real-world contexts. This resulted in new insights into real-world behaviors and their meaning (Yin 2012b, 4). In addition, it allowed the researcher to extend the refined results gained through the case study analysis selectively through relevant literature.

12.2 Methodology

(Yin 2012b, 4) defined case study research as an empirical inquiry that investigates a contemporary phenomenon (the case) in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident. This definition implies that the development of such an understanding requires integrating contextual conditions related to the respective case. (Yin 2012a, 16; Yin 2012b, 4) Consequently, case study research starts from the desire to derive in-depth understanding of a single or small number of cases, set in their real-world contexts, and aiming to result in new learning about real-world behavior and its meaning (Yin 2012b, 4).

The design, data collection, analysis, and reporting of the focal case study research were mainly based on Yin's textbooks (Yin 2012a) and (Yin 2012b), as well as on the guidance of (Runeson et al. 2012).

12.2.1 Multiple-Case Study Research

For the focal element of the overall research project, the researcher used an embedded (multiunit) multiple-case study with a literal replication approach. The core steps are illustrated in Figure 19 and are aligned with the procedure proposed by (Yin 2012a). The figure indicates the importance of the integration of theory for designing the case study. Furthermore, it emphasizes the relevance of the case selection and the definition of specific measures in the design and data collection processes.

Within the conducted case study research, theories that evolved from previous research activities were used as a reference for the design and implementation of the case study. For each individual case study, the researcher developed a case report focusing on the units of analysis. Subsequently, a cross-case analysis was conducted and the results of the individual cases were compared. The findings and conclusions of this comparison were documented and the implications for the management framework were reported.

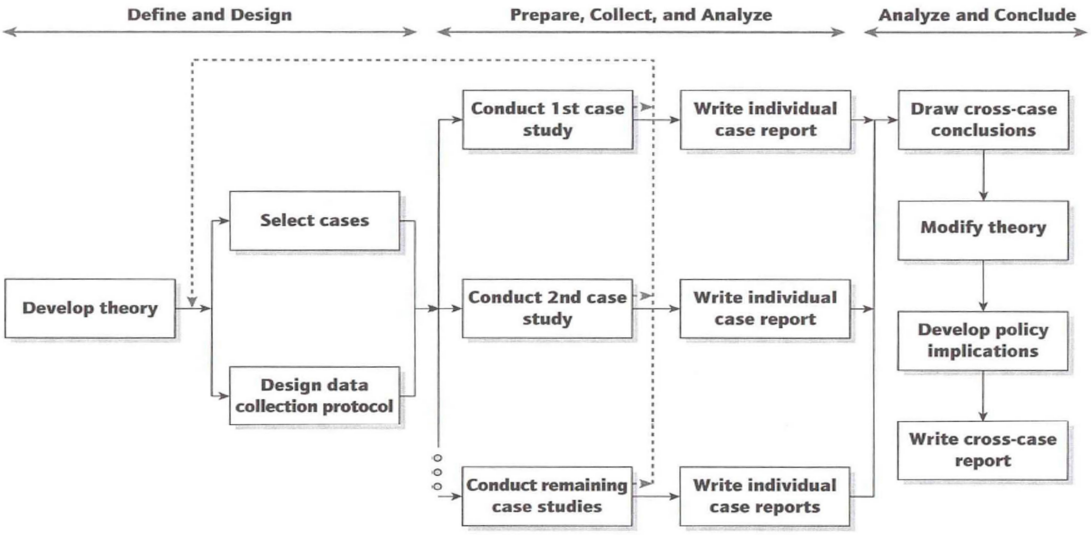


Figure 19: Multiple-case Study Approach (Yin 2012a, 60)

12.2.2 Case Study Design

A case study design describes the logical sequence that connects empirical data to a study's research questions, as well as to its conclusions. The objective of a rigorous design is to set the conditions that avoid circumstances in which the evidence does not address the initial research questions. (Runeson et al. 2012; Yin 2012b; Yin 2012a)

Aligned with (Runeson et al. 2012), (Yin 2012b), and (Yin 2012a), the researcher used the following components to determine the case study design: rationale, objective, research questions, definition of the cases and units of analysis, replication strategy, case selection, theoretical frame of reference, and case study protocol.

12.2.2.1 Rationale

The case study was undertaken as part of a convergent mixed-methods approach. The primary rationale was to complement the other components of the mixed-methods approach with further results derived from a real-world context, as well as to support the overall research with subsequent results. These results are intended to be descriptive in nature and contribute further details. A case study aims to provide researchers and practitioners with additional guidance on how to manage a partner ecosystem.

12.2.2.2 Objective

The objective of the multi-case study was to identify and describe the building blocks of a partner program and partner network. Consequently, the case study focused on contributing to the management areas three and four of the overall management framework.

12.2.2.3 Research Questions

Given the objective of the case study, the research questions were:

- S-RQ 3: What are the building blocks of a partner program?
- S-RQ 4: How can a software company foster the development of a partner network?

12.2.2.4 Definition of the Cases and Units of Analysis

The individual case was determined as a software company in the enterprise software industry that developed and evolved a partner ecosystem as a primary or additional business channel. Each of the three investigated software companies represented one case study. Although different in some respects such as the application domain, degree of internationalization, and number of partners, all of the investigated companies invest significantly in the development and management of a partner ecosystem.

Case study researchers usually differentiate between the case and units of analysis within the case (Runeson et al. 2012). (Yin 2012a) distinguished between holistic case studies, where the case represents the single-unit of analysis, and embedded case studies, where multiple units within a case are analyzed. The holistic case study design is more suitable in situations where no logical subunits can be determined, and thus, no obvious additional units of analysis can be identified. By contrast, an embedded case study can be more appropriate when incorporated subunits of a case are known and their analysis offers crucial opportunities for an extensive analysis, enhancing the insights in specific areas of a case (Yin 2012a, 55–56). The focal study focused on the analysis of the company´s activities concerning two fields: (a) the partner program, and (b) the partner network. Within these sections, the researcher analyzed different distinguished management areas, such as strategy, culture, organizational structure, and competency. As each of these areas differs from the others, each represents a suitable and distinguishable unit of analysis. Consequently, the researcher used an embedded case study design.

12.2.2.5 Replication Strategy

According to (Yin 2012a, 57), the rationale for a multiple-case design derives directly from the understanding of the concept of replications. (Yin 2012a, 57) differentiated between literal and theoretical replications. The cases of a multiple-case study are selected either to predict similar results (a literal replication) or predict contrasting results but for anticipatable reasons (a theoretical replication) (Yin 2012a, 57; Yin 2012b, 8). In the focal study, the logic underlying the replication strategy was to compare the results between the selected cases predicting similar results, which allow theoretical concepts to be

derived as a contribution to the previous research activities. However, although following a literal replication, the purpose was not just to predict that the selected cases should be similar but to derive profound details regarding the investigated units of analysis.

12.2.2.6 Case Selection

The researcher selected the cases aligned with the above-mentioned definition of a case. Consequently, screening for candidates of the case study was guided by following simultaneously applicable main criteria:

- Companies in the EAS industry (B2B market).
- Companies that offer complex software products to solve complex business problems for their customers.
- Companies that must provide complementary business services to offer their customers a satisfactory solution for their business needs.
- Companies that have developed and evolved a partner ecosystem as a relevant channel of their business model.

In addition, mandatory selection criteria were the contributions of the case to the research questions:

- S-RQ 3: What are the building blocks of a partner program?
- S-RQ 4: How can a software company foster the development of a partner network?

Consequently, the selected cases had to offer access to relevant data to address these research questions. Furthermore, the selection was guided by a literal replication strategy. The purpose of the case selection was to study cases that were expected to be typical for the domain of the EAS industry and allowed for collecting data that permit logical derivations for this domain. The cases were also selected based on the units of analysis of (a) the partner program and (b) the partner network. While the overall case studies should be comparable and typical to conclude common elements, and were selected to predict similar results, the cases were also selected to have variations in properties of the units of analysis. This allowed for the comparison of relevant analysis units. Thus, the researcher intended to obtain a case study sample with cases that varied in maturity of the partner program and the partner network. This was done to obtain data in the context of various maturity levels.

12.2.2.7 Theoretical Frame of Reference

A significant step in the design of the case study is the decision whether to use theory to underpin the essential methodological steps of the case study research (Yin 2012b, 9). (Yin 2012a, 37) highly recommended theory development as part of the design phase and prior to the collection of any case study data. Corresponding theoretical propositions may represent key issues relevant for the case study and enable the research design to provide guidance in determining the data to collect and the strategies for analyzing such data (Yin 2012a, 37). Having a theoretical fundament is crucial to be able to generalize the lessons learned from the case study, characterized as analytic generalization (Yin 2012a, 40). „The theory or theoretical propositions that went into the initial design of your case study, as empirically enhanced by your case study's findings, will have formed the groundwork for an analytical generalization." (Yin 2012a, 40) Analytic generalization enabled the researcher to advance the upfront specified

theoretical concepts or allowed to derive new concepts that arose through conducting the case study. In both cases, the use of theory enabled the generalization at a conceptual level higher than that of the specific case (Yin 2012a, 41).

The four management areas identified through the GT study represented the theoretical foundation for deriving the structure of the focal case study. Based on the developed management areas three and four, the researcher formed the research questions and determined the units of analysis. Thus, the case study built mainly on management areas three and four of the researcher's previous work. In light of the previous results, the researcher collected relevant data while remaining open to new concepts that may arise. Furthermore, the GT results were used as a reference that allowed the findings of the case study research to be related and integrated into the overall research project.

12.2.2.8 Case study protocol

The case study protocol is designed to guide the researcher through the data collection process of every single case study. It serves as an essential tool for collecting case study data and addresses the research questions in a systematic manner. It itemizes the questions to be addressed by the case study investigator and defines the planed field procedure for a single case. The protocol serves as a field agenda and represents a crucial element for increasing the reliability of the case study research. Thus, it is an essential component of any multiple-case study. (Yin 2012a; Yin 2012b)

The initial case study protocol was developed prior to the field work. However, the case study protocol is a continuously changing document and is updated either as a result of proactive decisions by the researcher or in response to changes in the case being studied or its context. Thus, it serves as a log where all design decisions, data collection, and analysis can be recorded. Consequently, it is a tool that ensures that the case study remains rigorous. Furthermore, it is a relevant source of information for the subsequent report of the case study and supports the demonstration of quality assurance. In addition, it supports the possibility of replicating the findings (reliability). (Runeson et al. 2012)

In the focal study, the case study protocols were used as a repository to record all relevant information and decisions regarding the design and conduction of the case study (cf. Appendix V). Thus, it comprised information such as that concerning the questions and procedure for the interviews, visiting events such as a partner conference, or participating in analysis workshops and partner training. Furthermore, decisions and actions taken were reported in the protocol. The protocol also supported the researcher in ensuring that the intended data were collected, and was therefore used as a guide for the data collection phase. Although during the case study research it was updated whenever necessary, the main section of the case study protocol remained stable. Based on (Yin 2012a) and (Runeson et al. 2012), the researcher used a protocol structure that comprised the following main sections: (1) Overview and Background of the Case Study; (2) Summary of the Case Study Design; (3) Data Collection Procedures and Sources; (4) Data Collection Questions; and (5) Case Study Report and Documentation (cf. Appendix V). Aligned with these sections, Appendix V presents the case study protocols of the three conducted case studies.

12.2.3 Data Collection

For the multiple-case study, the researcher used evidence from four categories of sources: (1) interviews; (2) documents; (3) direct observations; and (4) participant observation.

However, not all sources were used in all three selected case studies. Depending on what was available and relevant for each case study, the researcher used all source types or a subset of them. The common sources used through all three cases studies were (1) semi-structured interviews with selected experts and (2) documents. Through a case study of abas, the researcher used (3) direct observation and (4) participant observation as additional sources of evidence. The main sources for the CAS case study were (1) interviews, (2) documents, and (3) direct observation. The data collection for the HABEL case study was mainly based on (1) interviews and (2) documents. Table 38 illustrates the sources used for each case study.

Table 39: Sources by Cases

Cases	Types of Sources
abas	(1) Interviews, (2) documents, (3) direct observations, and (4) participant observation
CAS	(1) Interviews, (2) documents, and (3) direct observations
Habel	(1) Interviews, and (2) documents

To maximize the benefits from these sources, the researcher conducted data collection guided by the four principles proposed by (Yin 2012a): (1) using multiple, not just single, sources of evidence; (2) creating a case study database; (3) maintaining a chain of evidence; and (4) exercising care in using data from electronic sources of evidence. These principles are extremely relevant for the implementation of high-quality case studies and support addressing the four criteria of construct validity, internal validity, external validity, and reliability. (Yin 2012a, 118–30)

Aligned with these guiding principles, the researcher used different sources of evidence, and as shown in Table 38, different types of sources as well. The use of multiple sources for each case study strengthens the construct validity of the case studies.

The researcher used the qualitative data analysis software package MAXQDA to store and arrange the raw data of the case studies. Consequently, MAXQDA was used as the central case study database. This database represents a compilation of all relevant data from the field, such as documents and transcript interviews. Case study reports were not part of the database because they were commingled with the researcher´s interpretation of the data. This allows external readers to examine the raw data in addition to reading the case study report. Consequently, the separation of raw data from the research report increases the reliability of the entire case study.

An additional principle that supports the reliability is to maintain a chain of evidence. This principle was addressed through careful documentation of the steps from the initial research question to the case study conclusion. For this purpose, the researcher recorded all collected data in the database and referred in the case study report to the relevant data used to derive specific findings. Furthermore, as previously described, the researcher developed a case study protocol for each case study that documented the circumstances and procedure of data collection (cf. Appendix V). This supports an external reader to retrace the findings of the case studies. Figure 20 illustrates the structure used to establish the chain of evidence as proposed by (Yin 2012a). Finally, whenever external data from electronic sources

were used, such as previous studies or other secondary data, the researcher crosschecked the usefulness and accuracy of such data.

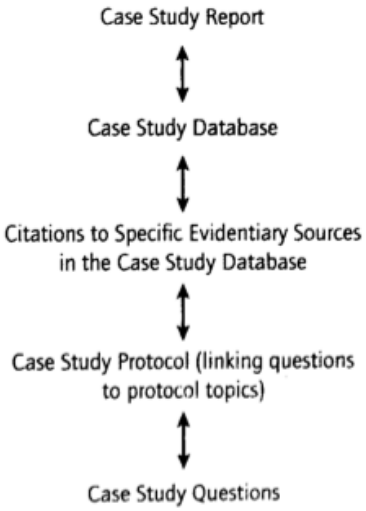


Figure 20: Maintaining a Chain of Evidence (Yin 2012a, 128)

12.2.4 Data Analysis

The initially developed management framework served as a general analytic strategy for linking the case study data to the concept of interest. This theoretical orientation guided the entire case study analysis. Consequently, the individual case studies were analyzed in line with the two fundamental management areas: management of a partner program and management of a partner network. This supported organizing the elements of the analysis, and helped indicate critical contextual conditions relevant to be described as well as explanations to be examined. Furthermore, the two dimensions shaped the data collection and resulted in analytic priorities. Thus, it supported focusing on relevant data and excluding irrelevant aspects. (Yin 2012a, 133–70)

Within this general analytic strategy, the researcher used explanation building as an analytic technique. Explanation building compares empirically grounded patterns derived from the findings of case studies with predictions made before the collection of the case study data, and analyzes the case study data by building and explaining the case. Correspondingly, the researcher compared the results of the previously developed framework with the findings from each case study, and explored the concrete implementation of the two management areas within each case. This helped to strengthen the validity of the case study as well as of the results of the whole research project. (Yin 2012a, 133–70)

As part of the multiple-case analysis, the findings of each case study were not only compared with the initial management framework but across the individual cases, resulting in a cross-case analysis. As the case study evidence from each case was examined, the descriptions of the management areas were revised, and the revisions were compared with the findings of the other cases. The final explanation and derived cross-case conclusions were a result of a series of comparative iterations between the individual cases. For this purpose, the researcher followed the general steps of the explanation-building process proposed by (Yin 2012a, 149): (1) Comparing the findings of a case against an initial theoretical state-

ment/explanatory proposition (the management framework); (2) revising the statements/propositions; (3) comparing other details of the case against the revision; (4) comparing the revision to the findings from the other cases; and (5) repeat this process until saturation is reached.

12.2.5 Integrating Literature

The researcher extended the cross-case conclusion by integrating relevant literature, comparing the categories that emerged with selected literature, and analyzing contradictions and similarities. The integration of literature is crucial for two reasons. First, examining the literature allows researchers to identify potential conflicts with the emerging theory. These identified conflicts foster the discovery of the underlying reason for conflicting results, thereby increasing the theoretical level and generalization of the results. Second, identifying similarities between the emerged theory and literature ties together similarities in phenomena normally not associated with each other. In particular, similarities strengthen the confidence that the findings are valid and generalizable because other experts had similar findings in a different context. (Eisenhardt 1989)

Identification of the building blocks for managing a partner program in the EAS industry has received limited attention. Thus, the researcher selected books that address either the topic of business ecosystems, partner ecosystems, and/or the nature of the EAS industry in a holistic and generalizable manner, and that allow for integration with the identified elements of the emerged theory.

Aligned with (Eisenhardt 1989), integrating the relevant literature to the emerged theory enhanced the internal validity, generalization, and theoretical level of the theory building from the case study research.

12.2.6 Quality Assurance

Throughout a case study, the researcher must consider quality during all stages, and thus, four quality criteria must be addressed: construct validity, internal validity, external validity, and reliability. (Yin 2012a, 45–49) established best practice tactics to address these quality criteria and establish the quality of a case study. Aligned with Yin's recommendations, the researcher implemented corresponding case study tactics for each quality criterion. These are all summarized in the current chapter.

12.2.6.1 Validity

The validity of a case study specifies the trustworthiness of the results and extends to the findings not being biased by the subjective perspective of the investigator (Runeson et al. 2012, 71). The researcher used the classification scheme of (Yin 2012a, 45–49) to increase and evaluate the validity of the focal case study. This scheme is based on four aspects of validity: construct validity, internal validity, external validity, and reliability.

12.2.6.2 Construct Validity

Construct validity evaluates whether the identified measures for the concepts being studied are correct. (Runeson et al. 2012, 71; Yin 2012a, 48). In other words, construct validity indicates to what degree the operational measures that are studied really represent the constructs of the theory and what is analyzed according to the research questions. To meet this quality criterion, the researcher applied several tactics. As described in the data collection section, during the data collection the researcher used differ-

ent sources of evidence to the increase construct validity. A further tactic relevant during data collection was the establishment of a chain of evidence, also previously described in the data collection section. Before conducting the case study, the theoretical frame of reference (cf. Appendix V) underlining the case study (and thus the elements of the concepts being studied) were reviewed by selected industry experts and key informants of the initial framework as well as peers and researchers external to the projects (e.g., software ecosystem conferences and PhD workshops). Finally, key informants of the case study and industry experts external to the case study reviewed the cross-case conclusion. These tactics increased the construct validity of the case study.

12.2.6.3 Internal Validity

Internal validity seeks to establish causal relationships. Consequently, this aspect of validity is of concern when causal relations are explored. (Runeson et al. 2012) Since this is not the focus of the focal case study, this aspect of validity can be neglected.

12.2.6.4 External Validity

External validity addresses the degree to which the findings of the case study are generalizable beyond the immediate study to the domain of relevance (Runeson et al. 2012, 71; Yin 2012a, 48). Thus, external validity is closely related to the previously mentioned objective of analytic generalization. Consequently, the researcher addressed external validity using a stringent theoretical fundament within each case study. In addition, as recommended by (Yin 2012a), the researcher followed a replicated logic in multiple case studies.

12.2.6.5 Reliability

The objective of reliability is to reduce the extent to which the data and analysis are dependent on the specific investigator and ensure that the operations of a study can be repeated by an external researcher with the same findings (Runeson et al. 2012, 72; Yin 2012a, 48–49). The general method of approaching reliability is to document all relevant aspects and steps of the case study. In the focal study, reliability was addressed by maintaining three components: the case study database, case study protocols, and case study reports. The database contained all relevant raw data from the field. The case study reports were stored separately from the raw data because the case study report was commingled with the researcher's interpretation of the data. The case study protocol (cf. Appendix V) documented the circumstances and procedure of data collection. It was used as a repository to record all relevant information and decisions regarding the design and conduct of the case study. The separation of this three core elements allows external readers to examine the raw data, research procedure, and case study report apart separately from each other. This separation as well as the careful documentation of the steps from the initial research question to the case study conclusion increased the reliability of the case study.

12.3 Case A: abas Software AG

12.3.1 Company Overview

The first case study, abas, is a German software pioneer. Founded in Karlsruhe, Germany in 1980, it has grown organically and expanded worldwide. It is a leading business software provider (ERP software) for

midmarket businesses. Thus, abas focuses on mid-size manufacturers and distributors: industrial machinery, custom manufacturing, auto parts manufacturing, electronics, and fabrication and assembly. More than 3,600 customers with more than 100.000 users worldwide utilize the abas ERP Solution.

The company consists of three company in Germany and the USA: abas Software AG and the two 100% subsidiaries abas GmbH & Co. KG and abas USA. Together they have a total of 460 employees and generate approximately €50 million in revenue. The abas technology platform is developed at the headquarters in Karlsruhe (abas Software AG).

abas possesses an indirect channel and cooperation worldwide with 38 certified partners in a total of 27 countries. This partner ecosystem is continually expanding and is currently present in Germany, Austria, Switzerland, Hungary, Romania, Bulgaria, Turkey, the Czech Republic, Slovakia, Poland, Ukraine, the Netherlands, France, Italy, Spain, Saudi Arabia, Iran, Indonesia, India, Sri Lanka, Malaysia, Singapore, Thailand, China, Hong Kong, Australia, Brazil, Canada, and the USA.

The abas partners provide on-site assistance and a variety of services, including training, implementation, infrastructure support, customization, and help desk support.

(abas Software AG 2019a; abas Software AG 2019b; abas Software AG 2018; abas Software AG 2014a; Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

12.3.2 Partner Program

12.3.2.1 Strategy

Company Scope

abas has a clear view of the company scope and its role in its business ecosystem. The company decides consciously the elements and capabilities to be developed inside and kept within the internal organization, as well as what to leave to the partners. abas focuses on its core competency, ERP, and the development of corresponding ERP software products. Consequently, abas retains the development of its core product, the abas ERP business suites, within the company. Complementary components such as DM are addressed through partners. abas fosters the development of complementary components and services through partners. (Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

„Either we are capable of doing it, we know what we're doing, then we do it ourselves. Or we don't know. Then we don't do it (Abilio Avila Albez 2014a)" stated Peter Forsch.

However, the scope of core competencies has also evolved. For example, abas' skills deficit in software usability was addressed by an external company, an expert in usability and design. Together with abas, the company developed a usability design guide. Through this partnership, abas was able to learn and internalize usability skills. Now, abas has two engineers allocated for usability. Furthermore, the decision regarding abas' internal scope is not a one-shot decision. Rather, abas evaluates regularly as part of its continuous evolvement whether product functionalities that have been offered by complementary modules of external companies may be addressed directly by the abas ERP solution. (Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

Channel Strategy

The abas sales organization is based on indirect sales activities through partners. The company does not possess traditional direct sales. Instead, its organization is centered on the enablement of abas' SPs. However, they accompany and support their partners closely in sales activities and customer project, thereby remaining in contact with the market. The SPs offer complementary services and components along the value chain of the abas core product. The SPs manage customer projects on behalf of abas, provide customers with professional education for the abas ERP software, and offer complementary services such as customizing and combining software components to provide tan integrated solution. In sum, the abas SPs sell, implement, and add value to the abas ERP solution. Consequently, they represent sales partners that sell the ERP solution to customers, SIs that conduct the customized software implementation project, and VARs that enrich the ERP solution through complementary solution modules. A partnership can exist in one or more of these categories. Often the SPs are sales partner and simultaneously SIs and VARs. (Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

In addition, abas possesses partnerships with a more strategic focus. These partnerships are established with companies with whom joining forces may result in customer solutions that are of mutual benefit for each partnering company and, of course, for the customer. Such partnerships have the objective of combining resources and expertise with the purpose of reaching a benefit that none of the partnering companies could achieve alone. In addition, in contrast to regular SPs, such partners imply a closer business relationship. For example, together with a DMS SV, abas offers a solution that seamlessly integrates their ERP software with a DMS system. Although abas is an expert in the ERP process, the partner is an expert in software-based DM. The companies combine their expertise and core products to offer customers a complete solution. Before establishing this partnership, the parties performed five or six projects together. Now, they have nearly 500 customers that use the integrated ERP/DMS solution. The mutual benefit for both companies is that the partnership allows them to have access to customers that they were otherwise not able to address. (Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

Product Strategy

The core product of the company is the abas ERP software product. abas keeps vital elements of the product such as the source code within the company's borders and owns the whole technology stack. However, given the partner ecosystem strategy, abas does not solely focus its efforts on evolving the core product within its own company borders but also encourages and influences the development of complementary solutions on top of its core product as well as the seamless integration of external products. While retaining its core elements within the company's borders, it opens up its technology stack using abas tools that enable the customization of abas products as well as integration with third-party systems through APIs. Furthermore, abas partners are integrated into the product roadmap and are an integral part of the product strategy. (Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

Product Architecture

The abas product architecture decomposes the complex ERP business suite through a tiered architecture into manageable components. The product architecture can be decomposed into three tiers: the presentation tier, application tier, and database tier.

- Presentation Tier: The flexible user interface (FO) represents the presentation tier. It is the visible and adaptable presentation interface, and thus the place where interactions with the end-user oc-

cur. It receives input from the end-user and presents the output of the application to the end-user. It consists of a flexible standard user interface and an individual user interface.

The individual user interface contains customer-specific customizations that are seamlessly integrated into the complete system. Customer-specific functions, data, and dialogs that are not a part of the standard version are provided here. The flexible standard user interface contains general required essential functions such as list, forms, and menus that can be used to implement the individual requirements.

- Application Tier: The application tier builds from the database and contains core functions of the ERP software, including functionalities such as purchasing, sales, scheduling, materials management/MRP, and accounting. Thus, it encompasses the core functionalities that make the ERP software valuable to the end-user.

- Database Tier: The data are transformed, stored, and accessed through the abas self-developed embedded object-oriented database technology.

- abas Fusion: abas Fusion is a middleware solution currently under development, which will significantly improve the integration of different applications and clients in the ERP system by uncoupling the application logic from the output.

(Abilio Avila Albez 2014a; Abilio Avila Albez 2014b; abas Software AG 2018)

„In a world where smart devices are everywhere and connect in real time, the abas Fusion, the new abas middleware, is the business logic platform that helps businesses operate in a virtual economy. Applications operate with data from multiple sources, with a variety of information delivery mediums. abas Fusion is built on openness, interoperability, ease of use, and increased flexibility of business solutions based on abas business logic. The future will include applications that snap on to the abas business layer and present seamless solutions for any business requirements. abas Fusion is the foundation for cloud computing, flexible license models and bringing innovative features faster to the market." (abas Software AG 2018)

assbas owns the whole technology stack, including the embedded database. Because the database is embedded in the ERP system, the database and ERP system always have the same version. This ensures that any new functionality reliably corresponds with the database, and thus, always remains upgradeable, even after customized adjustments because the object-oriented approach of the software ensures that no rules will be broken when making such adjustments. (Abilio Avila Albez 2014a; Abilio Avila Albez 2014b; abas Software AG 2018)

In sum, abas ERP's multitiered architecture separates customizations from the business and database layers of the system. The independent components eliminate the necessity of rewriting previously developed customizations as well as allow easy upgrades from older versions of the software. This allows partners a modular approach for the implementation of upgrade-safe customizations for their customers. (Abilio Avila Albez 2014a; Abilio Avila Albez 2014b; abas Software AG 2018)

abas Customization Tools

To customize the abas ERP suite, abas offers object-oriented and easy-to-use tools such as the list, menu, and screen generators. These tools enable any modifications that carry over after a software update; abas partners can upgrade seamlessly while maintaining all of the implemented customizations. The flexible standard user interface and individual user interface are created using these tools. (Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

abas Interfaces

In addition, abas provides software tools that permit linking the abas ERP software to external software products and IT systems. The modular approach of abas ERP facilitates work with third-party systems without compromising the system integrity. Integration with abas can be performed at different levels, from data synchronization and service connectivity to complete integration into the user interface. External systems can be integrated using abas' own interfaces as well as the standard interfaces Dynamic Data Exchange, ODBC (Open DataBase Connectivity), and ActiveX. Based on these possibilities, abas partners provide complementary software solutions such as BI, CRM, and DMS systems that work seamlessly when integrated with abas ERP.

(abas Software AG 2018; abas Software AG 2019c; abas Software AG 2019d; Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

Partner Involvement

To align development of the abas core product with partner efforts, foster feedback from the partners, and provide direction to a network of partners, abas integrated its partners into its product roadmap. To provide a structure for the above-mentioned purpose, abas hosts two annual events dedicated to their partners: the Global Network Meeting and the Partner Day. The Global Network Meeting is an event for discussing current topics such as new products and product roadmaps with abas partners. Partner Day represents an event where abas partners from around the world can meet each other as well as abas employees. It offers presentations, workshops, meetings, and networking opportunities meant to keep the partners updated on new developments. For example, at the Partner Day on September 29, 2014, the partners were aligned with the abas' new direction through strategy workshop sessions as well as operative workshops and were briefed on the critical contribution of SPs. Furthermore, for new product developments, a small group of relevant partners is usually involved to obtain feedback and integrate the market knowledge of partners. Furthermore, this is done to create a consensus for new initiatives among partners. Vital decisions are often taken considering the opinions of partners. Thus, the partners are an integral component of the product strategy, and abas aims to communicate, integrate, and collaborate with the partner community regarding its direction and core product.

(Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

12.3.2.2 Organizational Structure

The organizational structure is driven by the deeply rooted understanding of abas that collaboration and synthesis beyond the company's board are drivers of its success. They understand that their partner ecosystem is a crucial element of its "engine" that significantly drives its business. (Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

Werner Strub, abas' CEO, stated, „Our unified partner network defines the roadmap to success for our customers and our product. The diversity of our partners and their market expertise ensure a wide range of knowledge within the abas community. One of our many strength for an efficient business software and successful ERP projects is good communication. I thank our partners for the great cooperation in the past years." (abas Software AG 2010)

Using this awareness, abas established a partner-focused structure that enables and supports cooperation of a multitude of partners.

Through its organizational structure, abas offers a partner program including partner management (recruiting partners and maintaining partner relationships), partner support (e.g., via a partner hotline), professional services (e.g., sales and project support), marketing support (e.g., access to essential marketing materials and tools), and partner education (partner certification program). Moreover, abas possesses a suitable organization structure to manage partners, offer them enablement and support services, and ensure the quality and expertise of their partners through an extensive qualification and certification program. (Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

The Academy as a Cornerstone for Partner Enablement

The educational offer for abas' partners represents a central element of its partner program. For this purpose, abas set up the abas Academy, an organizational unit that focuses solely on the enablement of abas partners through educational offers. Because the abas core product and complements rely significantly on a range of complementary services including training, implementation, infrastructure support, customization, and help desk support, partner education is vital for success. (abas Software AG 2018; Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

The abas Academy offers its partners a structured education program called the abas Global Partner Certification Program, which leads to a comprehensive certification of a wide range of required roles. It ensures the quality of abas partners as well as that abas partners can provide the best services to customers. It gives customers confidence that certified partners are proven and reliable experts. (abas Software AG 2018; abas Software AG 2014a; Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

12.3.2.3 Culture

The DNA of abas is routed in cooperation and synthesis. It is a truly ecosystem-driven and partner-focused company. „Globally successful: One Globe, one Network, one ABAS" (abas Software AG 2018) is the motivation behind the success of abas. (Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

Culture Development

The SV soon realized how critical cooperation and synthesis were for its success. Today's abas software AG has its origin in two complementary companies: System III, founded by Wolfgang Dannemann (his vision was to develop software that is independent of hardware providers), and abas GmbH, enthusiasts and experts in sales. (abas Software AG 2010; Abilio Avila Albez 2014a)

Bundling these complementary companies into one created synergistic value that would not have been reached if isolated. It built the foundation for today's success that would not have been possible without combining these complementary resources. (Abilio Avila Albez 2014a) In 1984, abas started to sell System III's software. In 1989, the two companies merged into one. „The know-how of both software houses is the basis for the success story of today's abas Business Software." (abas Software AG 2010)

Mr. Dannemann stated, „We, Systems III, were never really interested in getting into sales. When I started I was only interested in how the product had to be in order to survive on the market. I never really thought about sales. I realized that we would never be able to exist as System III in the long run because we didn't sell. Here the synthesis with the former abas GmbH resulted - we needed their sales know-how to successfully bring the software on the market. Some employees of System III and ABAS already knew each other from their studies so that a cooperation was just natural." (abas Software AG 2010)

A further keystone toward the development of a partner-centric company culture was the separation of the hardware business from abas. The hardware business produced high revenue but low margins. As a consequence, abas separated it from the software business in 1992. The sales branches in Alzenau and Berlin became independent and were made abas' very first SPs while having minority holding. The partnering concept originated here, and since, abas has expanded its partner ecosystem. (abas Software AG 2010; Abilio Avila Albez 2014a)

„The intensive expansion of the German partner network since 1994 has brought us forward significantly," resumed Strub (abas Software AG 2010).

The next step was the development of abas' international business. First through direct channels and later through international partners, abas recruited its first foreign partner in Hungry in 1998. In 2001, partners in France, Spain, and Indonesia followed, as well as in the USA in 2002. Eight more countries followed in 2003 as well as six in 2004. (abas Software AG 2010)

„The most important decision was building up a partner network for North America. The intention required a high financial input level by the abas Software AG. A decision which was checked in detail by the supervisory board. From this point in time we invested in our foreign business and our number of partners abroad grew constantly. The first international partner day was held in 2004 in Bali. We expected a double figure growth for 2011 for our international business." (abas Software AG 2010)

Today, abas' Partner Day takes place annually, and abas' partner ecosystem has evolved to a unified global network of certified SPs from numerous countries (Germany, Austria, Switzerland, Hungary, Romania, Bulgaria, Turkey, the Czech Republic, Slovakia, Poland, Ukraine, Russia, the Netherlands, France, Italy, and Spain to Iran, Indonesia, India, Sri Lanka, Malaysia, Singapore, Vietnam, Thailand, China, Hong Kong, Australia, Mexico, Chile, Canada, and the USA). Through its international partner network, abas is uniquely qualified to successfully implement international projects. (abas Software AG 2010)

Werner Strub (CEO) further stated, „Our unified partner network defines the roadmap to success for our customers and our product. The diversity of our partners and their market expertise ensure a wide range of knowledge within the abas community. One of our many strengths for an efficient business software and successful ERP projects is good communication. I thank our partners for the great cooperation in the past years." (abas Software AG 2010).

The company's partner-focused culture is rooted in its history. From the beginning, there was a managerial dedication to embracing external collaboration and the willingness to scale through partners and create opportunities for them. The company is aware of the vital role of their partners and was able to build an ecosystem and partner-focused company culture.

„Generally, our software gained a high level of quality through consultation with our partners," summarized Peter Forscht, cofounder and Chief Channel Officer of abas Software AG (abas Software AG 2010). He is responsible for establishing the international abas network and ensuring that abas finds new partners worldwide. It is clear that Forscht is motivated about his job and is a passionate globetrotter. For sure, he was an essential driver behind the development of a such a partner-centric company.

Cultural Artifacts

In addition, the researcher could observe cultural artifacts, which emphasized the company's comprehensive dedication to its partner ecosystem.

Network Events

In addition to the Global Network Meeting and Partner Day, a third annual event, the abas User Conference, focuses on sessions for abas customers and offers partners a networking opportunity. The researcher visited the Partner Day as well as well the User Conference. These events were designed to foster communication and collaboration among partners, customers, and abas. They contribute to the creation of an ecosystem that facilitates communication and builds trust among partners and customers.

Partner Education

Furthermore, the researcher participated in partner education training, which was part of the partner certification. The trainer was an experienced and highly professional project manager. The participants were motivated and dedicated. In sum, the components and quality of the training demonstrated the relevance of the partner education for the abas partner concept and enablement. Furthermore, the attitude of the trainer and participants showed their strong commitment to abas, but also abas' strong support of its partner network.

Management Commitment

Both founders, Werner Strub and Peter Forscht, through their attitude toward a continuous base, demonstrate their dedication to the abas partner ecosystem. For example, at Partner Day on September 24, 2014, the researcher observed Mr. Strub emphasize in a public opening speech the critical contribution of the partners to the success of abas and thanked them for their effort.

Furthermore, abas' financial investments demonstrate its willingness to embrace partners, support and enable them, and foster revenue opportunities for them. The development of a partner portal as well as the relaunch of the abas Partner Certification and Education Program announced at the Partner Conference 2014, were significant investments to strengthen the partner ecosystem. Such activities underline abas' commitment to its partners.

12.3.2.4 Core Competency

In abas' early stages, the company focused on the development of a product that offers a unique set of functions. The company dedicated less attention to complementary services and components. However, abas realized that success and the ability to provide customers with real value requires not only a monolithic software product but the ability to offer complementary services and components on top of its product. These complements enable the value of the core product. Thus, to offer customers a whole solution, they had to provide business services such as sales, consulting, project management, and

customization. However, such complementary services are labor intensive. Furthermore, abas understood that to offer customers comprehensive value, further specialized software components were required. (Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

Collaboration

The company was just not able to do this alone, and therefore gradually developed a partner network. Over time, abas shifted its competencies from a product-centric to solution-centric company. Furthermore, given its partner-focused strategy and its objective to scale, abas extended its internal execution perspective to a comprehensive view of a partner ecosystem. Today, abas focuses not solely on building a software product internally but on partnering with other external parties. Through this shift, abas developed and continuously evolved a vital core competency: the ability to manage a landscape of multiple partners. For this purpose, abas enables and encourages partners to complement its core product, collaborates with them to reach synergies, and balances between maintaining control and reaching consensus. (Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

To collaborate with the SPs, abas balances at least two competencies: the ability to build a consensus among the partners while simultaneously maintaining control over its core elements.

Building a Consensus

To build a consensus for new initiatives, abas aligned the development of its core product with the partner efforts and integrated the partners into the product roadmap. Vital decisions are often taken considering the opinions of the partners. This can be done on demand but is also organized through annual events such as Partner Day and the Global Network Meeting. For the development of the partner certification, partners as well as partner representatives were integrated, and their perspective and needs were considered. This allows abas to gain valuable feedback and integrate the knowledge and requirements of the partners as well as helps it to create a consensus regarding the content and structure of the partner certification and foster its acceptance. (Abilio Avila Albez 2014a; Abilio Avila Albez 2014b)

Maintaining Control

Simultaneously, abas gives direction to its partners. For example, at the September 2014 Partner Day, the partners were aligned with abas' new business direction and briefed on the critical contribution of the SPs.

Furthermore, the abovementioned partner certification as well as the abas global implementation method (GIM) allow abas to maintain a certain level of control regarding the quality of the activities and business practices of its partners. In addition, although abas aims to integrate partners into its product roadmap and build a consensus, the company still maintains control and decision-making power regarding critical components of its core product.

This type of balanced leadership represents a core competency of abas and enables collaboration with mutual benefits. However, it is only possible because the partners are committed to abas.

Offering Enablement

SPs of abas provide customers with on-site support and a range of services along the value chain of the abas ERP solution. This includes training, implementation, infrastructure support, customization, and help desk support (abas Software AG 2014a).

To ensure the highest quality among partners, abas offers various enabling services, including partner support (e.g., via a partner hotline), professional services (e.g., sales and project support), marketing support (e.g., access to essential marketing materials and tools), access to the abas partner portal, and partner education (partner certification program). In particular, the partner certification represents a fundamental element of the partner enablement.

The company has stated, „abas ensures the quality and expertise of our partners through an extensive qualification and certification program. This includes knowledge in business technology, information technology, and industry-specific topics, as well as knowledge of local legal and cultural characteristics as their markets require" (abas Software AG 2018).

The certification program provides active assistance for the partners through presence training, practices phases, hands-on periods, self-tests, and complementary online courses. It covers knowledge areas in sales, project management, consulting, product technologies, as well as industry-specific topics. Thus, through the certification program, the partners build current knowledge of abas products and technologies, but also relevant subject matter expertise. Furthermore, certified partners are capable of professionally applying the abas Implementation Method to conduct customer projects successfully.

A relaunch of the certification program was announced at the September 2014 Partner Day in which the researcher participated. The redesigned abas certification program is based on different roles. Each certification role requires a specific training path, and abas identified five main roles: Certified Sales Professional, Certified Consultant, Certified Project Manager, Certified Solution Developer, and Certified Administrator.

- A Certified Sales Professional can assist customers with all of their sales-related questions.
- A Certified Consultant has the necessary product knowledge and experience to support customer projects through all phases.
- A Certified Project Manager is responsible for achieving the project results agreed to with the customer. He/she ensures that deadlines and budgets are met, and inspections and approvals are conducted properly.
- A Certified Solution Developer has the skills to implement customer requirements.
- A Certified System Administrator can plan, install, configure, and maintain the abas system environment.

The certification can be supplemented with three roles:

- Certified Presales Professional.
- Certified Trainer.

- Certified Support Professional.

The supplementary role of Certified Presales Professional confirms the ability to support the sales department with all technical questions. The supplementary role for Certified Trainer teaches methods to deliver high quality, systematic, and didactic courses. The supplementary role of Certified Support Professional builds knowledge in professionally handling customer requests.

Moreover, specialized certification can be achieved. These specializations represent more in-depth knowledge in specific areas, including accounting, automotive, and reporting.

The obtained certification can be granted for one or more roles. The roles require annual renewal as part of a recertification process. The recertification consists of participating in online courses accompanied with online exams. These activities are meant to keep the partners updated on current developments and ensure continuous quality and expertise of the partners.

Furthermore, abas' core instrument for reaching a homogeneous implementation quality is the abas GIM. The GIM is a proven best practice implementation methodology to deliver an on-time, on-budget abas ERP system successfully. The method focuses on user needs, business priorities, and challenges associated with change. According to abas, an ERP implementation presents the entire company with a challenge. Thus, it argues that it is crucial that partners direct the process aligned with a proven best practice strategy. abas enables its partners to conduct projects based on this proven GIM. (abas Software AG 2018)

12.3.3 Partner Network

The abas partner ecosystem is designed to foster collaboration between partners, customers, and abas' internal organizational units. abas represents the hub of this ecosystem. However, the ecosystem is not designed as a purely hub-and-spoke structure wherein abas collects bilateral information from each partner and customer. Instead, abas' approach is more integrated and fosters the creation of communication links and collaboration among partners, customers, and abas employees. This approach contributes to an ecosystem that facilitates communication, information exchange, the sharing of expertise, and the development of trust among partners. abas fosters the development of such an interconnected partner network by providing a platform that catalyzes the collaboration across all stakeholders and through offering an environment that facilitates the building of a partner community.

12.3.3.1 Network Events and Community

abas is hosting two annual events dedicated two their partners: the global network meeting and the partner conference. A third annual event, the abas user conference, is focusing on sessions for abas customers while offering the abas partners a possibility for networking.

The Global Network Meeting is an event meant to discusses current topics such as new products with abas partners and enable them to interact. Partner Day follows a conference format and takes place every year in September; abas partners from around the world can meet each other as well as abas employees. The objective is to provide a platform for sharing information, ideas, new developments, and goals for the future. For this purpose, the partner conference offers presentations, workshops, meetings, and networking opportunities meant to keep partners updated on new developments throughout the company and partners regarding the abas business suite. After Partner Day, the confer-

ence continues for 2 additional days focusing on sessions for abas customers and offering abas, their partners, and customers a platform for networking and sharing information. All events contribute to building a strong partner community. The researcher participated at Partner Day 2014 as well as the abas User Conference 2014. Both were parts of the abas 360° global conference. The following paragraphs summarize the key elements of these events.

abas Partner Day 2014

The researcher participated on the abas partner day at 24.09.2014. This conference takes place every year in September. It represents an event where abas partners from around the world can meet each other as well as the abas employees. The objective is to provide a platform for sharing information, ideas, new development, and goals for the future. For this purpose, the partner conference offers presentations, workshops, meetings and networking opportunities meant to keep the partners updated on new developments throughout the company, the abas partners and with regards to the abas business suite.

The core topics of Partner Day 2014 included business development and repositioning, product and technology development, marketing strategy, a new training program, pricing model, and the future of the company's web presence. An overarching topic of the conference was the partner concept and enablement.

Introduction Talk

The day began with an opening speech from Werner Strub to abas partners. He summarized the essential success KPIs, which included supporting 3,000+ customers, a 90%+ customer satisfaction rate, and 24% of abas' customers have been with the company for 10 or more years. The CEO emphasized the important contribution of the partners to abas' success and thanked them for their efforts. Altogether, 960 experts on 65 sides in 29 countries contribute to the abas ERP solution. (abas Software AG 2014b)

Strub also described that one of the building blocks of their success, which are relevant to maintaining current momentum in the future, are abas' partners and their focus on the customers. Moreover, he underlined that abas together with its partners must be adaptive to changing needs, must never stop innovating, and must take a global approach to developing products, enabling partners, and providing quality training. Further topics of the presentation included the new abas partner portal, a new partner certification program, the repositioning of abas, and the redesign of the company's web presence. (abas Software AG 2014b)

In sum, the keynote underlined the partners' vital role in abas' business model, and showed a clear commitment and dedication of abas and their management to a partner channel.

Marketing and Repositioning

The partners participated in strategy workshop sessions as well as operative workshops regarding abas' new marketing concept. During the strategic workshop, the partners were briefed on the strategic objectives of abas, the repositioning of the abas brand, and the critical contribution of the SPs. In additional workshops, the partners were informed of how abas planned to support the partners' marketing activities and lead generation activities.

New abas Partner Portal

A highlight of the partner event was the announcement of the new abas partner portal. It emphasized abas' commitment to its partner strategy and indicated the importance of the partner network in the company's business model.

The partner portal is part of the improvements to partner enablement and offers optimized access to information and materials required for sales, presales, and marketing activities and concerning the abas Business Suite. It also integrates an online partner community, and thus fosters communication among the partners. A search function allows easy access to contact information of other partners and relevant contacts within abas. Furthermore, a chat area offers immediate online communication with abas employees. A dashboard provides new blog posts, updated information, relevant news, and an overview of current events.

Partner Certification

The relaunch of the partner certification program was an important announcement for the abas partners and emphasized the commitment of the abas Academy to continuously investing in the enablement of abas partners through educational offers.

Through this extensive qualification and certification program, abas ensures the quality and expertise of their partners (abas Software AG 2014a). It ensures that abas partners can provide the best service to customers. Thus, it gives customers confidence that certified partners are proven and reliable experts on products, technologies, implementation, and services.

abas User Conference

Subsequently, to the partner day, the conference continued through two additional days (25.09.-26.09.2014) focusing on sessions for abas customers and offering abas, their partners, and customers a platform for networking and sharing information. About 900 abas customers from different regions participated in this two-day user event.

The two conference days were filled with more than 50 presentations, workshops and network opportunities aimed at engaging with and providing customers with the latest trends and developments, as well as fostering knowledge transfer. Through the event, abas and partners demonstrated new developments and highlights of the abas-based solution suite. The company enabled communication with abas experts, both abas employees and abas partners, to discuss specific product topics and offer educational presentations oriented on practical examples, as well as best practices for using the abas solution.

The event offered customers the opportunity to network with other abas customers and abas partners, as well as exchange experiences and learn from each other.

abas experts and partners shared their expertise on a full spectrum of topics, such as ERP, Mobile Apps, DMS, CRM, BI, Project Management, and PLM. They presented real-world examples of the use of the abas Business Suite and how to maximize the day-to-day work using abas. Furthermore, abas partners presented their third-party solutions and demonstrated the benefits of integration with the abas business suite.

Partner Exhibition

An essential element of the conference was the partner exhibition, where 29 certified partners offered the conference visitants easy access to information regarding industry and function-specific extensions and services and specialized applications for abas ERP.

Networking

The abas Global 360 conference was designed as a communication platform for partners and customers. In addition to the event itself, the researcher identified the following main components that were meant to engage the participants in dialog as well as exchanging ideas and experience with other practitioners and experts: the evening event, after-work drink, and communication enabler.

- Evening event:
  The evening event (September 25, 7 p.m.) took place at the Gartenhalle in Karlsruhe. Partner, customers, and abas employees participated at this after party. Live music, delicious meals, and a seating arrangement that enabled communication between the participants fostered the networking.

- After-work drink:
  The event closed with the last network event and farewell drink (September 26, 04:15 p.m.). It was an additional opportunity to network and a possibility for abas to get into the context of an informal setup feedback regarding the event. Furthermore, follow-up business activities could be scheduled, and suggestions and critiques were discussed.

- Communication enabler
  The whole event fostered networking between the participants, especially among partners and customers. Tools to enable communication were regular breaks with coffee, soft drinks, and snacks. A helpful communication tool was also the use of stickers that showed the primary interest of the participants (for example, I'm into numbers, techie, using abas for 15+ years, talk to me, production and supply, the boss). Furthermore, a meeting point to get together with partners and customers was offered in the first-floor foyer.

12.4 Case B: HABEL

12.4.1 Company Overview

HABEL was founded by Fritz Habel in 1991 and is a German pioneer in the digitization of documents. Today, HABEL is one of the leading software companies in the field of document management (DM) and offers small and medium-sized enterprises tailor-made solutions. HABEL employs approximately 80 people. More than 1,800 customers in 26 countries use the HABEL DMS solution. HABEL established a hybrid channel approach that comprises a direct channel as well as an indirect channel through a multitude of partners. Since the start of the development of the partner ecosystem in 2011, HABEL has been able to double its customer base as well as its revenue. This is to a significant level routed in the success of the partner ecosystem. Today, the company collaborates with approximately 60 to 70 partners in 26 countries.

(HABEL GmbH & Co. KG 2019a; HABEL GmbH & Co. KG 2019b; Abilio Avila Albez 2014, 2014, 2014)

12.4.2 Partner Program

12.4.2.1 Strategy

Company Scope

Through its partner-centric transformation, HABEL established a clear vision of its company scope and the role of its partners.

HABEL's main focus is offering digital enterprises solutions for DM. Thus, HABEL maintains the development of its core products within company borders. Because HABEL's core scope is offering DMS solutions, they collaborate with partners that offer complementary software products out of its company scope but that are relevant for their customers, such as ERP and CRM.

Traditionally, HABEL offers not only software but a whole solution to their customers, including consulting, training, project management, and customer service and support. Thus, over time, the company has developed distinctive competencies along the product value chain of its core product. HABEL decided to retain this company scope and continue to offer a whole solution directly to their customers. However, simultaneously, HABEL fosters the development of complementary components and services by partners. To scale, HABEL enables partners to offer complementary services along the value chain of its core product.

(Abilio Avila Albez 2014)

Channel Strategy

HABEL follows a hybrid channel approach that comprises a direct channel as well as an indirect channel through a multitude of partners.

HABEL offers the whole customer solution through its direct channel. It provides a comprehensive DMS software product along with all relevant complementary business services. These services include consulting, training, project management as well as customer service and support.

(Abilio Avila Albez 2014)

Through the partner ecosystem, HABEL aims to generate additional leads for its direct channel, scale up its business activities, and access new markets. The partners offer different complementary services and components along the value chain of HABEL's core product. Depending on the areas covered by a partner, HABEL differentiates between four partner categories:

<u>Business Partners</u>

HABEL business partners maintain a well-developed network and close relationships with decision-makers and business leaders of potential customers. They actively stimulate the interest of these potential customers and hand these qualified leads over to the HABEL partner management. Through appropriate training, business partners have the possibility of being certified as a sales partner. (HABEL GmbH & Co. KG 2019b; HABEL GmbH & Co. KG 2014a)

Sales Partners

Sales partners are manufacturers and distributors of complementary software products or experienced salespeople in the IT industry. They sell HABEL products to potential customers. When the purchase is concluded, HABEL manages the implementation project as well as the customer service and support. Sales partners must participate in the HABEL certification program. (HABEL GmbH & Co. KG 2019b; HABEL GmbH & Co. KG 2014a)

Solution Partners

Solution partners are established or aspiring companies that are successfully operating in the IT industry. They have excellent sales expertise and competencies in the customization of software products. Solution partners are able to independently manage the whole life cycle of customer projects from initial contact to the implementation. This includes also consulting, conception, and realization. To ensure high-quality solutions, partners are certified at regular intervals. (HABEL GmbH & Co. KG 2019b; HABEL GmbH & Co. KG 2014a)

OEM Partners

In addition, HABEL aims to establish strategic partnerships with OEM (original equipment manufacturer) partners. Through an OEM partnership, independent SVs can seamlessly integrate HABEL products into their own. They incorporate the HABEL software in their own products and offer the combined solution to their customers under a single umbrella. This allows HABEL to increase its sales figures and access new markets.

Product Strategy

HABEL must manage not only its core product but a variety of derivative products that comprise subversions or customizations of its core product. These derivatives are integrated into underlining partner products resulting in new customer products. „So besides the independent release policy, there is indeed a common release policy." (Abilio Avila Albez 2014)

OEM Products and Partner Involvement

OEM partners want to close a functional gap relevant for their customers. Consequently, they have particular requirements and need to be involved in the planning of the product portfolio. HABEL and its OEM partners define and implement a common OEM product. „The area management plus the managing director exchange information about the product and the product strategy on a regular basis (with the partners) and consider the aspects of feasibility and market needs, trends, customer requirements, which are then realized in a concrete (joint) release plan." (Abilio Avila Albez 2014)

To align the development of HABEL's core product with a partner's efforts, the SV creates a common strategy with the partner for the joint OEM product. For the implementation, HABEL develops a joint roadmap together with the individual partner and exchanges relevant information on a regular basis.

„There has to be a certain common technological basis. And then you have to look: what's the roadmap? And in fact, we also get together with our partners regularly - with the product management, with the development management. (...) we define together: how we develop our common solution." (Abilio Avila Albez 2014)

The partnering companies work closely together and dedicate resources for the development of the joint solution. This represents a firm commitment for both sides. „It always has to be a very open and very close cooperation, so that this works well with the roadmap, because, that means to provide certain development resources by each company." (Abilio Avila Albez 2014)

Interfaces and Modularity

Florian Veit, Head of Sales and Marketing at HABEL, underlined the importance of offering interfaces to third-party systems. It is an essential element to provide the market complete solutions and also relevant for the access to new markets: „..we also emphasize being very good in connecting through interfaces with other systems." (...) „And whenever interfaces are involved, i.e., whenever the development from one side concerns the interfaces, it is necessary to exchange information. And we also offer a common release per year." (Abilio Avila Albez 2014)

HABEL offers more than 50 interfaces to the leading ERP, CRM, and Office systems. In addition, its development department is able to integrate third-party components through individual development. The modular approach of HABEL´s core product facilitates operating with third-party systems. (Abilio Avila Albez 2014)

12.4.2.2 Organizational Structure

Florian Veit reflected during the interview on how HABEL partner management has evolved in the last 5 years. Five years ago, Veit started at HABEL as Partner Manager. „It was a one-man show," he stated. Since then, HABEL has been able to evolve its business. Now, its organizational units actively manage and support a multitude of partners worldwide. (Abilio Avila Albez 2014)

HABEL's sales department was at the time organized to address direct channel activities. During its evolution, HABEL shifted its business focus from a purely direct sales-oriented company to a hybrid that comprises direct as well as indirect sales activities. (Abilio Avila Albez 2014)

Mr. Veit knew that to address this change he had to reorganize and set up a new organizational structure. For this purpose, he established a partner management team dedicated to enabling and supporting their partners. This team consisted of three sales professionals as well as three project/product experts. Today, this partner management team corresponds to two additional units: (1) a partner-focused sales unit, which is part of the sales department; and (2) a project management unit dedicated to supporting partners regarding project management and product support. This unit is part of the project management department. Florian Veit is responsible for the direct and indirect business channels at HABEL, including the cross-unit partner management team. (Abilio Avila Albez 2014)

In addition, it was crucial to ensure that the other corporate units, such as software development, worked in a new way beyond their organizational borders and open up their resources to support the partners. This was necessary across all units and all management levels. „It is important that all units communicate with their counterparts on the partner side" stated Florian Veit. (Abilio Avila Albez 2014)

The Academy as a Cornerstone for Partner Enablement

Because HABEL DMS relies significantly on complementary business services to enable customer value, the development of educational offerings was a central element of its partner strategy. „One of the first challenges was to create a training concept to enable the partners." (Abilio Avila Albez 2014)

„I took great care of the sales training: presentation and conversation skills, requirements analysis, benefit presentation. In other words, sales from A to Z." In addition, further training courses were developed to cover the project aspect as well as the support area. (Abilio Avila Albez 2014)

Today, HABEL offers such partner training trough the HABEL Academy. This organizational unit offers specific partner training among other things regarding the product, sales activities, and business approaches. „This is a very specific offer, which we only make for partners." Thus, HABEL's academy plays an important role in enabling its partners. Furthermore, the education programs it offers are the foundation of HABEL's partner certification program. (Abilio Avila Albez 2014)

The new understanding of HABEL, that complementarity and collaboration beyond the company's borders are the enablers of its new level of success, drove the reorganization of the company. Through a partner-focused reorientation of the whole company, HABEL established an organizational structure that can manage, support, and enable an ecosystem of partners. HABEL created an organizational structure that addresses partner needs through dedicated partner units, but also through opening up resources of cross-units such as the software development and marketing departments, as well as by establishing communication processes among all management levels to their counterparts in the partnering companies. (Abilio Avila Albez 2014)

12.4.2.3 Culture

HABEL was no stranger to partnerships, having to collaborate often with software companies that offer complementary products such as CRM or ERP. However, these collaborations were usually project-based and part of customer projects, where the integration of different software products was required to develop the whole customer solution. The first significant, strategic partnership was with abas. This partnership started in 2008 and was an incredible boost for HABEL. (Abilio Avila Albez 2014)

Culture Development

HABEL, historically focused solely on direct channels, often implemented its DMS projects for the same customer segment as did abas ERP; abas ERP customers commonly used HABEL's DMS. This was because DMS and ERP products are often complementary components of comprehensive customer solutions. It was this fact that led to the companies deepening their collaboration. (Abilio Avila Albez 2014)

The Schmalz company in Glatten was the first joint customer of abas and HABEL. „And that's when it took its course." Through common customer projects, both HABEL and abas realized that their teams as well as the whole companies are highly similar and share a similar culture. Furthermore, through these joint projects, the companies were able to prove that they could collaborate highly favorably. (Abilio Avila Albez 2014)

Through the individual projects, an interface has been jointly implemented. By defining an interface standard and allowing the integration of both software solutions, the companies were able to offer their customers a more comprehensive solution and improve the user experience. „And of course, that was the cornerstone to take the partner business into another dimension." (Abilio Avila Albez 2014)

HABEL realized that the combination of complementary capabilities allowed them to create synergetic value that would not have been possible when kept isolated. One of the first steps for the development of the HABEL partner ecosystem was access to abas partners. This allowed HABEL to accelerate the acquisition of suitable partners significantly, and thus the development of its partner ecosystem (first

national and subsequently international). Today, HABEL collaborates worldwide with partners and has more than 500 joint customers with the abas partner ecosystem. (Abilio Avila Albez 2014)

However, this fast development and the launch of a structured partner program required a significant culture shift within HABEL, as well as relevant changes in its organizational structure and internal and external communication. The company had to open up its resources and knowledge to support their partners.Due to the fact that HABEL was more focused on selling the DMS solution and services directly than on partnering with external companies, it was confronted with a new paradigm as well as new business challenges. Before, there was HABEL and the rest of the market, but now HABEL has extended its borders, 150 experts—the partners and HABEL—are part of the HABEL ecosystem. „This is of course also a change in consciousness, which some people are still going through, and which has not entirely stopped yet." Veit underlined the importance of develop a common identity together with its partners. „When we talk about we, we always include our partners as well. And when our partners are on the road, they don't just refer to themselves but the whole HABEL world as well." (Abilio Avila Albez 2014)

Furthermore, it was crucial to develop an understanding on an organizational level that the success of the company depends significantly on the success of HABEL partners, and thus, it is vital to support the partners in all relevant areas. „And that's an incredibly long process. So, it took for sure three years until something really changed in real life." In the beginning, HABEL tended to view partners solely as a mechanism of increasing its sales growth. HABEL had a culture wherein employees beyond the partner management team said „Make sure that our partners generate more leads for us (...) so the expectations were clear: These are our partners, why do they do so little for us?" But success with the new partner approach required another way of thinking. It is important to enable and support partners in a way that allows them to create value based on HABEL's core product. This also includes opening up resources and transferring knowledge and investing in the development of partners. „So, we expect a lot from the partners. But how much are we willing to do for it? And I always take the view that we have to give first, then we will get something," noted Veit. (Abilio Avila Albez 2014)

Cultural Artifacts

In addition to the motivation and dedication of Veit for the development and continual evolution of the HABEL ecosystem, the researcher noticed one significant cultural artifact: the corporate mission statement. This comprised three sections: (1) What we want to achieve; (2) Who we are; and (3) This is important to us. Across all sections, the mission statement emphasizes the importance of the partner ecosystem for HABEL. Furthermore, it demonstrates the company's dedication and commitment to its partner ecosystem and shows the partners value for HABEL's future. This mission statement underlines HABEL's commitment and effort to foster a new level of understanding company-wide, where the SV and its partners are perceived as a common system. It is an important part of cultivating a partner-centric culture and communicates managerial commitment. The company realized that its success does not depend anymore on its own efforts but on the success of its partners, and thus it invests significantly in making this new understanding a part of the company's DNA. (Abilio Avila Albez 2014, 2014, 2014; HABEL GmbH & Co. KG 2014b)

<u>Excerpts from the mission statement</u>

- What we want to achieve: „Together with our partners, we are the best in tailoring ECM/DMS solutions for medium-sized companies."

- Who we are: „We drive the successful development of our national and international partners because their success is our success."
- This is important to us: „We focus on long-term relationships with employees, partners, customers, and suppliers."

(HABEL GmbH & Co. KG 2014b)

12.4.2.4 Core Competency

The new partner strategy required new competencies that HABEL had not considered crucial in the past. Traditionally, HABEL focused solely on the customer market and the competition. „Apart from us, there was no one but the rest of the market." (Abilio Avila Albez 2014)Since HABEL emerged from a purely direct channel approach, the perspective of the company and its employees was highly introspective. HABEL understood the market and the customer needs and was able to offer a whole solution, including a superior product and complementary services such as training and consulting. However, at the beginning of the partner strategy, only a few employees really understood what the evolution to an ecosystem-driven company meant and what it took to succeed. The spectrum of competencies required to develop, sell, and complement the HABEL software needed to extend to a comprehensive company-level. (Abilio Avila Albez 2014)

Collaboration

HABEL must enable its partners to provide complementary services and components based on its core product as well as to integrate its product as an OEM in the partner solution. In this context, HABEL must collaborate with its partners in a manner that creates a balance between reaching a consensus and maintaining control over critical areas. In sum, HABEL was required to develop the capability that enables the organization to manage a landscape of multiple partners. (Abilio Avila Albez 2014)

Building a Consensus

An essential aspect for HABEL is offering interfaces to leading complementary software systems. HABEL offers more than 50 interfaces to the leading ERP, CRM, and Office systems. (HABEL GmbH & Co. KG 2019b) Consequently, it is vital to reach a consensus with the corresponding partners regarding the technical specifications and shared functions. In particular, when it comes to OEM partners, a seamless integration with partnering companies' products is indispensable. Thus, building a consensus on a continual basis is required. For this purpose, HABEL integrates OEM partners into its product roadmap and aligns specific releases with their products of the OEM partner. Furthermore, HABEL manages common product roadmaps that are relevant for the product integration together with its partners; for example, for the integration of HABEL's DMS and abas' ERP system. Along with the partners, HABEL specifies the scope of the release and aligns the complementary software development. Finally, HABEL and the partner conduct a common test to ensure the quality of the release integration, and thus of the joint customer solution. (Abilio Avila Albez 2014)

In addition to these product-driven and technical aspects, Veit underlined the importance of developing a common identity with its partners. „When we talk about 'we,' we always include our partners as well. And when our partners are on the road, they don't just refer to themselves but the whole HABEL world as well." This implies not only building a consensus on a technical level but also on a business level. (Abilio Avila Albez 2014)

Maintaining Control

To guarantee quality in consulting, sales, and implementation in the long term, the partners have to be certified by HABEL. Through the certification of its partners, HABEL maintains some level of control concerning the business practices of the partners and their skills. (HABEL GmbH & Co. KG 2019b; Abilio Avila Albez 2014, 2014, 2014)

In addition, Veit and its partner management teams developed a management tool that provides incentives for partners. Through the strategic use of incentives, HABEL guides the partners and reaches a certain level of operational and strategic alignment between HABEL and the partnering companies. „I've built up a control instrument that allows me to guide the partners." The management tool uses a bonus system, which offers partners better conditions such as better margins, free training, or other incentives. The criteria for determining the partner bonus are, among others, the number of customers, turnover, and payment behavior. Every partner can set its own personal conditions and increase benefits by reaching the corresponding number of points. However, it also penalizes certain behaviors. For example, a few partners used to always only pay after being sent a third reminder. Therefore, HABEL extended the bonus system: „For every third reminder there is a reduction of 100 points." (Abilio Avila Albez 2014) In sum, through this incentive-based management tool, HABEL provides direction to partners. HABEL offers an incentives approach and outlines the parameters within the partners are guided. (HABEL GmbH & Co. KG 2014a; Abilio Avila Albez 2014, 2014, 2014)

HABEL underlines the importance of offering interfaces to leading complementary software systems and integrating partners into the product roadmap. However, the SV does not share the source code of its core product and retains control regarding decisions on vital product and business elements.(Abilio Avila Albez 2014)

Offering Enablement

The movement to a partner-centric company meant that the partners had to be enabled to sell the HABEL product and complement it with complementary services and components. For this purpose, HABEL supports and trains its partners in the acquisition of projects, sales activities, and the implementation of the partners' first project. In addition to this "on the job" enablement, HABEL enables its partners through a standardized training program offered by the HABEL academy. The ability to provide its partners with a set of accompanying enabling services is crucial to ensure they are capable of succeeding in their complementary business. (Abilio Avila Albez 2014)

12.5 Case C: CAS Software AG

12.5.1 Company Overview

CAS Software AG was founded in 1986 by Martin Hubschneider and Ludwig Neer. Today, the CAS group employs approximately 400 people and had a total turnover of €40 million in 2016. The software company is the leading German provider of CRM solutions for small and medium-sized enterprises. These CRM solutions are used by more than 400,000 users in over 40 countries and are deployed by more than 20,000 companies. The company has a hybrid channel approach that comprises a direct as well as an

indirect channel through more than 200 certified sales and implementation partners. (CAS Software AG 2018e; CAS Software AG 2019i)

CAS is structured as a network of customer-focused and flexible business units. These specialized company units are called SmartEnterprises and focus on specific customer segments. This structure allows CAS to adapt quickly to changing market conditions. For the purpose of this case study, the researcher analyzed the SmartCompany CAS CRM, also known as CAS Mittelstand. CAS CRM offers CRM solutions that specifically address the needs of small and medium-sized enterprises. Based on core products, CAS CRM offers different industry-specific solutions as well as a basis for the development of complementary components and products. A multitude of partners develop horizontal and vertical extensions based on core products of CAS CRM. (Brunswicker and Ehrenmann 2013; CAS Software AG 2019i; Tyrväinen, Jansen, and Cusumano 2010)

Furthermore, CAS partners offer complementary services such as integration and consulting on the top of CAS core products. At the time of data collection, the central product of CAS CRM was CAS genesisWorld. It is the main product of the SmartCompany and the core platform for the partners to develop and offer complementary products and services. Thus, for this case study, the researcher focused mainly on the aspects of the core product CAS genesisWorld and its corresponding partner ecosystem. (Brunswicker and Ehrenmann 2013; CAS Software AG 2019i; Tyrväinen, Jansen, and Cusumano 2010)

12.5.2 Partner Program

12.5.2.1 Strategy

Company Scope

CAS is dedicated to creating CRM software for SMEs that support companies in achieving stronger sales, marketing, and service productivity. For this purpose, the CRM product can be customized to suit the requirement of any sector and any size of company. Consequently, CAS offers not solely a software product but also a whole solution that comprises a wide range of services, such as consulting and implementation. (CAS Software AG 2018e)

CAS CRM focuses on its core scope: offering CRM solutions. However, to be able to offer customers a whole solution, the SV collaborates with a multitude of partners that offer complementary software products that are out of the company's scope, but are crucial for achieving value for customers. Through certified interfaces, the CRM product can be connected and integrated with external products offered by partners, such as ERP and DMS. (CAS Software AG 2018e)

In addition, CAS CRM fosters the development of complementary product extensions and services through partners. CAS partners provide wide-ranging support through consulting, marketing, sales, and support. For this purpose, CAS partners receive professional support from marketing, sales, consulting, support, and development teams. Through a structured partner program and extensive training, CAS enables their partners to offer complementary services along the value chain of its core product. (CAS Software AG 2018e; CAS Software AG 2019j)

Channel Strategy

CAS CRM has a clear perspective regarding its role in its business ecosystem. The SV is a supporting hub that aims to enable its partners through a structured partner program. „CAS partners are a key part of the CAS family" (CAS Software AG 2019j).

By supporting the partner ecosystem, CAS CRM can scale up its business activities and access new markets. Consequently, CAS CRM focuses on an indirect channel through partners. The partners offer different complementary services and components on top of the SV's core product. Depending on the areas covered by a partner, CAS CRM differentiates various partner levels:

CAS Certified Partner: CAS Certified Partners provide customers with comprehensive solutions that include software, consultation, project management, training, and maintenance.

CAS Consulting Partner: CAS Consulting Partners are experts in requirements analysis and implementing business processes in CAS CRM products.

CAS Sales Partner: Sales Partners sell CAS CRM products to potential customers and operate closely with certified partners to provide consultation, installation, training, and support.

(CAS Software AG 2019j; CAS Software AG 2019j)

In addition to these three partner categories, CAS CRM collaborates with companies that offer complementary software components:

APIs and Integrations

Interface partners that develop software modules and interfaces that enable an integration of CAS genesisWorld with third-party systems. For example, com:con solutions offer an interface and integration of CAS genesisWorld with SAP ECC and SAP B0.

(CAS Software AG 2018f; com:con 2019; CAS Software AG 2019k; CAS Software AG 2019l)

Complementary Products with API

Independent SVs (ISVs) offer software products that are complementary to CAS genesisWorld. These products can be connected and integrated with CAS genesisWorld. The software product Omikron AdressCenter of the SV Omikron manages the data quality of contacts and can be connected to genesisWorld.

(CAS Software AG 2019l) (CAS Software AG 2019h) (CAS Software AG 2019g)

Complementary Extensions of the Standard Software

Software companies (value added resellers) that enrich CAS genesisWorld by complementary software extensions. The software vendor itdesign developed a software module for CAS genesisWorld that significantly extended the onboard-functionalities for project management.

(CAS Software AG 2019l; CAS Software AG 2018d; itdesign GmbH 2019)

However, to develop and evolve the necessary market knowledge and understand customer needs, CAS CRM also conducts direct channel activities. CAS CRM leads so-called "lighthouse projects" (Leuchtturmprojekte) with customers. This direct collaboration with customers allows the SV to stay in close contact to the market and its requirements. Furthermore, the direct channel represents a significant revenue stream for CAS CRM. Thus, despite the partner-focused strategy, CAS CRM offers through

its direct channel a whole solution to customers, including consulting, training, project implementation, and support. The market knowledge gained through these direct activities enables CAS CRM to support partners comprehensively and offer a partner program that meets their needs.

In sum, CAS CRM follows a hybrid-channel approach that comprises a clear partner-centric strategy accompanied by strong direct channel activities.

Product Strategy

CAS CRM must manage not only its core product CAS genesisWorld but a range of extensions developed on top of the software interfaces, as well as a wide range of interfaces and integrations with third-party solutions. (CAS Software AG 2019a) Figure 21 illustrates the range of solutions based on CAS genesisWorld.

Figure 21: Range of Solutions based on CAS genesisWorld

CAS CRM maintains the core components of CAS genesisWorld, such as the source code, within its borders. The SV fosters and encourages the development of complements on top of CAS genesisWorld. For this purpose, it offers an environment that enables partners to provide complementary extensions, products, and services. CAS opens up its technology stack using useful customization tools and a suitable software development kit (SDK). This enabling technology facilitates the development of interfaces and integrations with third-party systems and allows fast customization of the User Interface and the database structure. In addition, CAS integrated its partners through a partner advisory council that represents the interests of the partners concerning CAS CRM and its products. The partner advisory council has an active role in the continued evolvement of CAS CRM and product initiatives. (CAS Software AG 2019j)

CAS Customization Tools and Modular Development Tools

CAS supports its partners by providing software tools that enable partners to customize the core product genesisWorld, develop complementary modules on top of the product, and create a suitable interface for third-party systems. The software module "Form & Database Designer" offers partners the possibility of extending CAS genesisWorld by adding new data record types in the database, adjusting the data record window for all data record types in the CAS genesisWorld Client, and adding logical procedures through a formula editor. (CAS Software AG 2017a)

For the implementation of extensions on top of genesisWorld, CAS offers an SDK that allows comprehensive adaptations, such as the development of a complementary software module or the implementation of an interface to an ERP system. (CAS Software AG 2016) This modular approach allows partners to develop add-on components for CAS genesisWorld that offer additional functionality such as project management. (CAS Software AG 2017b)

Partner Involvement

To align the development of CAS and its core products with partner efforts as well as foster feedback from partners, CAS involves the partners in the product roadmap.

„CAS Software shares its comprehensive expertise and vast experience with its partner network. By involving partners early in the product development and software testing process, the sense of team and cooperation is strengthened. And in return, the CAS partners give their new impulses and business ideas back into the company." (CAS Software AG 24.04.17)

For this reason, the SV established two main pillars: the annual partner conference and the partner advisory council. In particular, the partner advisory council has an active role in the continued evolution of CAS CRM and its product initiatives. The partner conference represents an annual event that offers CAS and its partners a platform through which national and international partners as well as CAS employees can engage and exchange ideas. (CAS Software AG 2019j)

12.5.2.2 Organizational Structure

Through its organizational structure, CAS CRM offers a partner program that focuses on the management and enablement of a multitude of CAS partners, and accordingly, CAS CRM established a partner-focused structure.

The organizational units dedicated to supporting partners comprises the following areas:

- Partner Management
- Presales
- Lead Management
- Marketing
- Professional Services
- Training & Coaching

- Support

Through these units, CAS CRM manages its partners, offers them enabling and support services, and ensures their quality through an extensive training and certification program.

The partner management accompanies partners from the first meeting through to the decision and development phase, as well as throughout the years of cooperation and partnership. CAS Partner Managers are the first point of contact for CAS partners. Furthermore, the partners have direct access to CAS product support, an organizational unit dedicated to offering technical support for CAS products. The marketing unit of CAS CRM assists partners with marketing campaigns by contributing promotional material, giveaways, mailing templates, web pages, event speakers, as well as organizational and financial support. The partners can benefit from the marketing experience of CAS CRM. Because CAS CRM distributes its software solutions primarily through partners, all marketing efforts are focused on serving the partners. In addition to a wide range of marketing materials, the CAS marketing team provides consultative services and the option of joint participation at trade shows. Furthermore, additional teams of experienced advisors assist with sales, consulting, and development. Partners have access to CAS engineers and consultants that support the partner during any phase of their projects.

„CAS partners are a key part of the CAS family and as such receive professional, qualified support from our marketing, sales, support and development teams" (CAS Software AG 2018a).

(CAS Software AG 2018a; CAS Software AG 2019j; CAS Software AG 24.04.17; CAS Software AG 2019b; CAS Software AG 2019c)

The Academy as a Keystone for Partner Enablement

The CAS Academy offers a suitable and structured training program that serves as the foundation for the partner certification. To be able to offer customers a solution based on CAS core products, the partners must provide a wide range of complementary services such as consulting, sales, customization, and project management. Thus, the educational offer for the CAS partners represents a vital element of its partner program. For this purpose, CAS CRM has the CAS Academy, an organizational unit that focuses on the enablement of partners through extensive training and ongoing certifications. Through this comprehensive training program, the CAS Academy ensures the quality of its CAS partners and enables partners to offer their best services to customers. „To ensure comprehensive qualifications, CAS partners go through extensive training and ongoing certifications" (CAS Software AG 24.04.17).

In addition, CAS CRM sees the training of its partners as a seal of quality in the market. It proves to customers that certified partners are authorized and reliable experts. (CAS Software AG 2019d)

In addition to the partner levels of CAS Certified Partner, CAS Consulting Partner, and CAS Sales Partner, partners of CAS offer additional qualifications such as Development Center, Industry Solutions Center, and Sales Partner Center. „Partner levels and additional qualifications have been designed to cover a clearly defined market segment" (CAS Software AG 2019e).

(CAS Software AG 2019e; CAS Software AG 2019j) (CAS Software AG 2019j; CAS Software AG 2019d; CAS Software AG 2018a; mpl Software GmbH)

12.5.2.3 Culture

CAS has a network-centered culture and a system-mindset that foster cross-company collaboration (Brunswicker and Ehrenmann 2013).

A significant part of the smart company CAS CRM focuses on the partner ecosystem and offering partners professional and qualified support on all relevant operational levels as well as on a strategical level. CAS CRM perceives its partners as a crucial part of the CAS system.

„I have quick and easy access to expert and knowledge and I can just call the management of CAS Software AG and ask them to accompany me to a customer or a prospect meeting" (CAS Software AG 2019f). „CAS partners are a key part of the CAS family" (CAS Software AG 2019j).

Consequently, the SV focuses its efforts not only on internal organization but also on the whole ecosystem, of which partners are a central component. CRM CAS acts as an enabler within an ecosystem and understands that its success depends deeply on the success of the whole ecosystem.

„Any partnership is based on trust, fairness and equality - these qualities form the foundation of all CAS partnerships and are characteristic of the CAS partner network. By working together, exchanging ideas and improving the cooperation every member becomes stronger and success can grow. Teaming up with others enables partners to undertake, and successfully complete, bigger and much more diverse projects" (CAS Software AG 24.04.17).

„What makes our cooperation special is that we do not only share our business success but we also share the fun when working together" (CAS Software AG 2019f).

Cultural Artifacts

The researcher participated at the annual customer conference Customer Centricity Forum 2017. This conference focused on CAS customers and the principle of customer centricity.

It offered customers a variety of speeches, interactive workshops, best practice approaches, and information regarding new trends in CRM and customer centricity. However, although it was primarily an event for CAS customers, it also offered CAS partners a platform that fostered communication among them, customers, and CAS employees. For this purpose, CAS offered communication and get-together sessions and provided the partners with a dedicated area to present their company and solutions. Thus, this event contributed to the establishment of an ecosystem that facilitates communication and collaboration among partners and customers.

12.5.2.4 Core Competency

„CAS Software distributes its software solutions primarily through certified partners" (CAS Software AG 24.04.17).

Collaboration

Consequently, the primary efforts of the SV are focused on scaling through a partner ecosystem. Thus, an essential competency of CAS CRM is its capability to collaborate with a multitude of partners as well as guide and enable them. In particular, this means that CAS CRM works with external partners in a manner that creates a balance between reaching a consensus while maintaining control over essential business areas.

Building a Consensus

To build a consensus among partners and align the direction of CAS and its core products with the partners' activities, CAS involves the partners in the roadmap of the company and its products. To structure this involvement, CAS organizes an annual partner conference and offers a permanent partner advisory council.

Partner Conference

The partner conference is an annual event that offers a platform where national and international partners as well as CAS employees can engage with each other and exchange ideas. Through presentations, workshops, meetings, and an environment that fosters networking, CAS keeps its partners updated on new developments. „This annual events enables partners not only to discuss the latest CRM topics, trends and issues but also to exchange ideas and help each other with respect to boosting their business with CAS CRM" (CAS Software AG 31.05.17).

Partner Advisory Council

To foster the collaboration with its partners in a fair, open, and trustworthy manner, CAS established a partner advisory council. „A partner advisory council represents the interests of the partners with respect to CAS CRM and plays an active part in the continued development of CAS CRM and its products." (https://www.cas-crm.com/cas-partners/become-a-partner/cas-partner-program.html)

For new initiatives and product developments, the partner advisory council is involved in gaining feedback, integrating the experience of the partners, and creating a consensus among the partners. Essential decisions are often taken considering the perspectives of partners. Consequently, the partners are an integral component of the product strategy. CAS strives to collaborate openly with the partner community regarding the direction of CAS CRM and its products. (CAS Software AG 2019j)

Maintaining Control

Although CAS CRM aims to build a consensus among the partners, the SV also provides guidance to them. For example, at a partner workshop, CAS discussed with its partners new software modules for CAS genesisWorld, the solution ecosystem of the product as well as the strategic focus of the SV on direct sales and SMEs. (CAS Software AG 2018b)

Furthermore, to ensure full qualification, the CAS partners go through extensive training and ongoing certifications (CAS Software AG 24.04.17). The partner certification allows CAS CRM to ensure the quality of the partner activities as well as maintain a certain level of control regarding the business practices of partners. For example, through the CAS methodology, the SV trains the partners in a best-practice approach and aims to establish homogenous quality among partners.

In addition to the certification levels reached through training, CAS CRM awards Gold and Premium certifications to partners who have performed particularly well (CAS Software AG 2019j). Through this type of incentive, CAS CRM guides partners and fosters operational and strategic alignment between the SV and its partners

Similarly, CAS CRM certifies partner software solutions such as software extensions and interfaces. Thus, CAS CRM maintains control regarding the quality of complementary products.

Based on such measures, CAS CRM offers a supporting platform, sets the underlying conditions, and describes the parameters to guide the partners.

Offering Enablement

CAS CRM offers its partners a wide range of enabling services and support. Partners receive professional and qualified support from marketing, sales, presales, support, professional services, partner management, and development teams. Partners can also use the CAS Partner Portal to access an extensive knowledge base regarding CAS services and products. Furthermore, the CAS Academy provides partners with extensive training that covers all aspects relevant to addressing market segments. An essential component of the partner enablement is the CAS project methodology. To enable the partners to conduct successful customer projects, CAS CRM coaches them intensively in the use of the CAS project methodology. The CAS project methodology is a standardized and proven best practice approach for the implementation of CRM customer projects.

(CAS Software AG 2019j; CAS Software AG 2018a; CAS Software AG 2018c)

12.5.3 Partner Network

CAS CRM represents a hub in the middle of an ecosystem that offers a foundation for creating new products and services, provides critical enabling services to a multitude of partners, and facilitates interconnection and collaboration among ecosystem partners.

CAS CRM uses different measures to foster the development of such an interconnected partner ecosystem. The SV offers annual network events such as the partner conference and customer centricity forum to foster collaboration among partners, customers, and CAS CRM. Furthermore, it maintains organizational units, such as the partner advisory council, that represent the interests of the partners and integrates the partner community. Also, the digital partner platform—the partner portal—supports the development of a partner community. Such supporting measures contribute to a development environment that facilitates building a partner community, and thus to interconnecting partners, thereby enabling them to collaborate and strengthen the links between them.

12.6 Cross-Case Analysis

The researcher conducted cross-case analysis by comparing the identified categories within the individual cases across the selected cases. The objective was to identify similarities and conflicting results with the purpose of enhancing the research project ‘s theory building and extending the generalization of the results. In addition, the researcher extended the cross-case conclusion by integrating relevant literature.

12.6.1 Developing a Partner Ecosystem

Partner Ecosystems are a strategic instrument with immense potential for gaining a competitive advantage for companies in the EAS industry. Based on the analysis of the cases, the researcher derived four main strategic objectives: Accessing new markets, extending the reach for existing markets, strengthening the core product by co-innovating complementary components, and complementing the core product through third-party products. These objectives provide guidance for creating value through

partner ecosystems. Thus, responsible managers should know which of these objectives are addressed and be able to evaluate whether it is necessary to extend the current strategic range of the company.

However, the fundamental need of all these strategic objectives is to scale up resources. The competition in the software industry has widened from national to regional and global arenas. Therefore, to stay competitive, building a critical mass of resources is critical to be able to offer target markets complementary services and products. However, SVs are restricted by the size and availability of their stuff, especially due to the fact that on-site presence is still a key element for software implementations in the B2B market. Thus, local presence and availability are crucial deciding factors for potential customers.

In accordance with this conclusion, various authors have concluded that companies affected by such effects require an external ecosystem to reach a critical mass of complementary resources. The co-creation between the SV and complementors has a significantly higher potential for growth and innovation than a single company could generate alone. A single company just cannot do it all alone. No matter how large a company is, it cannot replace a whole industry of complementary and specialized solutions, and neither can it offer a local presence and services for all target markets alone. Resources and time are limited. The objective is for the company to avoid being growth-constrained by the size of its own staff, and therefore, to encourage external companies to contribute complementary services and products. These companies form the partner ecosystem. (Cusumano 2010b, 22; Doz and Hamel 1998, 39; Roberts, Lassiter III, Joseph B, and Tempest 2000, 2)

12.6.2 Role of the Software Company

(Iansiti and Levien 2004a) described this approach as a keystone strategy. A keystone strategy benefits the sustained performance of a company by improving the overall health of the ecosystem. A company acting as a keystone focuses on managing external resources, forming the structure of the external network, and maintaining external health. They improve the productivity and efficiency of the ecosystem in a variety of manners by sharing information and offering different enabling assets. Keystones offer crucial services to an ecosystem, supporting its health and improving the ecosystem's productivity, as well as its capability to create niches. They contribute to the health and robustness of the ecosystem by continually investing in and integrating new technologies, and by offering a reliable reference point and interface structure for the players of the ecosystem. Keystones facilitate connections between network actors and enable the efficient development of new products by third-parties. Thus, they contribute significantly to the productivity of the overall ecosystem. Moreover, they encourage niche creation by offering supporting technologies to third-party entities. (Iansiti and Levien 2004a)

12.6.3 Dimensions of the Partner Program

The structure of the partner program is described along with the company's dimensions strategy, culture, organizational structure, and competencies. These are aligned with the dimensions identified through the previously performed GT research activities. An overview of the findings of the cross-case analysis is illustrated in Figure 22.

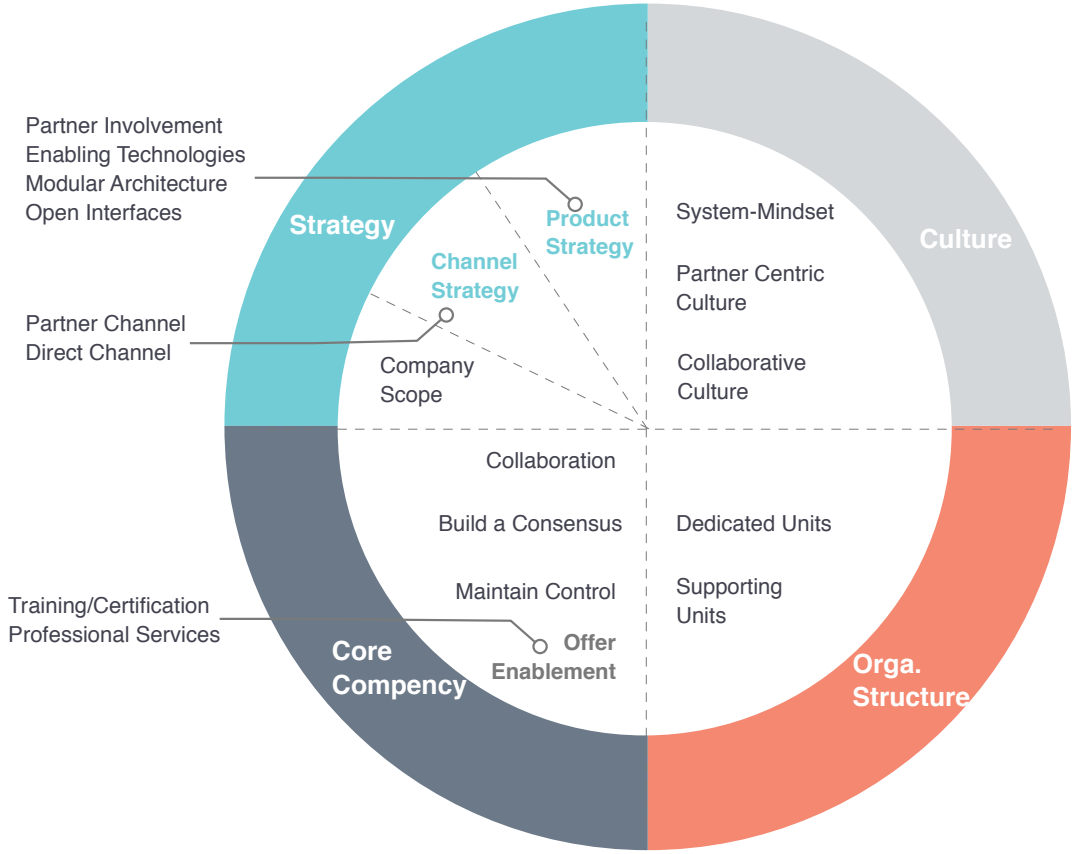


Figure 22: Adapted Partner Program

According to (Morgan, Malek, and Levitt 2008), strategy, culture, and structure are the very nature of a company and must be aligned with new initiatives. In addition, a software company that aims to develop a partner ecosystem must develop corresponding core competencies. These core competencies are the roots of competitive advantage (Prahalad and Hamel 2006). It is crucial to clarify and develop these core competencies. „When you clarify competencies, your entire organization knows how to support your competitive advantage" (Prahalad and Hamel 2006). Core competencies represent collective learning in the company and involve many levels of people and functions. Furthermore, it concerns the organization of work and the delivery of value. (Prahalad and Hamel 2006)

12.6.4 Partner Program

12.6.4.1 Strategy

The SV must understand that the development of a partner program and the ecosystem perspective are vital parts of the strategy. The partner channel represents a vehicle to reach competitive advantage and to develop a strategic position in the industry. Consequently, aspects of the SV's strategy must be aligned to address the development of the strategic position of an ecosystem leader. Based on the collected data, the researcher argued that the required alignment mainly has an impact on three strategic disciplines: company scope, channel strategy, and product strategy. (Avila Albez 2016)

In addition, (Cusumano 2010b, 22) emphasized that in such a context, managers should move beyond conventional thinking about strategy to be able to compete on the basis of an ecosystem with another company's ecosystem.

Company Scope

Through studying the three software companies, the researcher concluded that the SECOs were developed by opening up the organization while maintaining a clear view of the company scope and role for its partners. All three companies consciously decided which business areas to open up, which to leave completely to partners, and which to keep within their own borders.

abas focuses on the development of an ERP solution. Complementary business services and components are offered mainly by its partners. In addition, abas collaborates with partners that develop complementary third-party products to extend its solution spectrum. CAS and HABEL focus on the development of their core products, which are CRM and DMS, respectively. Similar to abas, CAS and HABEL collaborate with external firms that provide complementary software products that are out of the own company scope but relevant for creating customer value. To scale up, their partners offer complementary services and components based on the core product. However, in contrast to abas, CAS and HABEL decided to continue conducting also direct channel activities and provide a whole solution directly to their customers. This decision was mainly based on the objective of staying in close contact with the market, evolving market knowledge, and understanding customer needs. Even though the three companies open up their business and resources, to reduce risk regarding quality and competition, all three companies keep vitals elements of their business, such as the source code, within the company.

In sum, all three companies have a clear perspective regarding which aspects of their business they wanted to open up and to which degree, as well as which parts to keep within their own company borders. In contrast to traditional monolithic, mainly product-driven and internal-oriented companies, all three companies shifted their focus to the management of their partner ecosystems and positive reinforcement between the company and partners.

Determining the company scope has an impact on vital elements of a company, such as the channel strategy and the product strategy.

The business value of a software product for customers depends not solely on a monolithic software product but also on complementary products and services, which are necessary to exploit the full value proposition of a software product. Supplementary services, such as project management for the implementation of the software product or individual training for end-users, are often indispensable for obtaining working software products for the customer. Therefore, it is crucial for the economic success of a software product to understand and manage key activities along the value chain of a particular software product, as well as to know how they interact, to reach full value for the customer. (Michael Porter, Karl Popper and Messerschmitt).

Thus, the cultivation of distinct competencies along the product value chain is critical for a company to enable product value for customers through complementary components and services, such as consulting, customizing, and software add-ons. Distinctive capabilities refer to specific skills required to design, develop, and deliver products and services of superior value to customers in a way that facilitate competitive advantage (Cusumano 2010b, 114–15). Porter argued that competitive advantage is not gained by one excellent competence (e.g., the development of a superior software product) or a collection of

parts, but by a whole system of connected competencies that reinforce and complement one another, thereby resulting in economic value. The value of one activity enhances the value of complementary activities, and thus the value for customers. The creation of such a strong chain creates a barrier for potential imitators (Porter 1996, 70).

Consequently, for SVs that aim to create and evolve a partner ecosystem, it is fundamental to determine which competencies along the product value chain are developed in-house and which will be offered by external partners and complementors. An SV can either cultivate necessary competencies within the company borders or rely on external expertise. This decision depends on the company's technical and organizational capabilities, its resources and financial possibilities, and on partners and their capabilities to contribute to the product's success. In particular, the core capabilities of the SV represent an important factor for this decision. It makes no sense for an SV to develop complements in-house if it does not possess the relevant capabilities or financial resources to access relevant markets. It is usually not a one-time decision nor an either-or decision. The scope of the company must be continually adjusted because of changing circumstances. (Gawer and Cusumano 2002, 246–47)

However, it is usually central to keep vital elements for the product value within the company's scope, such as the development of the software product's source code. A software company relying significantly on external resources for core competencies (e.g., product quality and security) usually implies important internal weaknesses and often fosters competitive disadvantages and failure. In addition, for complementary components that an SV decides to outsource to external partners, it remains crucial to possess the necessary knowledge to manage and influence the relationship between their core product and external complements.

(Cusumano 2010b, 150–51; Gawer and Cusumano 2002, 246).

Channel Strategy

Regarding the channel strategy, the most basic decision is to choose direct or indirect sales. Direct sales refer to sales activities directly conducted through the SV, whereas indirect sales refer to external parties performing sales activities. (Buxmann, Diefenbach, and Hess 2012, 72)

Partner Channel

Obviously, the nature of a partner-focused strategy demands extensive collaboration with partners along the value chain of the SV's core product. Consequently, a significant proportion of channel activities is addressed through partners. Thus, the channel strategy of the SV must integrate the building of an indirect channel structure through partners. These partners offer complementary services and components along the value chain of the SVs' core product. (Avila Albez 2016) Furthermore, SVs often collaborate with external firms that offer complementary software products that can be connected and integrated with its own solution. This allows the SV to offer customers a whole solution beyond its own core product.

Depending on which activities the partners perform, different partner categories can be distinguished. For example, VADs (Value added distributors), VARs (Value added resellers), ISVs (Independent software vendors), OEMs (original equipment manufacturers) or SIs (System integrators). (Kittlaus and Clough 2008, 34–35)

Direct Channel

However, even given a partner-focused strategy, an SV should conduct direct channel activities such as customer projects. This is vital to develop and evolve the necessary market knowledge and understand how to offer customers value. It is crucial to stay in close contact with the market, such as through the direct implementation of customer projects. Without direct access to customers, the SV is likely to disconnect from the market and its needs.

While the objective is to scale through partners, to rely too much on external partner products and services represents a risk and result in significant disadvantages. This balance between control and dependency must be addressed through a well-defined multichannel strategy. The channel strategy must strive for a high degree of mutual complementarity between the SV and partners.

In all three case studies, the companies were aware that despite their partner-centric approach, it is still crucial to stay in close contact with the market, such as through customer projects. Two of the companies (CAS and HABEL) even run a hybrid channel approach that comprises direct as well as indirect activities.

Product Strategy

The strategy for a product that represents the platform for a partner ecosystem differs significantly from a traditional product strategy of a monolithic stand-alone software product. To compete on the basis of an ecosystem, SVs must think beyond conventional product management approaches and move away from the independent management of individual products. When analyzing the three case studies, the researcher recognized that all three companies manage not only their own core product. Instead, they manage also a variety of complements and extensions developed by external companies, a wide range of interfaces and integrations with third-party solutions, and relationships between its core product and those external parties.

Aligned with the researcher's conclusion, (Cusumano 2010b, 22) emphasized that such an ecosystem-driven strategy differs significantly from a traditional product strategy. In contrast to product-oriented businesses, an external ecosystem is required to generate complementary product or service innovations and build "positive feedback" between the complements and core product (platform). (Cusumano 2010b, 22) argued that the effect of an ecosystem has a much higher potential for innovation and growth than a single-product-oriented SV could create alone.

Similarly, (Jansen et al. 2012) underlined that traditional software product management differs from ecosystem governance in that it focuses more on the internal specifications of a product and neglects the external environment. This is in accordance with the observation of a variety of researchers.

SVs must foster and channel the development of complements. They must provide an environment that offers enough incentives for partners to develop complementary products and services. On the other hand, they must also influence and manage the design and development of these complements by acting on the incentives and capabilities of external complementors. (Gawer and Cusumano 2002, 246–50)

Aligned with the aforementioned consequences of a partner-centric approach, the researcher identified four core areas across the three case studies that are vital for a product strategy in a software ecosys-

tem: partner involvement, enabling technologies, modular architecture, and open interfaces. These elements are aligned with the insights developed by (Gawer and Cusumano 2002, 75–76).

Partner Involvement

The analyzed SVs invest significantly in involving partners into the company's development and aligning the evolution of the core product with the partners' efforts. They integrate the partners in the product roadmap to give direction but also foster feedback. Involving partners in product development strengthens the sense of teamwork and cooperation. Furthermore, partners can provide new impulses and transfer market knowledge back into the company. The involvement of the partners allows SVs to align their activities, and may result in a more homogenous ecosystem. Thus, SVs should develop and communicate the vision of the core product and the product roadmap as well as build a consensus among the partners. Based on their own capabilities and those of their partners, SVs should develop and share perspectives on what to develop in-house and what to develop through partners. A classic approach implemented by all three companies is the organization of yearly partner conferences in which SVs present new initiatives and share their vision and product roadmap. In addition, such events allow partners to provide their perspective on new products and initiatives and share their market knowledge. In addition to yearly core events, continuous communication and involvement are essential. For new developments, a small group of relevant partners should be involved, and a consensus should be created for these new initiatives among them. In addition, a partner advisory council could represent the interests of the partners with respect to the SV's evolvement and its core products. For example, in the case of CAS, the partner advisory council plays an active role in the continued development of the company and its products.

Enabling Technologies

An SV that aims to foster the development of components on top of its core product and wants to encourage customization services from partners should offer a technological environment that facilitates such activities. Easy-to-use customization tools and suitable software development kits (SDKs) enable partners to develop extensions and interfaces and provide customization services.

Aligned with the researcher's observation, (Gawer 2002) advised that SVs should offer technologies such as a SDKs to facilitate the customization of the core product as well as the development of complementary products that fit the vision.

Modular Architecture

According to (Gawer and Cusumano 2002, 252), an architecture represents the high-level design of a software system, including the interface designs that determine how the components collaborate. Possessing a modular architecture is crucial for an SV that wishes to scale through a partner ecosystem. A modular design facilitates the development of components for external partners. It reduces costs for external partners and encourages the emergence of specialized partners. By contrast, an integral architecture may raise barriers for partners, since it is usually more expensive and technically challenging to integrate components into the core product. (Gawer and Cusumano 2002, 252)

The core products of the studied companies are all developed through a modular design. This modular architecture allows partners to efficiently develop complementary components and integrate them seamlessly through interfaces without compromising the system integrity. For example, abas' multi-tiered architecture separates the customization layer from the business and database layers. This allows

upgrade-safe customization, eliminates the need to rewrite code, and allows the reuse of independent components.

Open Interfaces

With the purpose, to facilitate the development and integration of third-party components, the SV should offer open interfaces (application programming interfaces, a.k.a. APIs) and accompany them with comprehensive documentation that specifies how to connect external components to the SV's core product. This supports external partners in developing compatible software components and products. However, an SV may decide not to share more information beyond this specification to avoid problematic consequences, in that it could give competitors too deep an understanding of how the core product works and expose the internal structure. (Gawer and Cusumano 2002, 246–61)

All three software companies offer a variety of possibilities to connect and integrate third-party components. Hence, they opened up their technology stack to some degree. However, none of the analyzed SVs shared information regarding the source code, but offered detailed specification on their APIs.

12.6.4.2 Core Competencies

Definition of Core Competency

A company's core competency is defined as an area of specialized expertise that is the result of harmonizing complex streams of individual technologies, production skills, and work activities. It arises from the company's ability to combine multiple key capabilities in which the company excels into a set of key areas of specialized expertise. Core competencies share three main characteristics: (1) they provide the capability to access a variety of potential markets; (2) they represent a vital element to deliver customer value; and (3) because they are a complex combination of multiple streams, they are difficult to imitate by competitors. The company's core competencies rely heavily on the ability to establish and synchronize cross-functional relationships within the company and are crucial elements of its overall identity. (Wallin 2003, 1; Bonner, Ruekert, and Walker 2002, 7; Hinds, Vogel, and Clarke-Steffen 1997, 118; Jeffrey Thieme, Michael Song, and Shin 2003)

Aligned with (Gallon, Stillman, and Coates 1995), the company's core competencies exemplify excellence and provide a competitive advantage. This excellence is transferred into customer-perceived value, is difficult to imitate by competitors, and is extendable to new markets. An additional characteristic is that these core competencies are the property of the companies as a whole and not of individual business units or functions. These core competencies provide a collection of combined principles for the development of all aspects of the company, and assure that strategies have continuity, are robust, and are adaptable to changing circumstances. They are inherent to the organization's overall vision, are embedded in all strategies, and capture the essence of the company's business and technology strategy. (Gallon, Stillman, and Coates 1995)

Shift of Core Competencies

For a software company that is committed to a partner-focused strategy, success depends not only on its own effort but also on the ability, willingness, and likelihood that the partners that make up its ecosystem succeed as well. (Adner 2012a, 2)

„Execution focus—developing customer insights, building core competencies, and beating the competition—has become the touchstone of business strategy.(...) The message to managers is to focus on

linking their strategy and their operations, on aligning their teams, on monitoring their competitive environment, and on revitalizing their value propositions. This they are told is critical for success. Yes. Great execution is critical—it is a necessary condition for success. But it is not enough. While this execution focus draws attention to unquestionably important parts of a company's environment—its management, employees, owners, customers and competitors—it creates a blind spot that hides key dependencies that are equally important in determining success and failure. (...) Welcome to the world of innovation ecosystems -a world in which success of a value proposition depends on creating an alignment of partners who must work together in order to transform a winning idea to a market success. A world in which failing to expand your focus to include your entire ecosystem will set you up for failure." (Adner 2012a, 2–3)

The experts usually fall into two schools in explaining the causes of failure and the route to success. The first school argues that most innovation failures are caused by missing deep customer insights. The second school argues that the reason for failure is rooted in the shortcomings of leadership and implementation. Both perspectives are essential to understanding and achieving success. Nevertheless, even taken together, they are incomplete. (Adner 2012a, 5) Listen to the voice of the customer, focus on execution, and excelling beyond the competition are necessary but insufficient imperatives in the world of ecosystems. (Adner 2012a, 5–13) „Choosing to focus on the ecosystem rather than simply on the immediate environment of innovation changes everything" (Adner 2012a, 6–7).

The core competence for developing a partner ecosystem is a deep commitment to working with partners across organizational boundaries and the capability to collaborate and influence a large number of partners. This comprises the management dimensions collaboration, building consensus, maintaining control and offering enablement. These derived dimensions are aligned with the understanding of (Cusumano 2010b).

Collaboration

Companies that decide to commit to an ecosystem-driven strategy are being pushed in a world of significant collaboration. The upside is that by working in harmony with others within and across organizations, a company can reach further and with greater efficiency than alone. The downside is that its success not just happens because of its own efforts but also its collaborators' efforts as well. A company driven by an ecosystem must realize that greatness on its part is not enough and that success in such a connected business environment requires the management of its dependencies. (Adner 2012a, 16)

Companies must see and manage their hidden dependencies and develop a robust strategy. For this purpose they need to actively manage two distinct types of risk that arise when cultivating an ecosystem approach: Co-innovation Risk, which is the extent to which the success of a company's innovation depends on the successful commercialization of other innovations (Who else needs to innovate for my innovation to matter?); and Adoption Chain Risk, which is the extent to which partners will need to adopt a company's innovation before end customers have a chance to assess the full value proposition (Who else requires adopting my innovation before the end customer can assess the full value proposition?) (Adner 2012a, 6–7)

This makes it necessary for a company to develop competencies that shift focus from a solely internal execution perspective to a comprehensive view of a partner ecosystem. This requires managerial attention, technical expertise, and resources at the level of the overall ecosystem rather than limiting the focus to the internal perspective of the core product. (Gawer and Cusumano 2002, 75–76)

The shift toward the development of a partner program requires evolving and mastering a new core competency: collaborating with and influencing a broad range of external partners. All three companies work with their partners in a manner that creates a balance between reaching a consensus and still maintaining control over essential business areas and technological components. In addition, because all SVs aim to scale through an ecosystem of partners, they focus significantly on their ability to enable their partners.

To scale through a partner ecosystem implies that the SV is highly dependent on external partners for the development of complements that increase the customer value of the core product (Cusumano 2010b). Consequently, a vital core competency of an SV is the capability to collaborate and influence a large range of external partners. (Cusumano 2010b, 256–57) For this purpose, SVs have to obtain a consensus among their external partners as well as maintain control over critical decisions. They must enable and encourage partners to develop complements that increase the value for customers. (Cusumano 2010b, 256–62)

When investigating the histories of the three SVs, the researcher observed that all three companies began as product-oriented companies. They then shifted their focus and evolved into more ecosystem- and partner-centric companies, which forced the companies to develop new management competencies. Studying some of the recent history of abas revealed challenges regarding the shift of competencies. Not long ago, HABEL focused solely on the customer market and competition. In the beginning, it was challenging to develop and internalize the new set of competencies on a company-wide level. It was challenging for the employees to understand the new focus and what was required to succeed. Similarly, abas and CAS extended their internal execution perspective over time to a comprehensive view of a partner ecosystem. Now, all three companies focus not on only on building and commercialize a software product but also on partnering with other external parties. For this purpose, all analyzed companies enable partners to provide complementary components, products, and business services on top of its core product, collaborate with them to reach synergies, and strike a balance between maintaining control and reaching a consensus.

Building Consensus

(Cusumano 2010b) argued that it is critical to reach a consensus among key partners regarding the technical specifications and standards that allow core products to work with other products. Although this is aligned with the researcher’s understanding, the researcher also argued that based on the derived results of the research project, a consensus must be obtained not only regarding technical specifications but also on how to do business. For example, a consensus on a common vision, business values, quality standards, and the implementation of a best-practice approach are crucial.

To build a consensus, the analyzed SVs integrate their partners into their product roadmap, guide them through a common vision and identity, and align the direction of the SV and its core products with the partners' activities. This should be done based on continuous communication, but is also usually organized through partner conferences, strategic partner meetings, as well as through the establishment of a permanent partner advisory council.

Maintaining Control

„Pursuing consensus and control at the same time can be quite a challenge" (Cusumano 2010b, 257) However, a consensus probably cannot be obtained without some degree of control. Thus, this type of leadership is only possible when partners are willing and committed to following an SV that offers a platform for their business. (Cusumano 2010b, 256–57)

The SV must maintain some degree of control regarding critical decisions. Such control refers to design decisions, such as those over APIs. (Cusumano 2010b, 256–57) However, the researcher concluded that it is also relevant to establish quality standards for the development of complementary products and business services. This can be reached through the certification of partners as well as the services and products they offer, thereby allowing the SV to maintain control regarding the quality of the complementary products and business services. Furthermore, the development of best practice approaches such as the abas GIM and CAS methodology are essential elements. Such approaches allow SVs to ensure the quality of partner activities and maintain a certain level of control regarding the business practice of the partner.

In addition, SVs can maintain some degree of control through the strategic use of incentives. Through incentives, they can guide their partners and reach a certain level of operational and strategic alignment. HABEL, for example, uses a bonus system that offers partners better conditions, such as better margins or free training. Example criteria for determining the partner bonus are the number of customers, turnover, and payment behavior. In general, such a system rewards desired behavior and penalizes unwanted behavior such as payment delay. Incentive approaches outline the parameters for the partners to follow without directly deciding on the partners' behavior or dictating how to work to them.

However, SVs must carefully examine such decisions because they have an impact on external partners, their effort in complements, and consequently their business model. (Cusumano 2010b, 256–57)

Offering Enablement

The enablement of partners is an indispensable competency of an SV. Without relevant skills and expertise, partners would fail to establish a business based on the SV's core product. Partner enablement not only facilitates and encourages partners' effort for developing complements but also standardizes and coordinates for a multitude of partners the desired way how to create and offer these complements for customers.

Professional Services

The studied SVs offer their partners a wide range of professional enabling services regarding marketing, sales, presales, product support, professional services, and product development.

Training/Certification

An essential component of partner enablement is offering extensive training that covers all aspects relevant to addressing the target market segments. This training is usually offered by the partner academy and is part of a comprehensive partner certification program. To complement this, the SVs established partner portals that allow partners access to an extensive knowledge base.

12.6.4.3 Organizational Structure

According to (Anderson 2010), a company's organizational structure describes its approach to dividing labor into various tasks and achieving coordination among them. A company's organizational structure is perceived and interpreted by its employees as a guiding basis for their behavior. Consequently, the organizational structure of a company influences employee behaviors. Organizational structures that are not aligned with the strategy will be counterproductive. Consequently, the organizational structure of a company influences employee behaviors. Thus, the organization structure has to be aligned with the chosen disciplines. Organization structures that are not aligned with the disciplines will counteract their objectives. Efforts are unlikely to succeed in unfavorable organizational structures. (Van Aken, Joan Ernst 2005, 89; Tim McLaren and Buijs, 115)

An ecosystem leader relies significantly on specific internal organizational approaches to managing relationships with a multitude of external complementors effectively. They must develop a suitable organizational design (structure) and set up internal processes to set goals, build a consensus, and make the structure work. (Cusumano 2010b, 262–63)

When studying the organizational structure of the companies, the researcher observed that the structures were deeply driven by a partner-centric approach. All three companies established a partner-focused structure that supports and enables partners, ensures their quality and expertise, and coordinates cooperation with a multitude of partners.

For all three studied companies, the organizations possess **organizational units explicitly dedicated to partner services (dedicated units),** such as the partner management, as well as **organizational units that opened up their services (supporting units)** for partners, such as marketing and professional services. Partner managers accompany the partners along the whole partner life cycle and are the first point of contact for partners. Dedicated partner units such as partner product support and partner education offer partners direct access to services. Units such as marketing and professional services share their expertise with the partners and support them.

In addition to partner management, the partner academy represents a central organizational unit of a partner program. Since the partners rely heavily on the ability to offer a range of complimentary services and products, partner education is a crucial element for their enablement. The partner academy is the keystone for building relevant knowledge and expertise through a structured education program. Furthermore, the partner academy manages the certification of partners. Through this certification, the academy ensures the quality of the partners and gives customers confidence in the expertise of the partners.

12.6.4.4 Culture

Culture is a complex concept analyzed and described by numerous researchers and authors (Campbell-Kelly 1995). For this researcher's purpose, he describes culture as a pattern of shared values, beliefs, and norms of an organizational unit that shape the behaviors of its members to succeed. Or, as expressed by (Tukey 1958) „the way we do things around here" with the purpose of success. Aligned with this perspective, (Messerschmitt and Szyperski, 9) described culture as an essential way of an organizational unit to success. (Tim McLaren and Buijs, 140) Culture provides consistency for an organization and works as a guiding system for people's behavior. It supports people by telling them what type of activities are within boundaries and which are outside of them. Over time, culture establishes rules of behavior and communication patterns. In the organization's context, it defines what effective and ineffective

performance means. (Messerschmitt and Szyperski, 9) Culture is something to be engineered to facilitate the accomplishment of company goals. (Kunda 2009, 7)

System-mindset

It is crucial for an ecosystem leader to develop at an organizational level a mindset that views the SV and its partners as a system, as well as to have a vision for how to evolve that system. A company culture should be encouraged that focuses not only on single core products but on whole product ecosystems (e.g., through the involvement of partners in the software development process or in strategic decisions on the product roadmap). Managers should foster a system-mindset, which also implies encouraging a partner-centric culture to a significant degree. It is important to realize and make it part of the company's DNA that the company is an actor within a broader ecosystem and success in such a connected world requires managing a multitude of dependencies. (Cusumano 2010b, 245–67; Adner 2012b; Gawer and Cusumano 2002, 75–76)

The decision to develop a partner program is the decision to develop an ecosystem focus. „Choosing the focus on the ecosystem, rather than simply on the immediate environment of innovation, changes everything - from how you prioritize opportunities and threats, to how you think about market timing and positioning, to how you define and measure success. This new paradigm asks innovators to consider the entire ecosystem by broadening their lens to develop a clearer view of their full set of dependencies." (Adner 2012b, 141)

Partner-Centric Culture

Success in such a context depends significantly on the degree of alignment of the SV with a multitude of complementary partners. „Welcome to the world of innovation ecosystems-a world in which the success of a value proposition depends on creating an alignment of partners who must work together in order to transform a winning idea to market success. A world in which failing to expand your focus to include your entire ecosystem will set you up for failure. Avoidable failure" (Adner 2012b, 4).

All three SVs developed a partner-centric culture and a system-mindset that fosters cross-company collaboration. They perceive their partners as a vital extension of their own company and open up their boards to enable the whole ecosystem, in which the partners are vital elements. Thus, the SVs open up their organization, share resources, transfer knowledge, and invest in the development of their partners.

At the conferences of abas and CAS, the researcher observed that the relationships between SVs and their partners were very open, trusting, and almost family-like. It was evident that the partner-centric culture and system-mindset were deep-rooted in the DNA of these companies. In addition to these observations, the researcher had the opportunity to study the history of HABEL, whose shift to a focus partner-centric company was not so long ago. This change forced the whole company to confront a new paradigm and new business challenges. In the beginning, HABEL tended to view partners solely as an external mechanism of increasing the sales growth of HABEL. It took at least 3 years until a system-mindset evolved and something genuinely changed. With time, HABEL realized company-wide that its success did not depend anymore on its own effort but on the success of its partners, and that it was vital to support partners at all levels. Making this new understanding a part of the company's DNA and developing a partner-centric culture was an immense cultural change.

Collaborative Culture

The development of a partner program requires a strong collaborative culture that goes beyond an SV's own company borders. The software vendor has to foster a company culture that encourages collaboration beyond the own company borders. According to (Messerschmitt and Szyperski) (and in line with this researcher's findings), synergy represents the core element of such a collaborative culture. The dynamics in a collaborative culture enable people to empower one another and deliver something as result of their cooperation that is more than the sum of the ingredients. Interaction and involvement, as well as harmony and cooperation, are essential elements in this culture. This culture strives for win-win situations. This culture must be highly adaptive and able to make fast adjustments. The organization evolves and grows through the collective experience and knowledge of people inside and outside of it. (Messerschmitt and Szyperski).In such an environment, it is also important to foster an organizational culture that encourages debate and tolerates ambiguity. (Cusumano 2010b, 245–67)

12.6.5 Partner Network

All three software companies serve as an enabling hub for their partner ecosystem. They form the structure of the external network, enable partners, and improve their productivity and efficiency through sharing knowledge; providing a core product, customization tools, and APIs; and offering crucial business services.

Although SVs are the central hub of the respective partner ecosystem, the ecosystem works not as a purely hub and spoke, where the SV communicates and collaborates only bilaterally with partners. Instead, the SVs aim to reach an integrated network of interconnected partners. Thus, they foster communication, trust building, and collaboration between partners.

In particular, abas and CAS use different measures to foster the development of such an interconnected partner ecosystem. Their ecosystems have reached a significant maturity level. Thus, they are investing in achieving a high level of interconnectivity among their partners. HABEL, for example, is still in the development stage of an initial partner program, and thus, it currently focuses less on the level of interconnectivity and more on reaching the next maturity level of its partner program.

An SV that aims to increase collaboration and connectivity among its partners must provide a platform that catalyzes such collaboration across the partners and creates an environment that facilitates building a partner community. For this purpose, an SV can use different measures: providing networking events, holding annual partner conferences, integrating partners into customer events, establishing a partner advisory council, and offering digital partner communities (cf. Figure 23).

Figure 23: Partner Network

Networking Events

Hosting networking events is a common method of fostering collaboration and communication among partners. Network events represent a building block for simplifying the connections among partners in the ecosystem, facilitating conversation and the exchange of information, as well as the sharing of experience. Thus, it contributes to the evolution of trust among the partners and is an important measure for fostering the creation of a partner community.

Through the cross-case analysis, the researcher identified three categories of networking events: partner conferences, customer conferences, and network meetings.

- Partner conferences: Usually, partner conferences are annual events that offer partners a platform to engage with each other. Through presentations, workshops, meetings, and networking opportunities, SVs strive to create an environment that fosters connections among partners. Furthermore, partner conferences are intended to keep partners informed about new developments in the SV, as well as its strategy and products.

- Customer conferences: Customer conferences are also usually held annually. In contrast to partner conferences, they focus on sessions for customers (users). Typically, SVs offer different presentations and workshop formats to discuss specific product topics, provide educational presentations, offer practical examples and best practices regarding their products, and update customers on the latest developments. Although this type of conference focuses on customers, it not only offers them the opportunity to network with other customers but also with partners. SVs may integrate their partners into customer conferences to foster connections between partners and customers. Through this conference, partners have the opportunity to share their expertise regarding customer-relevant topics, present their third-party solutions, and demonstrate the benefits of integration with the SV's core products. In sum, customer conferences can contribute to facilitating communication and trust building among partners and customers. Thus, they contribute to building a strong interconnected ecosystem.

- Network meetings: Usually, these events follow a workshop format. They can be scheduled regularly or when required. In contrast to partner conferences, such events usually involve only a small group of relevant partners. These events are intended for discussing current topics with partners such as new products to create a consensus, as well as to enable partners to interact with each other regarding new initiatives.

Establishing a Partner Advisory Council

To cultivate collaboration among its partners in a fair, open, and trustworthy manner, SVs can establish a partner advisory council. The role of a partner advisory council is to represent the interests of the partners with respect to the SV. It represents the partner ecosystem and plays an active role in the development of the SV and its products. Essential decisions are often taken considering the perspective of the partner advisory council. Consequently, the partners need to find a consensus regarding relevant topics. Thus, the establishment of a partner advisory council does not only represent the SV's partners but it also fosters communication, consensus building, and trust building among partners. Thus, it fosters a "we" culture among partners and the SV. Consequently, it supports the development of an interconnected network of partners.

Digital Partner Community

Offering digital partner portals simplifies the connection of partners and facilitates them getting in touch. Through a digital platform, partners can contact other partners, ask for support, and start collaborations. Thus, a digital partner portal facilitates collaboration among partners, strengthen the links between them, and contributes to the building of a partner community.

All of the described elements contribute either directly or indirectly to building a strongly interconnected partner community.

According to (Greve, Rowley, and Shipilov 2013) and complementing this researcher's data, the advantages of such an integrated network of partners can be categorized into information, cooperation advantages, and power advantages. Information advantages reflect the ability of all partners to share common knowledge. Information that is known by one member of the network spreads rapidly among other partners. Cooperation advantages result from the ability of the partner network as a whole to ensure the proper conduct of individual partners. This is because in such an interconnected network a partner cannot misbehave with another partner without affecting its relationships with other partners in the network. Power advantages refer to the SV's ability to mobilize collective resources; for example, to respond to common competitors.

12.7 Conclusion and Implications of the Findings

Through conducting multiple-case study research, the researcher was able to reach a deeper understanding of management areas 3 and 4 and validate the previous findings of the GT study.

In general, the results of the case study research supported the theory developed in the GT study. However, the findings of the individual analysis of the three cases, as well as of the cross-case analysis, significantly advanced the theoretical concepts of the GT study, identified new concepts, and empirically enhanced the theory. The case studies allowed the researcher to validate the previous GT results, further investigate the phenomenon, extend and refine the results of the GT study, obtain a deeper and more comprehensive understanding of the respective management areas, and increase the generalizability of the previously developed theory. Table 39 provides an overview of the adjusted management areas 3 and 4.

Table 40: Adjusted Management Areas 3 and 4

Management Areas	Core Categories	Subcategories	
Partner Program (Management Area Three)	Strategy	Company Scope	
		Channel Strategy	Partner Channel
			Direct Channel
		Product Strategy	Partner Involvement
			Enabling Technologies
			Modular Architecture
			Open Interfaces
	Core Competencies	Collaboration	
		Build a Consensus	
		Maintain Control	
		Offer Enablement	
	Organizational Structure	Dedicated Units	
		Supporting Units	
	Culture	System-Mindset	
		Partner-Centric Culture	
		Collaborative Culture	
Partner Network (Management Area Four)	Network Events	Partner Conferences	
		Customer Conferences	
		Network Meetings	
	Establishing a Partner Advisory Council		
	Digital Partner Community		

12.8 Discussion and Limitations

Various limitations are inherent in case study research. In particular, concerns exist regarding generalizability, reliability, and construct validity. (Yin 2012a)

One of the main concerns is whether the results are generalizable beyond the immediate case. However, this concern is directed at statistical and not analytic generalization, which is the foundation of case study research. Cross-case analysis strives to develop conceptualizations through in-depth investigations and the structured development of higher-order abstractions. The objective is to develop a general theory and identify concepts that are relevant to all cases of the analyzed domain. For this purpose, case study research developed a logic that is generalizable and thus applicable to similar situations. Addressing analytic generalization, case study research strives for generalizable findings that go beyond the setting that has been studied. However, analytic generalization does not strive for statistically significant results. In addition, aligned with the recommendation of (Yin 2012a, 37), the researcher addressed generalizability using a stringent theoretical fundament within each case study. This was developed through the previously conducted GT study and provided guidance for the collection and analysis of the case study data. Thus, it enabled the generalization at a conceptual level to be higher than that of the specific case. The developed theory was used as a blueprint to compare the empirical results of the individual case studies. Because all analyzed cases supported the developed theory, analytic generalization could be assumed. (Yin 2012a)

In addition, the ability to ensure that the operations of a study can be repeated by an external researcher with the same findings is often a point of concern when conducting case study research. In the focal study, reliability was addressed through the careful documentation of each research step from the initial research question to the case study conclusion, as well as by the maintenance of three separated components: a case study database, case study protocols, and case study reports. The separation of these three core elements will allow external researchers to examine the raw data, the research procedure, and the case study reports separately from each other. In sum, this separation as well as the careful documentation of the research steps contributed to the reliability of the case study. (Yin 2012a)

Because case study research may have some degree of subjectivity, construct validity can be problematic. To counteract this potential bias, the researcher applied several tactics. He used multiple sources of evidence, different categories of sources, established a chain of evidence, and created a case study database to refer to the relevant data to derive specific findings. In addition, the theory underlining the case study research, and thus the elements of the concepts being studied, were reviewed by selected industry experts and key informants of the initial framework, as well as by peers and researchers external to the projects. The application of these tactics strengthened the construct validity of the case study research. (Yin 2012a)

13 Qualitative Validation of the Integrated Theory: Focus Group Workshop

13.1 Objective

The conducted GT study identified four management areas required to manage a partner ecosystem. Management areas (1) partner selection and (2) partner life cycle management were validated and compared through an intensive systematic literature review. Moreover, management area (1) partner selection was validated and further analyzed by a quantitative investigation. Finally, to obtain an extensive and more complete perception of the management areas (3) partner program and (4) partner network and to validate the previous results, the researcher conducted an in-depth investigation of three case studies. Combining and integrating qualitative and quantitative research approaches and data allowed him to develop, validate, and solidify the theory. Subsequently, to complement this validation, comprehensively discuss the final results, and refine the developed theory, the researcher performed a final validation that focused on all four management areas and their union. For this purpose, the researcher sought to expose the theory to a board of experienced experts. Focus groups represent a suitable method for evaluating a theory in such a setting (Kontio, Bragge, and Lehtola 2008; Krueger and Casey 2014). Thus, the researcher conducted a focus group workshop with an adequate sample of experts.

13.2 Method

A focus group represents a specific category of groups regarding purpose, size, composition, and procedure. The objective of performing a focus group is to receive feedback on new concepts, capture perspectives on a specific field of interest, and to better understand these perspectives. The participants are selected based on characteristics relevant to the topic of interest. Usually, a focus group is conducted with 3 to 12 participants. Focus groups are well planned and have structured discussions. They are guided by a researcher who moderates them and ensures that the discussions reveal insightful information but stay focused on the area of interest. Moreover, the researcher must set up an environment that encourages the group to share perspectives and points of view. The benefit of this group setting is that participants can build on the responses and perspectives of others as well as discuss, extend, and explain their perspectives. This increases the richness of the obtained information significantly. The subsequent systematic analysis of the focus group discussions provides valuable insights. (Kontio, Bragge, and Lehtola 2008; Krueger and Casey 2014)

In sum, a focus group approach is characterized by a small group of participants who possess suitable characteristics for the topic of interest, providing qualitative data in focused discussions with the purpose of contributing insights into a research subject (Krueger and Casey 2014).

13.2.1 Planning the Focus Group Study

13.2.1.1 Purpose of the Study and Suitability of the Focus Group

Aligned with (Krueger and Casey 2014), before conducting a focus group, the researcher determined the purpose of the study and evaluated the suitability of the focus group approach.

The purpose of the study was to comprehensively validate and discuss the four identified management areas, to capture perceptions regarding the developed theory, to better understand certain phenomena, and to sharpen the previous results.

Because a group of experts has the ability to become more than the sum of its individual participants and reach synergetic effects that an individual interview would not be able to reach, the researcher used the focus group approach as a suitable method. Within a focus group, the participants can build on the responses and perspectives of other participants, which leads to dynamics and interactions that may increase the richness of the perspectives and information obtained. In addition, the researcher aimed to gather information that could elucidate specific results of the upfront quantitative investigation. Consequently, a focus group represented a suitable approach for this purpose.

13.2.2 Designing the Focus Group

Usually in a focus group study, the researcher conducts focus groups until theoretical saturation is reached. However, in the context of the focal study, at this point a high level of saturation had already been reached. As previously mentioned, the purpose of the study was to validate and discuss the four identified management areas and sharpen the previous results. Thus, the researcher planned a single focus group composed of experts. Because the researcher's objective was to gain in-depth insights into a complex topic and foster deep discussion among participants, he decided to align with the recommendation of (Krueger and Casey 2014) to assemble a small group of experts.

13.2.2.1 Participant Selection

The participants for the focus group were assembled according to the following selection criteria:

- Significant experience in the enterprise software industry (> 15 years).
- Deep insights into the management of partner ecosystems from the perspective of at least one business area (e.g., sales, consulting, or partner management).
- Willing and able to share his or her expertise in a group and discuss the relevant topics openly.

In addition, the researcher aimed to assemble a diverse sample of experts from different business areas. This was done to obtain a comprehensive understanding across individual business disciplines.

13.2.2.2 Basic Structure

The researcher aimed to create an informal environment that encouraged participants to hold a discussion in response to a question. In the beginning, the researcher introduced the research project and described the setup, but then started with questions that took on a conversational tone to foster conversation among the participants. Such a setting requires careful management.

To cover the relevant topics and ensure that sufficient time had been allocated for the participants to understand the topics and have in-depth discussions, a predefined structure was designed.

Opening
The researcher will provide the participants with an overview of the research context, and then describe the setting and purpose of the focus group (including data protection, recording, and further processing). The interviewer will also explicitly ask for the participants' permission to record the focus group workshop.

Introductory Question
The introductory question will introduce the subject of discussion and start the participants to reflecting on their connection with the topic of interest.

In the focal study, the researcher planned to start with a quote that introduced the topic of partner ecosystems and ask the participants for their opinion.

Transition Question
The transition question will lead the discussions closer to the key questions that drive the study. Also, during the evoked discussion, the participants will observe the perspective of the other focus group participants.

In this phase, the researcher decided to provide an overview of the developed theory and introduce the four management areas briefly. A deep dive into the management areas was covered during the key questions. The researcher planned to ask the participants for their opinion and encourage a discussion. Leading Transition Question: Do the presented management areas cover the relevant aspects of the management of a partner ecosystem?

Key Questions
These questions cover the main aspects of the investigation and drive the study. The key questions demand the main focus for the discussion and the subsequent analysis.

Key Question 1
The researcher will present the management area of partner selection (for implementation partners). Furthermore, a short overview of the quantitative results will be provided. This overview is relevant to setting up the following key questions. Next, the researcher will ask the participants for their opinion and encourage a discussion. Leading Key Question: Are the presented selection criteria suitable? In addition, the researcher will ask detailed questions that aim to gather information that may help to elucidate specific results of the upfront conducted quantitative investigation. Furthermore, some questions regarding the results of the conducted SLR will be asked. Details regarding these questions are covered in the reporting and analysis chapter.

Key Question 2
The researcher will present the management area of partner selection (sales partners). Subsequently, the researcher will ask the participants for their opinion and encourage a discussion. Leading Key Question: Are the presented selection criteria suitable? In addition, the researcher will ask detailed questions that aim to gather information that may help to elucidate specific results of the upfront conducted quantitative investigation. Furthermore, some questions regarding the results of the conducted SLR will be asked. Details regarding these questions are covered in the reporting and analysis chapter.

Key Question 3
The researcher will present the management area of partner life cycle. Subsequently, the researcher will ask the participants for their opinion and encourage a discussion. Leading Key Question: Do the presented phases of the partner life cycle cover all relevant aspects? Are the phases suitably characterized by their subcategories?

Key Question 4
The researcher will present the management area of partner program. Subsequently, the researcher will ask the participants for their opinion and encourage a discussion. Leading Key Questions: Do the presented categories strategy, culture, structure, and competency cover the relevant company dimensions? Are the categories suitably characterized by their subcategories?

Key Question 5
The researcher will present the management area of partner network. Subsequently, the researcher will ask the participants for their opinion and encourage a discussion. Leading Key Question: Do the presented categories cover the relevant measures for fostering collaboration among the partners?

Ending Question
Through the ending questions, the researcher will close the focus group session and foster the participants in reflecting back on previous conversations. The researcher will provide a summary of the focus group workshop and the four management areas. Subsequently, the researcher will ask whether some aspects of the theory are missing. The purpose is to make sure that no critical elements have been overlooked. Leading ending question: Are some aspects of the management of partner ecosystems missing?

13.3 Focus Group Conduction

The researcher organized a focus group with four experts in the EAS industry. They had a deep practical insight into SECOs from different business areas. These experts were the head of consulting of a software company, the head of sales including partner management, the marketing director of a software company, and a former partner of an ecosystem-driven software company. Each of the participants had more than 15 years of experience in EAS, often in different business areas and roles.

The conducted focus group lasted approximately 120 minutes, including a warm-up of approximately 30 minutes in which participants had the opportunity to informally speak to each other. This warm-up was important for creating a relaxed and comfortable setting. The actual focus group workshop lasted for approximately 90 minutes; this part was recorded, the purpose of which was to support the researcher in his subsequent analysis. Furthermore, it allowed the researcher to return multiple times to the data and enabled him to capture information in a structured manner. However, the recording was not transcribed.

To cover all relevant topics and ensure that sufficient time was allocated to them, the researcher followed a basic structure and managed the group dynamics. However, the researcher adopted a more interventionist style, fostering an open dialog and intensive discussions. He encouraged participants to discuss the topics among themselves rather than addressing him. After each section of the focus group workshop, the researcher summarized the results and asked if the conclusion captured the essence of the discussion. (Kontio, Bragge, and Lehtola 2008; Kitzinger 1995)

13.4 Analyzing and Reporting the Focus Group Results

The main findings of the focus group workshop are described aligned with the upfront designed structure of the focus group. For each section of this structure, the researcher summarized the main conclusions of the focus group discussions.

Opening
The researcher presented the research project and its context and explained the setting and purpose of the focus group (including data protection, recording, and further processing). Furthermore, the researcher explicitly asked for the participants' permission to record the focus group workshop.

Introductory Question
To elicit conversation, the researcher opened the focus group with a quote and asked for the opinion of the participants regarding its validity in the EAS industry.

„No matter your situation, your success depends not just on your own efforts but also on the ability, willingness, and likelihood that partners that make up your (…) ecosystem succeed as well." (Adner 2012b)

Conclusion of the discussion: The focus group agreed on this statement and confirmed its validity for the industry. In addition, it was underlined that customers no longer decide on a software product but on a software company, and that the software company's ecosystem and market strength thus play a significant role.

Transition Question (the four management areas)
The researcher presented the four management areas: partner selection, partner life cycle, partner program, and partner network, and encouraged the participants to start a conversation and share their experience. Leading Question: Do the presented management areas cover the relevant aspects of the management of a partner ecosystem?

Conclusion of the discussion: The focus group confirmed that these are the relevant management areas. However, a debate started among the participants about whether these areas represent a sequence for the development of a partner ecosystem and if they represent the levels of sophistication or maturity of one. This discussion reared its head repeatedly during the focus group, particularly at the beginning and end. The results of the discussion can be summarized and consolidated as follows:

To reach a partner ecosystem advantage, all management areas must be covered. However, a company usually starts with management areas 1 and 2 while considering 4 and 5. The level of development and maturity of a partner ecosystem can be recognized by the addressed management areas. A company developing a partner ecosystem usually starts with the first management areas and extends its efforts to the subsequent levels. In addition, it was concluded that individual management areas could have different degrees of maturity and quality. In sum, to reach the highest level of sophistication, all management areas must be addressed and reach a certain level of maturity and quality.

The above-described conclusions are aligned with the previous results of the research project. In particular, the cross-case analysis showed that companies with established partner ecosystems cover all management areas and reach a reasonable maturity degree within all these areas. In the beginning,

companies focus more on the first two management areas and try to achieve a certain development level within them.

Key Question 1
The researcher presented the management area of partner selection (for implementation partners). Furthermore, to set the context for some of the following questions, the researcher provided a short overview of the quantitative results upfront. After the presentation, the researcher asked the participants for their opinion and encouraged a discussion. Leading Key Question: Are the presented selection criteria suitable?

Conclusion of the discussion: The focus group confirmed, with two exceptions, the relevance of the presented selection criteria. One exception was the criterion that addresses the compatibility of the organizational structure of a potential partner. It was not derived based on the GT study. However, based on the conducted SLR, it may be relevant in the context of partner ecosystems. In the discussion, all participants agreed that this criterion could be neglected. Different organizational structures between a software company and partners must be actively managed but should not impede a partnership. More crucial are cultural differences. Incompatible cultural aspects and values can harm a partnership significantly and make collaboration impossible. The second exception was the criterion of "complementary products". The results of the quantitative validation suggested that complementary products may be not relevant. This quantitative analysis covers a significant area of the partner selection criteria but mainly reflects the perspective of the partners. The focus group argued that complementary products from partners are a vital element for a successful partner ecosystem. Thus, based on the focus group discussion and strongly supported by the previous GT study, it could be concluded that this criterion is a crucial selection criterion for an SV. Similar, the focus group confirmed that the partner selection is not solely grounded on the individual relationship to a potential implementation partner; the partner's position in the partner ecosystem has to be evaluated as well. Thus, the selection criterion ecosystem fit, which was derived from the GT study, was kept as a relevant selection criterion.

Key Question 2
Similarly, the researcher presented the management area of partner selection for sales partners. Subsequently, the researcher invited the participants to share their opinion and encouraged a discussion.
Leading key question: Are the presented selection criteria suitable?

Conclusion of the discussion: The focus group confirmed the significance of the presented criteria for partner selection. The selection criteria (regional presence, existing customer base, market knowledge, and expertise in the EAS industry) summarized under the term "market access" were discussed. They were identified through an intensive qualitative GT study. These criteria were discussed because they seemed to be irrelevant based on the quantitative analysis. However, the group of experts underlined their importance. This perspective is strongly aligned with the results of the GT study. In addition, the focus group confirmed that the selection of a sales partner is not solely grounded on the individual relationship to a potential partner; the partner's position in the partner ecosystem has to be evaluated as well. Thus, the selection criterion ecosystem fit, which was derived from the GT study, was kept as a relevant selection criterion.

To determine an explanation for this deviation from the quantitative data, the researcher reviewed the results with the sponsor of the quantitative data.

Key Question 3
The researcher presented the management area of partner life cycle. Subsequently, he asked the participants for their opinion and encouraged a discussion. Leading key questions: Do the presented phases of the partner life cycle cover all relevant aspects? Are the phases suitably characterized by their subcategories?

Conclusion of the discussion: After an intense exchange of experiences and discussion to clarify the presented management area, the experts of the focus group widely confirmed the introduced phases as well as their characterization.

Key Question 4
The researcher introduced the management area of partner programs. Subsequently, the researcher asked the participants for their opinion and encouraged a discussion.

Leading key questions: Do the presented categories strategy, culture, structure, and competency cover the relevant company dimensions? Are the categories suitably characterized by their subcategories?

Conclusion of the discussion: This management area was discussed intensively. The researcher went through each category and subcategory and encouraged discussion among the experts. Through the evaluation and discussion, the relevance of the presented categories (culture, structure, and competency) was validated. Furthermore, their subcategories were intensively discussed and confirmed by the experts.

Key Question 5
The researcher introduced the management area of partner network. Subsequently, he asked the participants for their opinion and encouraged a discussion. Leading key question: Do the presented categories cover the relevant measures to foster collaboration among partners?

Conclusion of the discussion: This management area was evaluated and discussed in-depth. The researcher went through each category and encouraged discussion among the experts. Through the evaluation and analysis, the relevance of all of the presented categories was confirmed. However, the group agreed that one crucial aspect was missing: code of conduct. They argued that to establish collaborative and fair behavior among the partners, the establishment of a code of conduct was an essential element.

Ending Question
The researcher closed the focus group session by providing a summary of the focus group workshop and the four management areas. He encouraged the participants to reflect back on previous conversations. Subsequently, the researcher asked if some aspects of the theory were missing. Leading Ending Question: Are some aspects of the management of partner ecosystems missing?

Conclusion: Through this final part, the debate regarding the level of sophistication of the management areas restarted among the participants. Their discussion confirmed the previous results of the focus group.

13.5 Conclusion and Implications of the Findings

Through a GT study, the researcher identified four areas relevant to the management of partner ecosystems. Then, based on a mixed-method approach, these designated management areas were further investigated and validated resulting in a solid theory. The focus group was conducted to expose the developed theory to a group of experienced experts. The purpose was to further discuss the integrated theory, identify contradictions and new insights, refine the theory, and validate the previous results.

The results emphasized the relevance of partner ecosystems and validated that the four management areas were of fundamental importance. Furthermore, the results substantially confirmed these management areas. However, some aspects of the previous research results differed from those reported in the focus group workshop or required refining or extending. The adapted constructs are illustrated in Figure 24 and Figure 25.

13.5.1 Partner Selection (Management Area One)

The results showed that the focus group experts mainly supported management area (1) partner selection. Nevertheless, some aspects were refined or extended. The adaptions are illustrated in Figure 24 and Figure 25. Elements that have been consolidated under a new or existing construct are marked green. Similar, new constructs are also highlighted in green.

13.5.1.1 Partner Selection (Implementation Partners)

According to the findings of the focus group and firmly in line with the GT results, compatible organizational structure was confirmed not to be relevant as a selection criterion. This criterion was considered to be potentially relevant based on the results of the SLR. Furthermore, the relevance of the selection criterion “complementary products” was confirmed. Considering the perspective of an SV, this is also supported by the researcher’s previous research results. Consequently, the researcher chose not to include “compatible organizational structure” and keep “complementary products” as a valid criterion. In addition, the focus group confirmed that the partner selection is not solely grounded on the individual relationship to a potential implementation partner; the partner’s position in the partner ecosystem has to be evaluated as well. Thus, the selection criterion ecosystem fit, which was derived from the GT study, was kept as a relevant selection criterion.

Figure 24: Adapted Management Area One (Partner Selection for Implementation Partners)

13.5.1.2 Partner Selection (Sales Partners)

In addition, the partner selection criteria for sales partners were mainly confirmed with one exception. Based on the quantitative analysis of a partner ecosystem, the selection criteria of regional presence, existing customer base, market knowledge, and expertise in the EAS industry seemed irrelevant. However, the focus group experts strongly argued that these selection criteria are crucial when it comes to sales partners. This perspective is also in line with the previous research results (GT and SLR). It seems both logical and natural that these selection criteria are essential for sales activities. In order to explain these counterintuitive results of the quantitative analysis, the researcher discussed them with the sponsor of quantitative analysis. The sponsor also strongly argued that the above-mentioned selection criteria of partner characteristics are vital for sales success. A possible explanation could be that abas' partners conduct projects to a high degree with existing customers. In this case, the abovementioned selection criteria could be neglected, because sales activities are focused more on follow-up activities with existing customers. This may have an impact on the quantitative results regarding sales success. In sum, despite the quantitative analysis, most of the research results indicated that these criteria were highly relevant. Thus, the researcher decided to maintain them as part of the developed theory. The results of the focus group workshops, the close fit of these results to the findings of the GT study, and the findings of other researchers (SLR) supported the researcher's decision to maintain them. Moreover, the sponsor of the quantitative analysis endorsed their relevance.

In addition, the focus group confirmed that the partner selection is not solely grounded on the individual relationship to a potential sales partner; the partner's position in the partner ecosystem has to be evaluated as well. Thus, the selection criterion ecosystem fit, which was derived from the GT study, was kept as a relevant selection criterion.

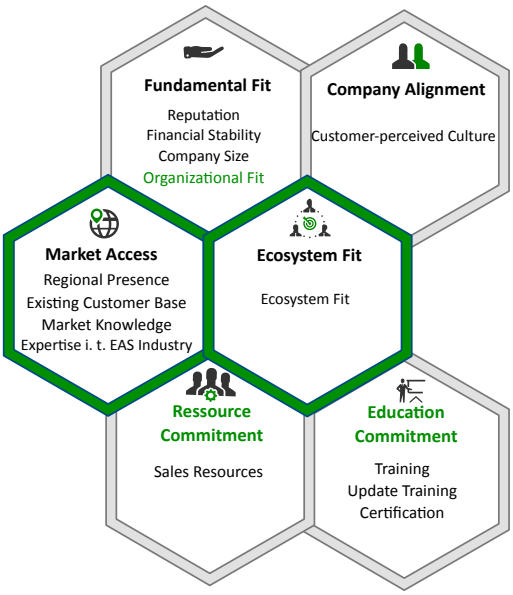


Figure 25: Adapted Management Area One (Partner Selection for Sales Partners)

13.5.2 Partner Network (Management Area Four)

The group of experts supported the relevance of the presented categories. However, the group agreed that one crucial aspect was missing: code of conduct. To establish collaborative and fair behavior among partners, the establishment of a code of conduct represents an essential element. Based on this finding and complementary to the researcher's previous research results, he decided to extend the existing categories with this aspect, and thus added the category "code of conduct" to management area four. The adapted partner network model is illustrated in Figure 26.

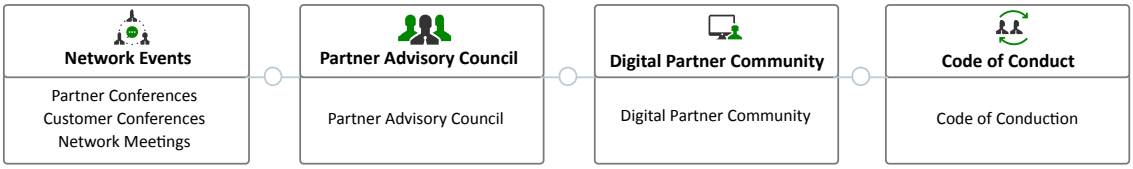


Figure 26: Adapted Partner Network

13.6 Discussion and Limitations

The focus group workshop confirmed the relevance of the identified management areas (1) partner selection, (2) partner life cycle, (3) partner program, and (4) partner network. The focus group allowed the researcher to validate and discuss the four identified management areas and sharpen the previous results.

Because a single focus group workshop was conducted, it could be argued that theoretical saturation was not reached. Furthermore, considering the focus group workshop individually, limitations may have existed in terms of the generalizability of results. Because of the limited number of experts involved in the focus group, it could be argued that the results may not reflect the complete perspective. However,

because of previous research activities the identified management areas were well developed and validated, theoretical saturation was already reached. Instead, the objective was to finalize the validation through a last research step that addressed all four management areas as a conjunction and sharpen the previous results, while simultaneously being open to new insights. Furthermore, taken by itself, the focus group results may not be sufficient to generalize the findings. However, the focus group was the last step in a series of research activities. Bringing together the results of the mixed-methods approach, saturation and generalization of the developed theory were reached.

14 Conclusion and Integration

Through the course of action of the focal thesis, the researcher developed a theoretical framework (a theory) for the management of partner ecosystems in the EAS industry. This theory consists of four identified management areas that represent the building blocks for the management of partner ecosystems. The theory allows researchers and practitioners to draw from the complex, multidimensional management of partner ecosystems and focus on the relevant management areas. To manage a partner ecosystem in the enterprise software industry, an SV must address these management areas.

The research objective was to develop a theory that offers practitioners strong guidance for the management of partner ecosystems, and the following research question was addressed that originated from this objective: What are the building blocks for the management of partner ecosystems in the EAS industry?

The corresponding central research problem was subdivided into subproblems that constituted the logical subareas of the whole research project. Each of the subproblems was addressed as a subproject of the entire research project.

Answering to these subproblems, the following S-RQs emerged:

- S-RQ 1: What are the selection criteria each candidate partner should be evaluated against to determine its suitability for an SV and its partner ecosystem?
- S-RQ 2: What are the management areas that need to be addressed to systematically manage the individual relationships that an SV has with each of the partners of its partner ecosystem?
- S-RQ 3: The corresponding research question is: What are the building blocks of a partner program?
- S-RQ 4: How can a software company foster the development of an interconnected partner network?

The answers to the research questions were combined to resolve the overarching research problem and reach the primary research objective.

To address the primary research question and the four S-RQs, the researcher started the thesis with a GT study. This resulted in the development of the initial theory composed of the four management areas; each management area represents an answer to the corresponding S-RQ. Based on this developed theory, the researcher conducted a variety of complementary research activities further addressing S-RQs 1 to 4. The objective was to validate the previous GT results, increase the generalizability, and reach a comprehensive understanding of the identified management areas.

To further address S-RQ 1, qualitative and quantitative validation of the previous GT results were conducted. The identified partner selection criteria of the emerged theory (GT) were conceptually compared with their counterparts in the research domain of strategic alliances and partnerships. This comparison and the analysis of contradictions and similarities increased the understanding as well as the

theoretical level and generalization of the results. In addition, the partner selections were validated and further analyzed by a quantitative investigation of the partners of a software ecosystem. The quantitative analysis advanced the understanding of the partner selection, improved the structure of the partner selection criteria, and generalized the modified theory to a larger population sample. Finally, a focus group was conducted that concentrated on the four management areas as an integrative theory, and refined the set of relevant partner selection criteria. Figure 27 and 28 presents an overview of the resulting partner selection criteria.

Figure 27: Partner Selection Criteria – Implementation Partner

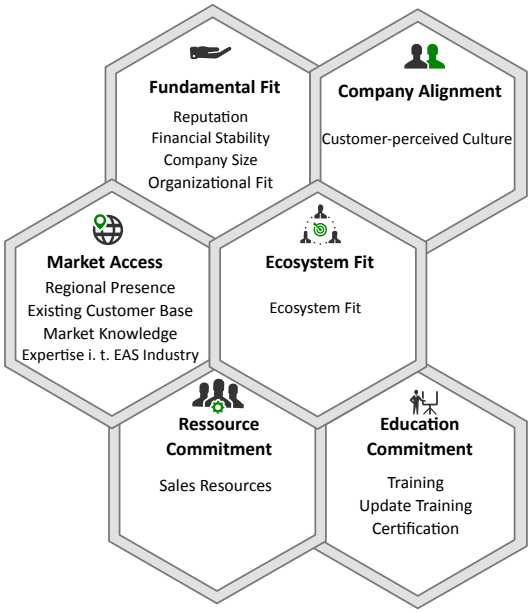


Figure 28: Partner Selection Criteria – Sales Partner

S-RQ 2 was further addressed by integrating the findings of the GT studies with the relevant body of literature on ALC management. By integrating the results with relevant literature, the researcher increased the understanding of the developed theory and its generalization. In addition, the subsequently conducted focus group substantially confirmed the combined results regarding management area two, partner life cycle management. Figure 29 gives an overview of the final results.

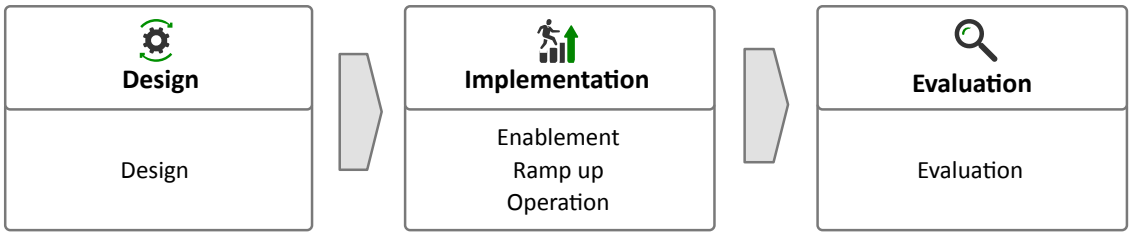


Figure 29: Partner Life Cycle

To obtain a deeper understanding of management areas 3 and 4 and increase their generalizability, S-RQ 3 and 4 were further approached through multiple-case study research. The individual analyses of the three cases as well as the cross-case analysis advanced the theoretical concepts of the GT study, empirically enhanced the theory using the case study findings, and identified new concepts. In addition, the advanced theory that emerged from the case study findings was mainly confirmed by the subsequently conducted focus group. Figure 30 and 31 summaries the building blocks of management areas 3 (partner program) and 4 (partner network).

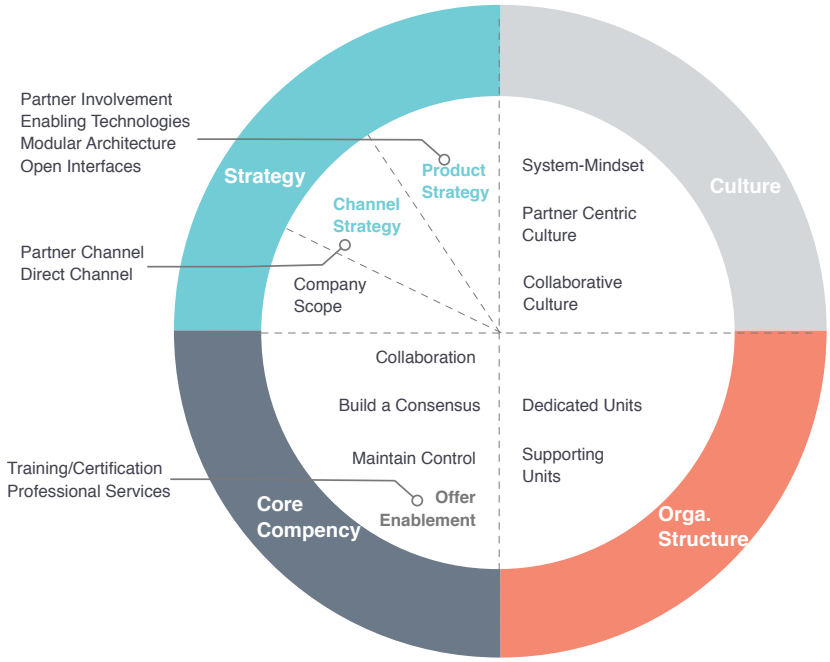


Figure 30: Partner Program

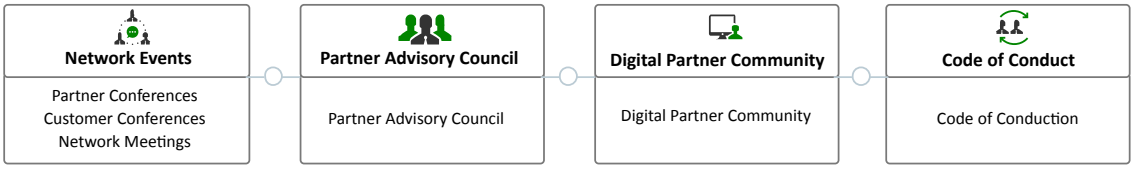


Figure 31: Partner Network

The combined research methods significantly improved the theory, resulting in theoretical saturation and generalization of the developed theory. The developed theory answered all research questions and offers practitioners strong guidance for the management of partner ecosystems in the EAS industry. In addition, the results can serve as an applicable blueprint for researchers for further research activities in this area and provide strong guidance.

14.1 Discussion and Relevance

The results of the current research project have implications both for research in the areas of SECOs as well as for practitioners in the EAS industry.

14.1.1 Implications for SECO Research

The focal thesis contributes to the SECO research domain, extending the current body of knowledge with the theoretical understanding of the management of partner ecosystems in the EAS industry. The study has critical implications for the SECO research domain in the following areas.

Partner Selection

As described in chapter 7, a considerable number of studies have assessed the significance of partner selection in the success of partnerships. Research has analyzed this critical aspect in different contexts and from various perspectives. However, the selection of partners in the context of SECOs within the EAS industry has only received limited attention. Furthermore, most studies on partnerships have focused on the management of partnerships between a limited number of companies and mostly from a bilateral perspective. This perspective must be enhanced using an ecosystem perspective. Furthermore, the characteristics of the EAS industry shaped by complementarity and network effects must be considered.

The focal research contributes to closing the above-mentioned gap by offering a theoretical structure for the selection of partners in the EAS industry based on well-defined selection criteria.

Partner Life Cycle

A significant number of studies on strategic alliances and partnerships have identified a wide range of relevant management disciplines across various industries and from different perspectives. However, to the best of the researcher's knowledge, no significant research has addressed the management of individual partnerships from the perspective of an ecosystem operator (ISV) in the enterprise software industry through an integrated approach.

The researcher contributed to the SECO research domain by introducing an integrated partnership life cycle approach, which was subsequently incorporated into the overall theory. This was done by integrating the management areas that emerged through the GT study with the relevant body of knowledge in the ALC domain.

Partner Program and Partner Network

To manage a multitude of partners simultaneously, an SV must streamline and scale up its partner activities through a structured partner program (partner program). Moreover, an SV must create an environment that leads to an integrated network of interconnected partners, which creates value through collaboration among the partners (partner network). However, to the best of the researcher's knowledge, there exists neither relevant research that has identified the building blocks of a structured partner program in the EAS industry nor the elements relevant to catalyze cooperation and communication among the partners of an ecosystem. Through the cross-case analysis of three cases, combined with complementary research activities of the study, this research provides not only an in-depth understanding of the investigated management areas but also offers a generalizable theory derived from real-world contexts.

Integrated Theory

As discussed in the introduction chapter, the SECO research field lacks specific and generalizable theories. A crucial number of papers are reports or are based on single studies that are difficult to generalize. Furthermore, only a few studies have investigated existing ecosystems, the majority of which have investigated open source ecosystems. (Manikas and Hansen 2013b; Manikas 2016)

The focal research aimed to contribute to closing the above-described gaps in three ways. First, this thesis resulted in the development of an integrated theory for the management of partner ecosystems in the EAS industry. Thus, it contributes by developing a systematic approach, which is generalizable within this industry.

Second, the results of the thesis reflect not just a single case but the integration of the findings gained through the implementation of a variety of mixed research methods. Third, among other elements, the research investigated three existing ecosystems concluding in a cross-case analysis, and thus, it is derived from real-world context. In addition, the results serve as an applicable blueprint for further research activities in this area and provide strong guidance.

14.1.2 Implications for Practitioners

As introduced in chapters 1 and 2, the EAS industry is a critical multibillion-dollar industry (Cole and Fushimi 2010) shaped by complementary and network effects. In this industry, partner ecosystems are responsible for a significant percentage of the value creation of many software companies. Thus, the success of a software company often depends significantly on its ability to manage its partner ecosystem.

The developed theory offers practitioners in the EAS industry a sound understanding of partner ecosystems and a valuable theoretical framework for their management in the EAS industry. The theory supports executives in said industry to draw from the complex aspects of managing partner ecosystems and focus on relevant management areas. Furthermore, it supports executives by offering reliable

guidance and fostering an understanding of the related elements, as well as contributes through its identification to the EAS industry.

14.2 Limitations and Future Research

This research project has reached its objective in developing a theoretical framework (a theory) that offers practitioners strong guidance for the management of partner ecosystems in the EAS industry. The study identified and described the building blocks that an SV must address to manage a partner ecosystem. Hence, the theory has contributed significantly to the current body of knowledge on SECOs.

However, the conducted research project documented in the focal thesis has various limitations. There exist several limitations inherent to the particular research methods through the course of action of the study. These limitations related to the particular research method have been described in the corresponding chapters. In the following paragraphs, the researcher outlines the limitations of the overall research project associated with the unified theory, rather than the individual components.

The researcher identified the building blocks for the management of partner ecosystems and described the relationship between their components. However, the study did not address the dynamics, dependencies, or the manner in which the components may influence each other. Although this was not meant to be covered by the study and the developed theory already has significant value for practitioners and researchers, further research addressing the interdependency of the identified components may lead to new findings and strengthen the theory.

Although the theory emerged from significant experience, real-world contexts, and was driven by data, it must be implemented in practice to gain valuable insights and further validate the findings. Further research addressing the implementation of the developed theory would increase its density and contribute to reaching its full capacity.

The researcher focused the study on the management of partner ecosystems in the EAS industry. Consequently, this work had two main limitations. First, the research was restricted to a specific category of SECOs: partner ecosystems. Second, the developed theory was limited to the EAS industry. Although some aspects of the findings may be transferable to the business software industry in general, additional research is required to adapt the theory to other areas. In sum, a limitation of the developed theory is that its applicability is limited to the above-described context.

Appendix

A Appendix I – Original Work

Sections of this thesis have been published and presented at relevant scientific conferences. Thus, significant parts of this thesis, as well as some aspects and figure, have appeared previously in various publications of the researcher. The following Table A presents an overview of the chapters that have been published previously and are either identical or have relevant similarity with the original publications.

Table A: Overview Original Papers

Titel Original Work	Conference/Journal	Source	Used in the following Chapters
Management of Partner Ecosystems in the Enterprise Software Industry – The Partner Selection	G-Forum 2016	(Avila Albez 2016)	5.1, 5.1.1, 5.1.1.1, 5.1.1.2, 5.1.1.3, 5.1.2, 5.1.2.1, 5.1.2.2, 5.1.2.3, 5.1.3, 5.1.4, 5.1.5, 6.1, 6.2, 6.2.1, 6.2.2, 6.2.3, 6.2.4, 6.2.5, 6.2.6, 6.2.7, 6.2.8
Management of Partner Ecosystems in the Enterprise Software Industry	IWSECO 2016	(Avila and Terzidis 2016)	1.1, 7.2, 2.2.1, 2.2.3, 3.1, 4.1, 4.2.1, 5.1.1, 5.1.1.1, 5.1.2, 5.1.2.2, 5.1.5, 5.1.6, 5.1.7, 5.1.8, 6.1, 6.2.2, 6.2.3, 6.2.4, 6.2.5, 6.2.6, 6.2.7, 6.2.8, 7.5.1, 9.1, 9.1.1, 9.1.2, 9.1.3, 9.1.4, 9.1.4.1, 9.1.4.2, 9.1.5, 11.1, 11.1.1, 11.1.2, 11.1.3, 11.1.3.1, 11.1.3.2, 11.2, 12.6.4.1, 12.6.4.2, 12.6.4.3, 12.6.4.4, 12.6.5
The Analysis of Secondary Case Studies as a Starting Point for Grounded Theory Studies – An Example from the Enterprise Software Industry	International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering (2017)	(Avila and Terzidis 2017)	5.1, 5.1.1, 5.1.1.1, 5.1.1.2, 5.1.1.3, 5.1.4, 5.1.5, 5.1.6
Building Ecosystems in the Enterprise Software Industry – A Comparative Literature Review on Partner Selection Criteria	G-Forum 2017	(Avila Albez 2017)	7.1, 7.2, 17.3, 7.3.1, 7.3.2, 7.3.3, 7.3.3.1, 7.3.3.2, 7.3.3.3, 7.3.3.4, 7.4, 7.4.1, 7.4.2, 7.4.3, 7.4.3.1, 7.4.3.2, 7.5, 7.5.1, 7.5.2, 7.5.3, 7.5.4, 7.5.5, 7.5.6, 7.5.7, 7.6, 7.6.1, 7.6.2, 7.6.3, 7.6.4, 7.6.5, 7.6.6, 7.6.7, 7.7

B Appendix II – SLRs

Table B: Data Extraction - SLR Management Area One

ID	Source	Titel	Addressed Criterions
Kelly 2002	Kelly, Micheal J.; Schaan, Jean–Louis; Joncas, Helene	Managing alliance relationships: key challenges in the early stages of collaboration	culture fit, commitment
Harrigan 1986	Harrigan, Kathryn Rudie	Strategic alliances and partner asymmetries	culture fit
Harrigan 1985	Harrigan, Kathryn Rudie	Joint ventures, alliances, and corporate strategy	culture fit
Harrigan 1985	Harrigan, Kathryn Rudie	Strategies for Joint Ventures	culture fit
Bronder 1992	Bronder, Christoph; Pritzl, Rudolf	Developing Strategic Aliances- Conceptual Framework for Successtil Co-operation	culture fit, strategy fit
Brouthers 1995	Brouthers, Keith D.; Brouthers, Lance Eliot; Wilkinson, Timothy J.	Strategic alliances: Choose your partners	culture fit, strategy fit, complemenarity
Stafford 1994	Stafford, Edwin R.	Using co-operative strategies to make alliances work	culture fit,strategic fit
Harvey 1995	Harvey, Michael G.; Lusch, Robert F.	A systematic assessment of potential international strategic alliance partners	culture fit, strategy fit, complemenarity
Chen 2008 #244	Chen, Sheu-Hua; Lee, Hong-Tau; Wu, Yi-Fen	Applying ANP approach to partner selection for strategic alliance	culture fit, strategy fit
Cummings 2012	Cummings, Jeffrey L.; Holmberg, Stevan R.	Best-fit alliance partners: the use of critical success factors in a comprehensive partner selection process	culture fit, strategy fit
Holmberg 2009	Holmberg, Stevan R.; Cummings, Jeffrey L.	Building successful strategic alliances: strategic process and analytical tool for selecting partner industries and	culture fit
Evans 2001	Evans, Nigel	Collaborative strategy:: an analysis of the changing world of international airline alliances	culture fit
Medcof 1997	Medcof, John W.	Why too many alliances end in divorce	culture fit, commitment
Meschi 1997	Meschi, Pierre-Xavier	Longevity and cultural differences of international joint ventures: Toward time-based cultural management	culture fit
Lyles 1996	Lyles, Marjorie A.; Salk, Jane E.	Knowledge acquisition from foreign parents in international joint ventures: An empirical examination in the Hungarian context	culture fit
Borchert 2006	Borchert, Jan Eric; Goos, Philipp; Hagenhoff, Svenja	Empirical Study of Innovation Management in Focal Networks: Partner Selection and Realization	culture fit
Bierly 2007	Bierly, Paul E.; Gallagher, Scott	Explaining alliance partner selection: fit, trust and strategic expediency	culture fit
Hoffmann 2001	Hoffmann, Werner H.; Schlosser, Roman	Success factors of strategic alliances in small and medium-sized enterprises—An empirical survey	culture fit, complementarity
Swoboda 2011	Swoboda, Bernhard; Meierer, Markus; Foscht, Thomas; Morschett, Dirk	International SME alliances: The impact of alliance building and configurational fit on success	culture fit, strategy fit, commitment
Kelly 2002	Kelly, Micheal J.; Schaan, Jean–Louis; Joncas, Helene	Managing alliance relationships: key challenges in the early stages of collaboration	culture fit, strategy fit
Tsamenyi 2010	Tsamenyi, Mathew; Cullen, John; Moeller, Klaus	Partner selection, partner behavior, and business network performance: An empirical study on German business networks	culture fit, strategy fit
Ding 2013	Ding, Rong; Dekker, Henri C.; Groot, Tom	Risk, partner selection and contractual control in interfirm relationships	culture fit, strategy fit, commitment
Douma 2000	Douma, Marc U.; Bilderbeek, Jan; Idenburg, Peter J.; Looise, Jan Kees	Strategic alliances: managing the dynamics of fit	culture fit, strategy fit, organizational fit, complementarity
Wu 2009	Wu, Wann Yih; Shih, Hsi-An; Chan, Hui-Chun	The analytic network process for partner selection criteria in strategic alliances	culture fit, complementarity
Niederkofler 1991	Niederkofler, Martin	The evolution of strategic alliances: Opportunities for managerial influence	culture fit, strategy fit
Sarkar 2001	Sarkar, Mitrabarun B.; Echambadi, Raj; Cavusgil, S. Tamer; Aulakh, Preet S.	The influence of complementarity, compatibility, and relationship capital on alliance performance	culture fit, commitment, complemenarity
Greve 2013	Greve, Henrich; Rowley, Tim; Shipilov, Andrew	Network advantage: how to unlock value from your alliances and partnerships	strategy fit, organizational fit, complementarity
Tjemkes 2013	Tjemkes, Brian; Vos, Pepijn; Burgers, Koen	Strategic alliance management	strategy fit, organizational fit
Lasserre 2012	Lasserre, Philippe	Global strategic management	strategy fit, organizational fit
Doz 1998	Doz, Yves L.; Hamel, Gary	Alliance advantage: The art of creating value through partnering	strategy fit, complementarity
Varis 2005	Varis, Jari; Kuivalainen, Olli; Saarenketo, Sami	Partner selection for international marketing and distribution in corporate new ventures	strategy fit, commitment
Lu 1998	Lu, Yadong	Joint venture success in China: How should we select a good partner?	strategy fit
Williams 1993	Williams, R. G.; Lilley, M. M.	Partner selection for joint-venture agreements	strategy fit, commitment
Saxton 1997	Saxton, Todd	The effects of partner and relationship characteristics on alliance outcomes	strategy fit, organizational fit
Al-Khalifa 1999	Al-Khalifa, Ali K.; Eggert Peterson, S.	The partner selection process in international joint ventures	strategy fit
Kauser 2004	Kauser, Saleema; Shaw, Vivienne	International Strategic Alliances: objectives, motives and success	commitment
Varis 2005	Varis, Jari; Kuivalainen, Olli; Saarenketo, Sami	Partner selection for international marketing and distribution in corporate new ventures	commitment
Angeles 2000	Angeles, Rebecca; Nath, Ravinder	An empirical study of EDI trading partner selection criteria in customer-supplier relationships	commitment
Shah 2008	Shah, Reshma H.; Swaminathan, Vanitha	Factors influencing partner selection in strategic alliances: the moderating role of alliance context	commitment, complementarity
Schaan 2007	Schaan, Jean-Louis; Kelly, Micheál J.	Cases in Alliance Management	organizational fit
Lewis 2002	Lewis, Jordan D.	Partnerships for profit: Structuring and managing strategic alliances	organizational fit
Park 1997	Park, Seung Ho; Ungson, Gerardo R.	The effect of national culture, organizational complementarity, and economic motivation on joint venture dissolution	organizational fit
Hitt 2000	Hitt, Michael A.; Dacin, M. Tina; Levitas, Edward; Arregle, Jean-Luc; Borza, Anca	Partner selection in emerging and developed market contexts: Resource-based and organizational learning perspectives	comlementarity
Chung 2000	Chung, Seungwha Andy; Singh, Harbir; Lee, Kyungmook	Complementarity, status similarity and social capital as drivers of alliance formation	comlementarity
Choi 2013	Choi, Chang-Bum; Beamish, Paul W.	Resource complementarity and international joint venture performance in Korea	comlementarity
Nielsen 2007	Nielsen, Bo Bernhard	Determining international strategic alliance performance: A multidimensional approach	comlementarity
Geringer 1991	Geringer, J. Michael	Strategic determinants of partner selection criteria in international joint ventures	comlementarity
Glaister 1996	Glaister, Keith	UK-Western European Strategic Alliances	comlementarity
Glaister 1997	Glaister, Keith W.; Buckley, Peter J.	Task-related and Partner-related Selection Criteria in UK International Joint Ventures	comlementarity

Table B: Data Extraction - SLR Management Area Two

ID	Source	Titel	Addresses Phases
Lasser-re 2012	(Lasserre 2012)	Global strategic management	Strategic Decision, Partner Selection, Negotiation and Design, Implementation
Schaan 2007	(Schaan and Kelly 2007)	Cases in Alliance Management	Strategic Decision, Partner Selection, Negotiation and Design, Implementation, Evaluation
Stein-hilber 2008	(Steinhilber 2008)	Strategic Alliances: three ways to make them work	Strategic Decision, Partner Selection, Negotiation and Design, Evaluation
Sluyts 2008	(Sluyts, Martens, and Matthyssens 2008)	Towards a dynamic concept of alliance capability	Strategic Decision, Partner Selection, Negotiation and Design, Implementation, Evaluation
MacA-voy 1998	(MacAvoy, Spekman Forbes III Isabella et al. 1998)	Alliance management: A view from the past and a look to the future	Strategic Decision, Negotiation and Design
Tje-mkes 2013	(Tjemkes, Vos, and Burgers 2013)	Strategic alliance management	Strategic Decision, Partner Selection, Negotiation and Design, Implementation, Evaluation
Man 2013	(Man 2013)	Alliances: An executive guide to designing successful strategic part-nerships	Strategic Decision
Wahyu ni 2007	(Wahyuni, Ghauri, and Karsten 2007)	Managing international strategic alliance relationships	Strategic Decision, Negotiation and Design, Evaluation
Doz 1998	(Doz and Hamel 1998)	Alliance advantage: The art of creating value through partnering	Strategic Decision
Douma 2000	(Douma et al. 2000)	Strategic alliances: managing the dynamics of fit	Partner Selection,
Gulati 2012	(Gulati, Wohlge-zogen, and Zhelyazkov 2012)	The Two Facets of Collaboration	Partner Selection, Negotiation and Design, Evaluation
Kale 2009	(Kale and Singh 2009)	Managing strategic alliances: what do we know now, and where do we go from here?	Partner Selection, Negotiation and Design, Implementation
Yu-Chieh 2011	(Yu-Chieh 2011)	Decision-making biases in the alliance life cycle	Negotiation and Design, Implementation, Evaluation
Das 2002	(Das and Teng 2002)	The dynamics of alliance conditions in the alliance development process	Implementation, Evaluation

C Appendix III – Expert Interviews

1.1 Modulare Interview Questions

1.2 Einleitung und Rahmenbedingungen

- Beschreibung des Forschungsprojektes und der Zielsetzung der Fallstudie.
- Einholung der Einwilligung für die Aufzeichnung des Gespräches.
- Erläuterung, dass die Transkription des Gespräches den Befragten im Nachgang zur Verfügung gestellt wird. Inhaltliche Klarstellungen sind anhand der Transkription möglich.
- Informationen die im Rahmen des Interviews geäußert werden, aber nicht in der Fallstudie erscheinen sollen, können im Nachgang entfernt werden.
- Angesetzter Zeitrahmen für das Interview.

1.3 Fragen zu Person und seiner Rolle im Unternehmen

- Können Sie sich bitte kurz vorstellen?
- Können Sie bitte Ihren beruflichen Werdegang kurz beschreiben?
- Seit wann arbeiten Sie in der B2B-Softwareindustrie?
- Im welchen Unternehmen arbeiten Sie aktuell?
- Können Sie das Unternehmen kurz vorstellen?
- Welche Rollen nehmen Sie im Unternehmen ein?

1.4 Unit of Analysis: Company Related Success Factors

Understand and effectively manage the product value chain

Der Mehrwert eines Softwareproduktes für den Kunden ergibt sich bei B2B Softwareprodukten häufig nicht nur allein aus dem eigentlichen Softwareprodukt, sondern aus komplementären Aktivitäten (z.B. Customizing des Softwareproduktes, Projektmanagement für die Implementierung der Software, Schulungen).

1. Inwiefern deckt sich diese Aussage mit Ihren Erfahrungen?
2. Wann trifft aus Ihrer Erfahrung heraus diese Aussage zu?
3. Wie häufig trifft aus Ihrer Erfahrung heraus diese Aussage bei B2B Softwareprodukten zu?
4. Welche Aktivitäten sind aus Ihrer Sicht notwendig um den Mehrwert eines B2B Softwareproduktes für den Kunden vollständig auszuschöpfen?
5. Wie spielen diesen Aktivitäten zusammen?
6. Bei welchen der Aktivitäten erachten Sie eine qualitativ hochwertige Leistung als besonders wichtig für den kommerziellen Erfolg eines Softwareproduktes? Beispielsweise das Anbieten hochwertiger Produktschulungen.

   Die Aktivitäten lassen sich entlang der Wertschöpfungskette des jeweiligen Softwareproduktes anordnen. Fasst man die gängige Literatur zusammen wird die generische Wertschöpfungskette für B2B- Softwareprodukte in den folgenden Phasen unterteilt:

   - Develop the software product
   - Marketing and sale the software product
   - Supply the software product
   - Customize, implement and integrate the software product
   - Operate \ support \ service \ maintain\ use the software product

7. Inwiefern deckt sich diese generische Wertschöpfungskette mit Ihren Erfahrungen in Praxis? Können Sie hierzu aus der Praxis erzählen?
8. Können Sie zu den einzelnen Phasen der Wertschöpfungskette die aus Ihrer Sicht wichtigsten Faktoren für den kommerziellen Erfolg eines B2B Softwareproduktes benennen? Beispiel: Die Einbindung des Kunden in die Produktentwicklung wird in der Literatur häufig als wichtiger Faktor aufgeführt.
9. Welche Bedeutung spielen die Kenntnisse über den Aufbau der Wertschöpfungskette des jeweiligen Softwareproduktes für dessen kommerziellen Erfolg?

Cultivate distinctive competencies along the product value chain

10. Welche Kenntnisse sind aus Ihrer Sicht notwendig um die Wertschöpfungskette des Softwareproduktes abzudecken bzw. die Aktivitäten entlang der Wertschöpfungskette ausführen zu können?
11. Welche weiteren Kenntnisse sind für den kommerziellen Erfolg eins Softwareproduktes relevant?

12. Wie kann ein Unternehmen die Kenntnisse die für die Durchführung der Aktivitäten entlang der Wertschöpfungskette notwendig sind aufbauen?
13. Welche Kenntnisse sollte ein Unternehmen zwingend innerhalb der Organisationsgrenzen aufbauen und weiterentwickeln?
14. Bei welchen Kenntnissen kann es Sinn machen, dass ein Unternehmen auch auf die Expertise von externen Einheiten zugreift? Beispielweise Partner oder Dienstleister in Anspruch nehmen?
15. Wann können Kenntnisse für die Durchführung der Aktivitäten entlang der Wertschöpfungskette des Softwareproduktes ein Wettbewerbsvorteil für ein Unternehmen darstellen?

Determine the scope of the software company

16. Anhand welcher Kriterien sollte ein Unternehmen entscheiden welche zur Ihren Produktportfolio komplementäre Services und Produkte in-house angeboten werden und welche extern z.B. durch Partner?
17. Welche Elemente eines Produktes sollte ein Unternehmen Ihrer Ansicht nach nicht nach außen geben? Warum?
18. Warum ist aus Ihrer Sicht eine klare Festlegung was zum Leistungsspektrum eins Unternehmens gehört und was nach außen gegeben werden soll wichtig für die Unternehmensstrategie?

Understand dependencies and co-innovation risk

19. Inwiefern hängt der Erfolg eines Softwareproduktes
    a. von der eigenen Leistung eines Unternehmens ab und
    b. inwiefern bestehen Abhängigkeiten zu externen Einheiten wie z.B. Partner oder Technologielieferanten? Welche Risiken ergeben sich hieraus?

Complementary value enhance services

20. Welchen Stellenwert haben aus Ihrer Erfahrung heraus die zu einem Softwareprodukt ergänzende bzw. komplementäre Services für den Erfolg der Softwareprodukte?
21. Welche ergänzende bzw. komplementäre Services/Dienstleistungen wie z.B. Schulungen oder Webinare sollte ein Unternehmen zu seinen Produkten anbieten um auf dem B2B-Softwaremarkt erfolgreich zu sein?
22. Welchen Mehrwert bieten solche Dienstleistungen den Kunden?
23. Wie wichtig ist aus Ihrer Erfahrung heraus das Spektrum und die Qualität der Angeboten Dienstleistungen für die Kaufentscheidung eines Kunden?
24. Wann können komplementäre Services/Dienstleistungen einen Wettbewerbsvorteil darstellen?

Complement platform strategy (complementary business models, services, products)

25. Welche Vorteile kann ein Unternehmen das B2B Softwareprodukte entwickelt davon haben, andere externe Unternehmen die Möglichkeit anzubieten zu Ihren Produkten komplementäre Geschäftsmodellen, Dienstleistungen und Produkte aufzubauen und anzubieten?
26. Wie kann hierdurch die eigene Marktposition des Unternehmens gestärkt werden?
27. Wie bewerten Sie einen solchen Ansatz?

Intellectual Property (IP)

28. Welche Rolle spielt Ihrer Erfahrung nach im B2B Softwaremarkt der Schutz des geistigen Eigentumes (Intellectual Property) bei neuen Produktentwicklungen z.B. durch einreichen von Patenten

Organizational structure, processes and internal communication

29. Wie kann der Aufbau und die Struktur eines Unternehmens Einfluss auf den Erfolg eines neuen Softwareproduktes nehmen?
30. Welche Eigenschaften einer Unternehmensstruktur sind aus Ihrer Sicht besonders förderlich für die Entwicklung und den kommerziellen Erfolg von neuen Softwareprodukten?
31. Wie sollten Prozesse aufgebaut sein, um besonders förderlich für die Entwicklung und den kommerziellen Erfolg von neuen Softwareprodukten?
32. Welche Eigenschaften sollte die interne Unternehmenskommunikation aufweisen um Innovation und neue Produktentwicklungen zu fördern?
33. Gibt es weitere Eigenschaften die in diesem Kontext aus Ihrer Sicht wichtig sind uns bisher nicht angesprochen wurden?

Company Culture

34. Welche Bedeutung hatte aus Ihrer Erfahrung heraus die Unternehmenskultur für den Erfolg eines neuen Produktes, sowie für den Unternehmenserfolg?
35. Wie würden Sie die Unternehmenskultur erfolgreicher Unternehmen beschreiben?
36. Wie kann ein Unternehmen positiv auf die Unternehmenskultur Einfluss zunehmen?
37. Welche culture touch point wie z.B. Mitarbeiterkonferenzen oder Unternehmensevents sind besonders geeignet um auf die Unternehmenskult Einfluss zu nehmen?

Human Resources Management

38. Welche Rolle spielt qualifiziertes Personal in der B2B-Softwareindustie?
39. Ist es schwierig qualifiziertes Personal zu rekrutieren? Wenn ja, warum?
40. Ist die langfristige Bindung von Personal in der B2B-Softwareindustrie für Unternehmen von Bedeutung? Wenn ja, warum?

Finance and Investment

41. Zu welchen Zeitpunkten und/oder Meilensteine spielt die Finanzierung eines neuen Produktes ihrer Ansicht nach eine besonders wichtige Rolle? Warum?

Common company vision and business strategy

42. Welche Bedeutung hat Ihrer Erfahrung nach die Etablierung einer gemeinsamen Vision im Unternehmen?
43. Mit welchen Maßnahmen kann ein Unternehmen versuchen ein gemeinsames Verständnis und eine gemeinsame Sicht bzgl. der Unternehmensvision aufzubauen?
    a. innerhalb des Unternehmens,
    b. über die Unternehmensgrenzen hinweg

Implemented Software Product Management

44. Welche Rolle hat das Produkt Management aus Ihrer Sicht für den Erfolg eines neuen Software Produktes?
45. Welche Hauptaufgaben hat das Produkt Management aus Ihrer Erfahrung heraus bei der Entwicklung neuer Produkte?
46. Welche Hauptaufgaben hat das Produkt Management aus Ihrer Erfahrung heraus bei der Vermarktung neuer Produkte?
47. Mit welchen anderen Abteilungen sollte das Produkt Management aus Ihrer Sicht besonders eng zusammen? Warum?

Sales organization and sales process

48. Welche Rolle hat der Vertrieb aus Ihrer Sicht für den Erfolg eines neuen Software Produktes?
49. Welche Hauptaufgaben hat der Vertrieb aus Ihrer Erfahrung heraus bei der Entwicklung neuer Produkte?
50. Welche Hauptaufgaben hat der Vertrieb aus Ihrer Erfahrung heraus bei der Entwicklung neuer Produkte?
51. Mit welchen anderen Abteilungen sollte der Vertrieb aus Ihrer Sicht besonders eng zusammen? Warum?
52. Welche weiteren Unternehmensbereiche sind aus Ihrer Sicht besonders relevant für den kommerziellen Erfolg eines neuen Softwareproduktes?

Leverage the ecosystem to accelerate innovations, create business values for the customer and scale

53. Welche Rolle Spielt die Vernetzung eines Unternehmens mit anderen externen Unternehmen im Hinblick auf sein Produktportfolio (z.B. Partnernetzwerk oder strategische Allianzen)?
54. Wie kann ein Unternehmen dieses Netzwerk bzw. Ecosystem nutzen, um (Produkt- und Service) Innovationen zu generieren und zu beschleunigen?
55. Wie kann ein Unternehmen dieses Ecosystem nutzen um einen Mehrwert für Ihre Kunden zu ermöglichen?
56. Unter welchen Bedingungen kann die gezielte Nutzung des Ecosystem eines Produktes ein wichtigr Faktor für dessen Erfolg sein?

1.5 Unit of Analysis: Partner Network Related Success Factors

57. Welchen Stellenwert hat der Aufbau eines Partnernetzwerks für ein Unternehmen in der B2B-Softwareindustrie?
58. Welche Vorteile hat der Aufbau eines Partnernetzwerks für ein Unternehmen?
59. Welche Strategie verfolgt ein Unternehmen in der Regel beim Aufbau eines Partnernetzwerkes?
60. Wie sollte ein solches Partnernetzwerk in der B2B-Softwareindustrie strukturiert sein?
61. Welche Leistungen werden häufig durch Partner abgedeckt?
62. Wie kann ein Unternehmen ein solches Partnernetzwerk nutzen?
63. Wie kann ein Partnernetzwerk den Zugriff zu neuen Märkten ermöglichen und vereinfachen?
64. Wie kann ein Partnernetzwerk das eigene Produktportfolio stärken?

65. Wie kann ein Partnernetzwerk den Mehrwert der eigenen Produkte erhöhen?
66. Nach welchen Kriterien kann ein Unternehmen Ihre Partnerunternehmen klassifizieren?
67. Was für Arten von Partner (z.B. Sales Partner) lassen sich aus Ihrer Sicht unterscheiden?

Establish a procedure for partner selection and classification (partner level)

68. Welchen Einfluss hat die Auswahl der Partner auf den Erfolg eines Softwareproduktes?
69. Nach welchen Kriterien sollte die Auswahl von Partnerunternehmen für ein Produkt erfolgen?
70. Was ist bei der Partnerauswahl besonders zu beachten? Warum?

Low barriers for partnership, offer incentives and a clear partner business proposition

71. Wie kann ein Unternehmen die Teilnahme am Partnerprogram für potentielle Partner interessant machen?
72. Wie sehen für potentielle Partner Anreize und Mehrwerte aus, die zu einer Partnerschaft führen können?
73. Sollte ein Unternehmen Ihrer Meinung nach die erste Barriere für potentielle Partner niedrig oder hoch halten? Warum?

Ensure high quality of partner solutions (technical integration, service quality)

74. Inwiefern wird ein Partner von Kunden als Repräsentant des Unternehmens wahrgenommen?
75. Welche Risiken müssen bei Partnerschaften bewertet werden?
76. Durch welche Maßnahmen kann ein Unternehmen eine hohe Qualität der Partnerlösungen und Dienstleistungen (z.B. technische Integration, Servicequalität) sicherstellen?

Education and service offering for partners (partner programs)

77. Welche Komponenten würden Sie für den Aufbau eines Partnerprogramms als elementar erachten?
78. Welche Services sollten den Partnern angeboten werden?
79. Ist der Aufbau eines Partnersupports aus Ihrer Sicht relevant? Wenn ja, warum? Was sollte dieser anbieten?
80. Erachten Sie Weiterbildungsangebote für Partner als bedeutsam? Warum?
81. Wie sollten die Weiterbildungsangeboten für die Partner aufgebaut und strukturiert sein?

Stimulate complementary innovation for the product (complementarity services and products)

82. Durch welche Maßnahmen kann ein Unternehmen versuchen die Entwicklung von externen Innovationen (Dienstleistungen und Produkte) die komplementäre zu Ihren eignen Produkten sind zu stimulieren und zu fördern?
83. Welchen Einfluss kann dies auf den Erfolg der eignen Produkte haben?
84. Welche Hürden sehen Sie hierbei?

Establish strategic alliances (long-term relationships)

85. Wie würden Sie den Unterschied zwischen einem regulären Partner und strategische Allianzen beschreiben?
86. Wie unterscheiden sich die Zielsetzungen?
87. Welchen Mehrwert hat ein Unternehmen von strategische Allianzen und langfristige Kooperationen?

Establish routines for developing and maintaining relationships with partners

88. Wie sollte der Aufbau und die Pflege von Partnerschaften aus Ihrer Erfahrung heraus erfolgen?
89. Macht es Sinn hierfür standardisierte Vorgehensweisen und Prozesse zu etablieren?
90. Welche Eigenschaften sollten diese erfüllen?

Common product innovation roadmap with partners

91. Sollten Partner Ihrer Meinung nach in die Planung der Produkt Roadmap eingebunden sein? Warum?
92. Was für grundsätzliche Möglichkeiten lassen sich unterscheiden um Partner in die Planung der Product Roadmap einzubinden?
93. Wie eng kann eine solche Einbindung gestaltet sein?
94. Gibt es unterschiedliche Abstufungen der Einbindung eines Partners? Wenn ja, nach welchen Kriterien (z.B. nach strategischen Nutzen des Partners)?
95. Nach welchen Kriterien sollte man unterscheiden welche Lösungen in-house entwickelt werden sollen und welche durch Partner?

1.6 Unit of Analysis: Market Related Success Factors

Competition

96. Inwiefern haben Marktbegleiter einen Einfluss auf den Erfolg eines neuen Produktes?
97. Wie lässt sich der Einfluss der Marktbegleiter erfassen?
98. Sind aus Ihrer Sicht auch in-house Lösungen oder Individualentwicklungen potentielle Konkurrenzlösungen?

Target Customers

99. Welche Faktoren erachten Sie als besonders wichtig bei der Analyse eines anvisierten Kundensegments?
100. Welche Informationen stehen im Vordergrund?

Market Barriers

101. Welche Barrieren haben sich bei der Erschließung neuer Märkte in der Vergangenheit ergeben?
102. Welche grundsätzlichen Hürden sehen Sie in der B2B-Softwareindustrie?

Opportunity (identify opportunities bases on value chain innovation)

103. Wie wurden in der Vergangenheit Opportunities/Chancen auf den Markt erkannt?
104. Welche Rolle haben hierbei Kenntnisse über die Wertschöpfungskette der Kunden oder Kundensegments gespielt?
105. Spielte hierbei eine Insight-Sicht oder tiefes Verständnis über eine Branche eine Rolle?
106. Mit welchen Mittel sollte aus Ihrer Erfahrung heraus eine Vorabanalyse des Marktes vor dem Start der Produktentwicklung erfolgen?

Community

107. Welche Vorteile und Nutzen sehen Sie in den Aufbau einer Benutzer- und Kunden-Community für das Unternehmen?
108. Welche Risiken müssen betrachtet werden?
109. Welche Vorteile und Nutzen sehen Sie in den Aufbau einer Benutzer- und Kunden-Community aus Sicht der Kunden?
110. Wie kann durch eine Benutzer- und Kunden-Community Innovation bei der Produktentwicklung gefördert werden?
111. Welche Komponenten sehen Sie als besonders relevant für den Aufbau einer solchen Community an?
112. Welche Rolle spielt bei Benutzer- und Kunden-Communities dessen Online-Repräsentation?
113. Welche Rolle spielen vor Ort Events wie z.B. Kundentage?
114. Welche Vorteile und Nutzen sehen Sie in den Aufbau einer Partner-Community für das Unternehmen?
115. Welche Risiken müssen betrachtet werden?
116. Welche Vorteile und Nutzen sehen Sie in den Aufbau einer Partner-Community aus Sicht der Partner?
117. Wie kann durch eine Partner-Community Innovation bei der Produktentwicklung gefördert werden?
118. Welche Komponenten sehen Sie als besonders relevant für den Aufbau einer solchen Community?
119. Welche Rolle spielt bei Partner-Communities dessen Online-Repräsentation?
120. Welche Rolle spielen vor Ort Events wie z.B. Partnertage?
121. Wie stehen Sie zum Austauscht von Informationen zwischen Partner -Community und Kunden -Community?
122. Welche Vorteile und Nutzen sehen Sie in einem solchen Austausch?
123. Welche Risiken sehen Sie in einem solchen Austausch?

Company reputation and credibility

124. Welche Bedeutung spielt die Reputation eines Unternehmens für die Kaufentscheidung eines Kunden?

125. Welche Bedeutung spielt die Reputation eines Unternehmens für potentielle Partner?

1.7 Unit of Analysis: Product Related Success Factors

Product platform strategy, product line strategy and product family

126. Nach welchen Gesichtspunkten sollte ein Unternehmen sein Produktportfolio aufbauen?
127. Welche Rolle spielt der modulare Aufbau von Softwarekomponenten für die Produktentwicklung?
128. Welche Bedeutung hat aus Ihrer Erfahrung heraus hat die Etablierung einer Plattformstrategie für den langfristigen Unternehmenserfolg?

Product Technology

129. Kann die Entscheidung für eine bestimmte Produkttechnologie entscheidend für der Erfolg des Produkte sein? Warum?
130. Welche Faktoren müssen bei der Wahl der Produktarchitektur berücksichtigt werden?

Unique Superior Product / UVP

131. Welche Eigenschaften muss ein Produkt aufweise um erfolgreich auf den Markt zu sein?
132. Welchen Mehrwert sollte ein Produkt den Kunden bieten?
133. Inwiefern sollten die Produkte den Konkurrenzprodukten überlegen?
134. Welche „einmaligen“ Features haben Produkte in Ihrer Laufbahn angeboten?

Pricing / Revenue Model

135. Welche Preismodelle sind auf den Markt üblich?
136. Welche Rollen spielen die Preismodelle für den kommerziellen Erfolg eines neuen Produktes?
137. Wie werden die Preismodelle vom Kunden wahrgenommen?
138. Wie haben sich die Preismodelle im Laufe der Zeit verändert?
139. Welche Ansätze für neue Preismodelle können Sie sich in der Zukunft vorstellen?

Complementarity and interoperability

140. Wie wichtig erachten Sie die Interoperabilität eines Softwareproduktes mit anderen externen Produkten für dessen kommerziellen Erfolg? z.B. die Möglichkeit der Anbindung eines Dokumentenmanagementsystems an ein CRM-System
141. Inwiefern sollte ein Unternehmen standardisierte Lösungen hierfür anbieten? Warum?
142. Wie häufig ist aus Ihrer Sicht die Interoperabilität eines Softwareproduktes ein Kaufkriterium für Kunden?

1.8 Unit of Analysis: New Product Development Process

In der Literatur wird der generische Prozess für die Entwicklung neuer Produkte (New Product Development Prozesse) in folgenden Phasen aufgeteilt:

- Opportunity Identification (Discovery)
- Evaluation (Scope and business case)
- Product Development (Development and Testing)
- Market Introduction (Launch)
- Diffusion

143. Inwiefern deckt sich dieser generische Entwicklungsprozess mit Ihren Erfahrungen in Praxis? Können Sie hierzu aus der Praxis erzählen?
144. Können Sie zu den einzelnen Phasen des Entwicklungsprozesses die aus Ihrer Sicht wichtigsten Faktoren für den kommerziellen Erfolg eines B2B Softwareproduktes benennen? Beispiel: Die Einbindung des Kunden in die Produktentwicklung wird in der Literatur häufig als wichtiger Faktor aufgeführt.
145. In welchen Phasen erachten Sie die Einbindung der Kunden als wichtig für den kommerziellen Erfolg eines neuen Produktes? Warum?
146. In welchen Phasen erachten Sie die Einbindung von Partner als wichtig für den kommerziellen Erfolg eines neuen Produktes? Warum?
147. Welche weiteren Einheiten sollten in die Entwicklung neuer Produkte eingebunden werden
    a. Interne Einheiten
    b. Externe Einheiten
148. Wie sind in der Praxis Ihrer Erfahrung nach die Entwicklungsprozesse in Unternehmen aufgesetzt
    a. keinen Standard-Prozess
    b. informeller Prozess
    c. linearer formaler Prozess
    d. agiler formaler Prozess
149. Überschneiden sich Ihrer Erfahrung nach einzelne Phasen bei der Produktentwicklung? Wenn ja, welche und in welcher Form?
150. Werden einzelne Phasen auf Grundlage von Entscheidungskriterien bei Bedarf auch übersprungen oder zusammengeführt?
151. Wie häufig gibt es einen Prozess-Verantwortlichen (Prozess-Owner) der das Entwicklungsteam unterstützt? Wie erfolgt die Unterstützung?
152. Wie ist aus Ihrer Sicht die Tendenz von Unternehmen agile Ansätze für die Produktentwicklung zu nutzen? Wie sehen die Ausprägungen häufig aus?
153. Wann sollte ein Unternehmen den Entwicklungsprozess neu bewerten?
154. Welche Organisationstruktur nutzen Unternehmen häufig für neue Produktentwicklungen?
    a. neue dedizierte Abteilung für neues Produkt bzw. Modul
    b. permanente Abteilung für neue Produkte,
    c. als neues Projekt
    d. eine Stabstelle für neue Produktentwicklungen
    e. ?
155. Was waren in der Vergangenheit die größten Hürden und Herausforderungen bei der Entwicklung neuer Produkte bzw. Module?

New Product Development Process: Opportunity Identification (Discovery) + New Product Development Process: Evaluation (Scope and business case)

156. Wie sollte eine Vorabanalyse des Zielmarktes vor dem Start der Produktentwicklung gestaltet sein?
157. Wie wurden in der Vergangenheit Opportunities/Chancen auf den Markt erkannt?
158. Welche Rolle haben hierbei Kenntnisse über einen bestimmten Kunden oder eine Branche gespielt?
159. Mit welchen Maßnahmen kann ein Unternehmen die geplanten Produktfeatures mit den Bedürfnissen der anvisierten Kundensegmente ab?
160. Wie häufig Entwickeln aus Ihrer Sicht Unternehmen in B2B-Softwaremarkt neue Produkte zusammen mit Pilotkunden?
161. Warum haben sich in der Vergangenheit Kunden hierzu bereit erklärt? Was war dessen Antrieb (Lead-User)?
162. Welche Vorteile hatte die Entwicklung neuer Produkte zusammen mit einem Pilotkunden?
163. Welche Nachteile und Risiken haben sich hieraus ergeben?

New Product Development Process: Product Development (Development and Testing)

164. Wie sollte aus Ihrer Erfahrung heraus die Zusammenarbeit mit Kunden bei der Entwicklung neuer Produkte gestaltet sein?
165. Was sind die wichtigsten Punkte die beachtet werden müssen?
166. Wie sollte aus Ihrer Erfahrung heraus die Zusammenarbeit mit Partner bei der Entwicklung neuer Produkte gestaltet sein?
167. Was sind die wichtigsten Punkte die beachtet werden müssen?

Standard product and platform development vs. individual customer product

168. Gab es bei neuen Produktentwicklungen mit Pilotkunden Konflikte zwischen dessen individualen Bedürfnissen und den Bedürfnissen des restlichen Kundensegments? Standardprodukt vs. Individualprojekt?
169. Wie würden diese Konflikte identifiziert? Wie würden diese gesteuert?
170. Welchen Ansatz sollte ein Unternehmen verfolgen um die Standardproduktentwicklung von individuellen Kundenwünschen zu trennen?

Agile Product Development

171. Welche Vorteile haben agile Produktentwicklungsprozesse bei der Entwicklung neuer Softwareprodukte gegenüber klassischen Verfahren?
172. Welche Nachteile haben agile Produktentwicklungsprozesse bei der Entwicklung neuer Softwareprodukte gegenüber klassischen Verfahren?

Team

173. Welche Eigenschaften muss aus Ihrer Sicht eine Team aufweise, dass für die Entwicklung eines neuen Produkten verantwortlich ist? Wie würden Sie ein Team zusammensetzen?
174. Wie wichtig ist das Team aus Ihrer Erfahrung heraus für die erfolgreiche Entwicklung eines neuen Produktes?

Time-to-market

175. Welche Bedeutung hat die Finalisierung eines neuen Produktes zu einem bestimmten Zeitpunkt? Wie wichtig ist das Timing für die Produktentwicklung?
176. Haben Unternehmen in der Vergangenheit bestimmte Zeitpunkte für die Vorstellung bzw. Einführung neuer Produkte ausgewählt (Messen, Events)?

Use your own product

177. Benutzen Unternehmen neue Produktentwicklungen aus Ihrer Erfahrung heraus auch selber? Ab welchen Zeitpunkt?

New Product Development Process: Market Introduction (Launch) + New Product Development Process: Diffusion

Market Timing

178. Welche Markteinführungsstrategie verfolgen erfolgreiche Unternehmen Ihrer Meinung am stärksten
    a. first move
    b. fast follower
    c. reactive
    d. niche

Reference Customer

179. Welche Bedeutung haben Referenzkunden für die Vermarktung neuer Produkte?

Sales and Marketing

180. Wie unterstützt Vertrieb und Marketing die Einführung und Vermarktung neuer Produkte?
181. Inwiefern sollten aus Ihrer Sicht die Abteilungen Marketing, Vertrieb und Produktmanagement bei Einführung neuer Produkte zusammen?

Partner network

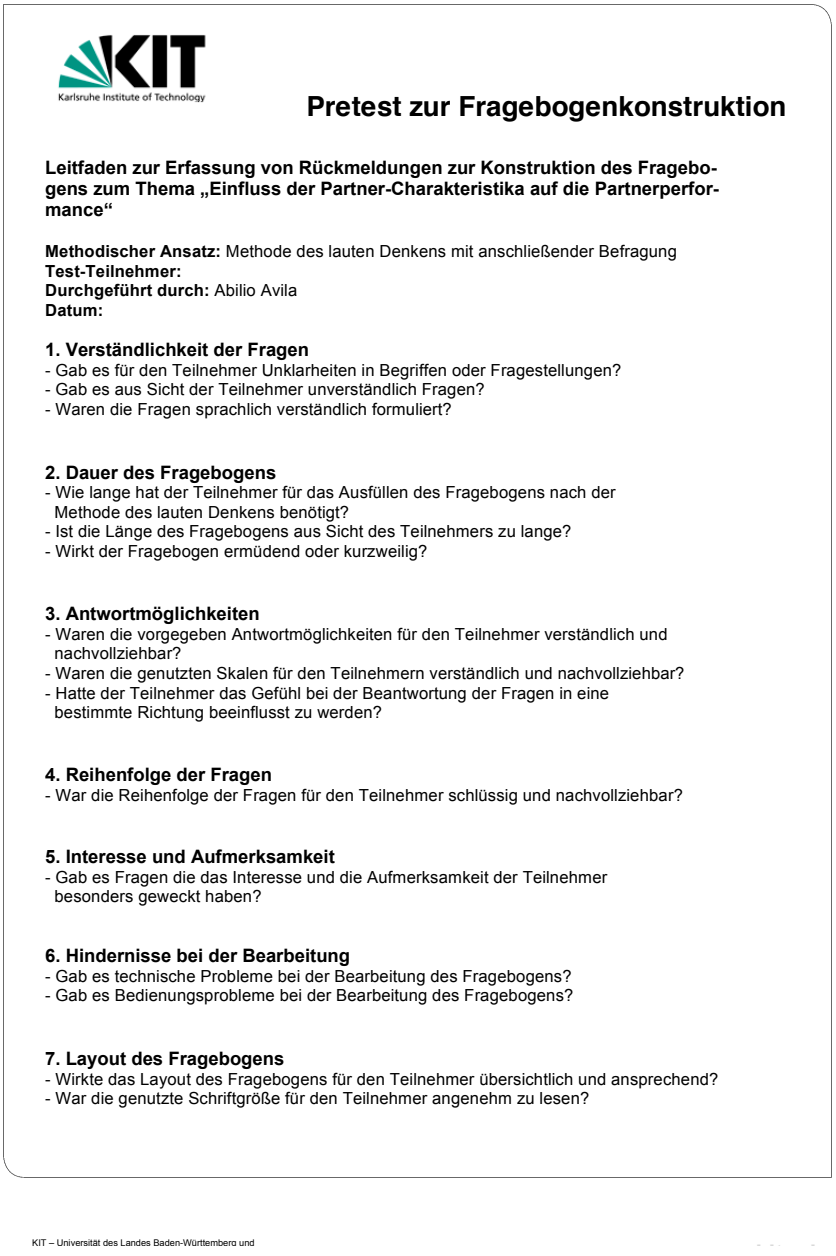
182. Wie stark nutzen Unternehmen Partnernetzwerk für die Einführung und Marktausbreitung neuer Produkte? Durch welche Maßnahmen?
183. Welche Vor- und Nachteile ergeben sich hieraus?

1.9 Unit of Analysis: Environmental Influences

184. Welche externen Einflüsse wie z.B. Technology- oder Markttrends hatten in der Vergangenheit einen Impact auf bestehende Produkte?
185. Welche externen Einflüsse wie z.B. Technology- oder Markttrends hatten in der Vergangenheit einen Impact auf neue Produktentwicklungen?
186. Welche externen Einflüsse und Trends sollte ein Unternehmen bei neuen Produktentwicklungen stets beobachten und berücksichtigen?

D Appendix IV – Quantitative Survey

1.1 Survey Pretest



Karlsruhe Institute of Technology

Pretest zur Fragebogenkonstruktion

Leitfaden zur Erfassung von Rückmeldungen zur Konstruktion des Fragebogens zum Thema „Einfluss der Partner-Charakteristika auf die Partnerperformance“

Methodischer Ansatz: Methode des lauten Denkens mit anschließender Befragung
Test-Teilnehmer:
Durchgeführt durch: Abilio Avila
Datum:

1. Verständlichkeit der Fragen
- Gab es für den Teilnehmer Unklarheiten in Begriffen oder Fragestellungen?
- Gab es aus Sicht der Teilnehmer unverständlich Fragen?
- Waren die Fragen sprachlich verständlich formuliert?

2. Dauer des Fragebogens
- Wie lange hat der Teilnehmer für das Ausfüllen des Fragebogens nach der Methode des lauten Denkens benötigt?
- Ist die Länge des Fragebogens aus Sicht des Teilnehmers zu lange?
- Wirkt der Fragebogen ermüdend oder kurzweilig?

3. Antwortmöglichkeiten
- Waren die vorgegeben Antwortmöglichkeiten für den Teilnehmer verständlich und nachvollziehbar?
- Waren die genutzten Skalen für den Teilnehmern verständlich und nachvollziehbar?
- Hatte der Teilnehmer das Gefühl bei der Beantwortung der Fragen in eine bestimmte Richtung beeinflusst zu werden?

4. Reihenfolge der Fragen
- War die Reihenfolge der Fragen für den Teilnehmer schlüssig und nachvollziehbar?

5. Interesse und Aufmerksamkeit
- Gab es Fragen die das Interesse und die Aufmerksamkeit der Teilnehmer besonders geweckt haben?

6. Hindernisse bei der Bearbeitung
- Gab es technische Probleme bei der Bearbeitung des Fragebogens?
- Gab es Bedienungsprobleme bei der Bearbeitung des Fragebogens?

7. Layout des Fragebogens
- Wirkte das Layout des Fragebogens für den Teilnehmer übersichtlich und ansprechend?
- War die genutzte Schriftgröße für den Teilnehmer angenehm zu lesen?

KIT – Universität des Landes Baden-Württemberg und

Figure A: Survey Pretest

1.2 Pretest Log Template

Protokoll zum Pretest zur Fragebogen-Konstruktion

Thema des Fragebogens	Einfluss der Partner-Charakteristika auf die Partner-Performance
Datum	
Test-Teilnehmer	
Methode	Methode des lauten Denkens mit anschließender Befragung
Dauer	
Protokollant	

Rückmeldungen bezogen auf Fragen		
ID	**Kategorie**	**Beschreibung**

***V**=Verständlichkeit der Fragen, **D**= Dauer des Fragebogens, **A**=Antwortmöglichkeiten, **I**=Interesse und Aufmerksamkeit, **H**= Hindernisse bei der Bearbeitung, **L**=Layout des Fragebogens*

Übergreifende Rückmeldung zum Fragebogen		
Stichwort	**Kategorie**	**Beschreibung**

***V**=Verständlichkeit der Fragen, **D**= Dauer des Fragebogens, **A**=Antwortmöglichkeiten, **I**=Interesse und Aufmerksamkeit, **H**= Hindernisse bei der Bearbeitung, **L**=Layout des Fragebogens*

Seite 1/1

Figure B: Pretest Log Template

1.3 Survey Instrument

KIT research study with abas on the subject "success factors for the development of a partner network"

Welcome to research study of the Karlsruhe Institute of Technology (KIT). The purpose of this survey is to evaluate the **critical success factors for the development of a partner network.**

Thank you for talking the time from your schedule to participate in this initiative.

Duration
Completing the survey will take about **15 minutes**.
Please try to answer all of the questions. This enables us to derive significant conclusions.

Anonymity
Your answers to this survey will be **anonymous and confidential**. The data collected by the KIT are not associated with you or your company.

Survey results and a "thank you"
If you wish to **receive the results** of the survey, you can indicate this at the end of the survey.

To thank you for your time, we will raffle **3 Amazon-vouchers** (each **30€**) among all the participant, who completed the survey.

The data that you **optional** provide to receive the results or to participate to the raffle, will be only used for this purpose and is **seperated from your answers**.

Important instructions
For the purpose of this survey, we refer to the software company **abas** as **software vendor.**

Please answer the question based on your assessment, knowledge and experience. If you do not know requested data with certainty, please provide your best estimates. **There are no wrong answers**.

Navigation
You can use the buttons **„Next"** and **„Previous" to navigate**. If necessary, you can also save the unfinished survey by using the button **"Resume later"** and **continue later** .

Thank you for your participation!

There are 35 questions in this survey

Introduction

Do you agree with the following statement about the software company´s product(s) that you sell?

Providing complementary activities, such as consulting, customizing and training, adds value for the customer.

*

Please choose **only one** of the following:

- ○ Yes
- ○ No

General Information

Please indicate how many years of work experience you have in the B2B software industry. *

Please choose **only one** of the following:

- ○ Less than 1 year
- ○ 1-3 years
- ○ 3-5 years
- ○ 5-10 years
- ○ 10-15 years
- ○ More that 15 years

How long have you been working at your current company? *

Please choose **only one** of the following:

- ○ Less than 1 year
- ○ 1-3 years
- ○ 3-5 years
- ○ 5-10 years
- ○ 10-15 years
- ○ More that 15 years

Please indicate your current position at the company. *

Please choose **only one** of the following:

- ○ Employee
- ○ Manager without supervisory responsibility
- ○ Manager with supervisory responsibility
- ○ Managing director (Executive-level)
- ○ Member of the Management Board
- ○ Other [ ]

In which area are you currently working? *

Please choose **only one** of the following:

- ○ Consulting/Project Management
- ○ Sales
- ○ Marketing
- ○ Product Management
- ○ Partner Management
- ○ Product Support
- ○ Software Development
- ○ Test Center
- ○ Other

Survey Questions

With regard to the software vendor´s product(s), please check the box that most accurately describes your company´s role. *

Please choose **all** that apply:

- ☐ We are a sales partner (**reseller**) that sell the software product
- ☐ We are a sales partner (**value add reseller**) that sell the software product together with an enrichment of the product e.g. industry-specific extensions
- ☐ We are a **system integrator (SIs)** that implement the software product through a project as an integrated solution for the customer
- ☐ We are an **OEM partner** that buy the software and resell it e.g. as an integrated part of our own product
- ☐ We are an **interface partner** that offer a interface between the software vendor´s product and our own software product or third-party products e.g. an interface between ERP and DMS
- ☐ We are a **development partner** (e.g. development of complementary moduls or joint product development)
- ☐ We are a **technology partners** (e.g. for the provision of IT infrastrukture or runtime environements at the customers)
- ☐ We are a **strategic partner**
- ☐ Other: [ ]

With regard to the software vendor´s product(s), which of the following complementary services does your company offer to customers? *

Please choose **all** that apply:

- ☐ Project Management for customer projects
- ☐ Implementation of the software product and customizing to the individual customer needs
- ☐ Consulting
- ☐ Trainings for customers
- ☐ Product support and maintenance
- ☐ Requirement Management
- ☐ Individual software development based on the software vendor´s product
- ☐ Other: [ ]

Please indicate how long the partnership with the software vendor already exists? *

Please choose **only one** of the following:

- ○ Less than 1 year
- ○ 1-3 years
- ○ 3-5 years
- ○ 5-10 years
- ○ 10-15 years
- ○ More that 15 years

Survey Questions

Using the scale below, to what extend do you agree with the following statements regarding **your company** with respect to the **current fiscal year.** Please indicate your level of agreement on a scale of **1 (strongly disagree)** to **5 (strongly agree).**

Please rate the following statements regarding your company. *

Please choose the appropriate response for each item:

	Strongly Disagree (1)	(2)	(3)	(4)	Strongly Agree (5)
Our company has a strong branding in the target market of the software vendor	○	○	○	○	○
Our company is financially stable	○	○	○	○	○
Our company has the necessary organizational structure to effectively distribute and implement the product(s) of the software vendor	○	○	○	○	○
Our company size is adequate to market the product(s) of the software vendor	○	○	○	○	○

Please rate the following statements regarding your company.

*

Please choose the appropriate response for each item:

	Strongly Disagree (1)	(2)	(3)	(4)	Strongly Agree (5)
We offer complementary software products in addition to the software vendor´s product portfolio	○	○	○	○	○
We offer complementary services in addition to the software vendor´s product portfolio e.g. consulting, trainings, project management	○	○	○	○	○
We do not offer software products that are in direct competition with the software vendor´s product portfolio	○	○	○	○	○
The company culture of the software vendor is compatible to our own company culture	○	○	○	○	○
The sales activities for our own solutions fit well with the activities for the disctribution of the software vendor´s products	○	○	○	○	○

Please rate the following statements regarding your company. *

Please choose the appropriate response for each item:

	Strongly Disagree (1)	(2)	(3)	(4)	Strongly Agree (5)
We have existing customers in the target market of the software vendor	○	○	○	○	○
We have industry experience in the target market of the software vendor	○	○	○	○	○
We have experience in the B2B software market (B2B software projects)	○	○	○	○	○
We enable the regional presence of the software vendor e.g. on site consultation of customers in our region	○	○	○	○	○

Please rate the following statements regarding your company. *

Please choose the appropriate response for each item:

	Strongly Disagree (1)	(2)	(3)	(4)	Strongly Agree (5)
We quickly integrated new products of the software vendor in our product portfolio	○	○	○	○	○
We quickly offered complementary services for new products of the software vendor e.g. consulting, project management, trainings	○	○	○	○	○
We quickly offered complementary software products for new products of the software vendor	○	○	○	○	○

Survey Questions

Using the scale below, to what extend do you agree with the following statements regarding **your company** with respect to the **current fiscal year.** Please indicate your level of agreement on a scale of **1 (strongly disagree)** to **5 (strongly agree).**

Please rate the following statements regarding the software vendor´s product.

*

Please choose the appropriate response for each item:

	Strongly Disagree (1)	(2)	(3)	(4)	Strongly Agree (5)
We conduct own sales activities for the software product	○	○	○	○	○
We conduct own marketing activities for the software product	○	○	○	○	○
The product is an intergal part of our product portfolio	○	○	○	○	○
Our management supports fully the partnership with the software vendor	○	○	○	○	○
We have the highest partnership level that the software vendor offers	○	○	○	○	○
We generate own leads for the software product	○	○	○	○	○

Please rate the following statements regarding the staff in your company that is dedicated to the product of the software vendor.

*

Please choose the appropriate response for each item:

	Strongly Disagree (1)	(2)	(3)	(4)	Strongly Agree (5)
We have sufficient staff to conduct sales activities for the software product	○	○	○	○	○
We have sufficient staff to conduct implementation projects for customers	○	○	○	○	○
We have sufficient staff to process support requests from customers quickly	○	○	○	○	○

Please rate the following statements regarding the sales staff in your company that is dedicated to the product of the software vendor.

*

Please choose the appropriate response for each item:

	Strongly Disagree (1)	(2)	(3)	(4)	Strongly Agree (5)
Our **sales staff** has the necessary professional competencies to sell and distribute the software product	○	○	○	○	○
Our **sales staff** has a high level of social competence	○	○	○	○	○
Our **sales staff** is very experienced	○	○	○	○	○
Our **sales staff** acts always very professional	○	○	○	○	○

Please rate the following statements regarding the project managers and consultants in your company that are dedicated to the product of the software vendor.

*

Please choose the appropriate response for each item:

	Strongly Disagree (1)	(2)	(3)	(4)	Strongly Agree (5)
Our **project managers and consultants** have the necessary professional competencies to conduct software projects for customers	○	○	○	○	○
Our **project managers and consultants** have a high level of social competence	○	○	○	○	○
Our **project managers and consultants** are very experienced	○	○	○	○	○
Our **project managers and consultants** act always very professional	○	○	○	○	○

Please rate the following statements regarding the product support staff in your company that is dedicated to the product of the software vendor.

*

Please choose the appropriate response for each item:

	Strongly Disagree (1)	(2)	(3)	(4)	Strongly Agree (5)
Our **product support staff** has the necessary professional competencies to sell and distribute the software product	○	○	○	○	○
Our **product support staff** has a high level of social competence	○	○	○	○	○
Our **product support staff** is very experienced	○	○	○	○	○
Our **product support staff** acts always very professional	○	○	○	○	○

Survey Questions

Using the scale below, to what extend do you agree with the following statements regarding **your company** with respect to the **current fiscal year.** Please indicate your level of agreement on a scale of **1 (strongly disagree)** to **5 (strongly agree).**

Please rate the following statemens regarding the activities of your company. *

Please choose the appropriate response for each item:

	Strongly Disagree (1)	(2)	(3)	(4)	Strongly Agree (5)
When significant problems in customer projects occurred, we always used the project support provided by the software vendors	○	○	○	○	○
We performed sales activities with potential customers always together with the software vendor (joint sales activities)	○	○	○	○	○
We performed marketing activities together with the software vendor	○	○	○	○	○
In case of uncertainties about the product, we always used the product support provided by the software vendor	○	○	○	○	○

Survey Questions

Using the scale below, to what extend do you agree with the following statements regarding **your company** with respect to the **current fiscal year.** Please indicate your level of agreement on a scale of **1 (strongly disagree)** to **5 (strongly agree).**

With regard to the development of a new product or module by the software vendor, in which of the following phases was your company involved?

Please choose **all** that apply:

- ☐ Opportunity Identification
- ☐ Evaluation of the market potential
- ☐ Product Development and Testing
- ☐ Market Introduction
- ☐ Market Diffusion
- ☐ we were not involved
- ☐ Other:

Please rate the following statements regarding the software vendor´s product(s).

Please choose the appropriate response for each item:

	Strongly Disagree (1)	(2)	(3)	(4)	Strongly Agree (5)
Our company has always used the best practice methods of the software vendor e.g. for the project implementation	○	○	○	○	○
The staff dedicated to the software vendor´s product has always participated on the trainings offert by the software vendor	○	○	○	○	○
The staff dedicated to the software vendor´s product was certified by the software vendor´s training program	○	○	○	○	○
The staff dedicated to the software vendor´s product has always participated on the update trainings of the software vendor	○	○	○	○	○
Our company was involved in the product roadmap of the software vendor	○	○	○	○	○
Leads provided by the software vendor were always followed up by our company	○	○	○	○	○
Our company has the same vision as the software vendor regarding its product(s)	○	○	○	○	○

Survey Questions

Using the scale below, to what extend do you agree with the following statements regarding **your company** with respect to the **current fiscal year.** Please indicate your level of agreement on a scale of **1 (strongly disagree)** to **5 (strongly agree).**

Please rate the following statements regarding your company. *

Please choose the appropriate response for each item:

	Strongly Disagree (1)	(2)	(3)	(4)	Strongly Agree (5)
We participated in all events of the software vendor	○	○	○	○	○
We were strongly involved in the partner community	○	○	○	○	○
We had frequent contact with the software vendor	○	○	○	○	○
The quality of the communication and exchange with the software vendor was always on a high level	○	○	○	○	○

Survey Questions

Using the scale below, to what extend do you agree with the following statements regarding **your company** with respect to the **current fiscal year.** Please indicate your level of agreement on a scale of **1 (strongly disagree)** to **5 (strongly agree).**

Please rate the following statements regarding the software vendor´s product(s). *

Please choose the appropriate response for each item:

	Strongly Disagree (1)	(2)	(3)	(4)	Strongly Agree (5)
The number of won customer projects was in line with the expectation expressed at the beginning of the fiscal year or higher	○	○	○	○	○
The number of sold licenses was in line with the expectation expressed at the beginning of the fiscal year or higher	○	○	○	○	○
The number of sold maintenance contracts was in line with the expectation expressed at the beginning of the fiscal year or higher	○	○	○	○	○
The revenue generated by complementary services was in line with the expectation expressed at the beginning of the fiscal year or higher	○	○	○	○	○
The customers were always satisfied with the results of the project	○	○	○	○	○
The projects have always been successfully finalized	○	○	○	○	○

Survey Questions

With reagard to the different software products that your company integreted into its product portolio in the last 3 years, please indicate how often these new products corresponded to the categories listed below. *

Please choose the appropriate response for each item:

	never				very often
	1	2	3	4	5
New to the world: These products are the first of their kind and create an entirely new market	○	○	○	○	○
New product line: These products are not new to the market, but new to the company and allows the company to enter an established market for the first time	○	○	○	○	○
Additions to existing product lines: New products or modules that supplement a company's established product line	○	○	○	○	○
Significant improvements and revisions to existing products: Provide a significant improved performance or greater perceived value	○	○	○	○	○
Repositionings: Retargeting of existing products to a new markets or market segments	○	○	○	○	○
Cost reductions: New products that provide similar performance at lower cost	○	○	○	○	○

Please indicate to which of the following market strategies your company tended in the last 3 years. *

Please choose the appropriate response for each item:

	First mover: Our company prefers to be a pioneer with new products, markets and technologies. It responds fast to early signals of possible market opportunities. (1)	(2)	(3)	(4)	**Reaktiv:** Our company develops its product portfolio not as fast as the competition. It only responds to changes when the market makes it absolutely mandatory. (5)
Market strategy	○	○	○	○	○

With reagard to the different software products that your company integreted into its product portolio in the last 3 years, please indicate the tendency of the product characteristic based on the scale below. *

Please choose the appropriate response for each item:

	Completely new software products (1)	(2)	(3)	(4)	Innovative improvements to existing software products (5)
Product characteristic	○	○	○	○	○

With regard to new software products, please estimate the following numbers for your company.

Please write your answer(s) here:

Percentage of new software products and related services **on the total revenue**, in the current fiscal year. ☐

Percentage of new software products and related services **on the total revenue**, in the last 3 years. ☐

Demographic data

What is the total number of employees in your company? *

Please choose **only one** of the following:

- ○ 1-10 employees
- ○ 11-50 employees
- ○ 51-200 employees
- ○ 201-500 employees
- ○ 501-1.000 employees
- ○ 1.001-5.000 employees
- ○ 5.001-10.000 employees
- ○ mehr als 10.000 employees

Please indicate the legal form of your company. *

Please choose **only one** of the following:

- ○ Sole proprietorships
- ○ Partnership (private company)
- ○ Limited Company
- ○ Public limited company, non-listed
- ○ Public limited company, listed
- ○ Other

Please indicate the equity capital of your company.

Please choose **only one** of the following:

- ○ Less than 10 %
- ○ 10-30 %
- ○ 31-50 %
- ○ 50-79 %
- ○ 80-99 %
- ○ 100%
- ○ Other [ ]

Please select the primary industries of your company.

Please choose **all** that apply:

- ☐ Agriculture, forestry and fishing
- ☐ Mining and quarrying
- ☐ Manufacturing
- ☐ Electricity, gas, steam and air conditioning supply
- ☐ Water supply; sewerage, waste management and remediation activities)
- ☐ Construction industry
- ☐ Wholesale and retail trade; repair of motor vehicles and motorcycles
- ☐ Transportation and storage
- ☐ Accommodation and food service activities
- ☐ Information and communication activities
- ☐ Financial and insurance activities
- ☐ Real estate activities
- ☐ Administrative and support service activities
- ☐ Public administration and defense; social insurance
- ☐ Education
- ☐ Human health and social work activities
- ☐ Arts, entertainment and recreation activitie
- ☐ Other: [ ]

For what kind of customers does your company mainly operate?

Please choose **all** that apply:

- ☐ Freelancers and small businesses
- ☐ Medium-sized Enterprises
- ☐ Upper Medium-sized Enterprises
- ☐ Large Enterprises

Please indicate the number of employees in the different areas of your company, that are dedicated to commercialization of the software vendor´s product . It is possible to indicate full-time equivalents e.g. 1,5 employees

Please write your answer(s) here:

Sales	
Project Management and Consulting (for customer projects)	
Marketing	
Product support	
Software Development	

With regard to software vendor´s product(s) and the current fiscal year, please estimate the following numbers for your company.

Please write your answer(s) here:

Total number of existing customers	
Number of new customers	
Active customer projects	
Licenses sold	
Maintenance contracts sold	
Man days sold (service like consulting)	
Number of performed sales meetings with customers	
Number of performed marketing activities	

Thank you!

Thank you for your participation!

If you wish to receice the results of the survey or participate at the raffle, please select the corresponding checkbox.

The data that you optional provide to receice the results or to participate to the raffle, will be only user for this purpose and is seprated from your answers.

The data collected by the KIT are not associated with you or your company and are anonymous.

*

Please choose **all** that apply:

- ☐ Yes, I want to participate at the raffle.
- ☐ Yes, I want to receive the results of the survey.
- ☐ No, thank you. I don´t want to participate at raffle or get the results.

Your e-mail-adress (optional, if you wish to participate at the raffle or get the results of the survey)

Please write your answer here:

Thank you for your participation!

The survey was conducted by the Chair of Entrepreneurship and Technology Management (EnTechnon) at the Karlsruhe Institute of Technology (KIT).

Karlsruhe Institute of Technology (KIT)

Submit your survey.
Thank you for completing this survey.

1.4 Exploratory Factor Analysis

Table C: Measure of Sampling Adequacy (MSA), Imputation = 5

Variables	MSA
M_market_access_regional_presence	,856
M_fundamental_fit_expertise_industry	,902
M_commitment_staff_sales	,853
M_commitment_staff_project_implementation	,744
M_commitment_staff_product_support	,764
M_partner_behaviour_alignment_best_practice	,838
M_partner_behaviour_alignment_participation_education	,825
M_partner_behaviour_alignment_participation_ce_program	,833
M_partner_behaviour_alignment_participation_update_training	,845
M_strategic_fit_common_product_vision	,824
M_market_access_regional_presence	,856
M_fundamental_fit_expertise_industry	,902
M_commitment_staff_sales	,853
M_commitment_staff_project_implementation	,744
M_commitment_staff_product_support	,764
M_partner_behaviour_alignment_best_practice	,838
M_partner_behaviour_alignment_participation_education	,825
M_partner_behaviour_alignment_participation_ce_program	,833
M_partner_behaviour_alignment_participation_update_training	,845
M_strategic_fit_common_product_vision	,824

Table D: KMO- and Bartlett-Test, Imputation = 5

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0,850117
Bartlett's Test of Sphericity	Approx. Chi-Square	1172,732
	df	171,000000
	Sig.	,000

Table E: Value-Range KMO & MSA (Sarstedt and Mooi 2014)

Value	**Evaluation**
>0.9	marvelous
0.80–0.89	meritorious
0.70–0.79	middling
0.60–0.69	mediocre
0.50–0.59	miserable
< 0.5	unacceptable

E Appendix V – Case Study Protocols

1.1 abas Case Study Protocol

1.1.1 Overview and Background of the Case Study

1.1.1.1 Company Overview

abas is a leading business software provider (ERP software) for midmarket businesses. The company has approximately 460 employees and generate nearly €50 million in revenue. abas possesses an indirect channel and cooperation worldwide with 38 certified partners in a total of 27 countries.

(abas Software AG 2019a; abas Software AG 2019b; abas Software AG 2018; abas Software AG 2014a)

1.1.1.2 Rationale for Selecting the Case

abas Software AG is a software company in the EAS industry that established a partner ecosystem as its primary business channel.

The case contributes to the addressed research questions (RQ 1: What are the building blocks of a partner program? RQ 2: How can a software company foster the development of a partner network?) and offers access to relevant data to address these research questions.

Furthermore, abas is an excellent match for the previously determined selection criteria:

- abas is an SV in the EAS industry (B2B market).
- abas offers complex software products to solve complex business problems for their customers.
- abas must provide complementary business services to offer their customers a satisfactory solution for their business needs.
- abas developed and evolved a partner ecosystem as an important business channel.

1.1.1.3 Case Study Initiation

After an initial conversation with the head of abas Academy, Aysenur Kazokoglu, the first formal meeting with the case study sponsors took place on May 6, 2014 (2 hrs.). During this meeting the researcher presented his research project and the participants could obtain a deeper understanding of the research objective. Furthermore, the case study sponsors formulated their main interest: although the abas partner ecosystem was already on a professional level, abas' objective was to bring it to the next level and improve collaboration with their partners. Through a follow-up meeting on May 27, 2014 (1 hr), the mutual willingness to work together was articulated and the points of interest and next steps were identified and documented. Table F summarizes the results of these two meetings.

Table F: Summary Meetings

Meeting	Date	abas participants	Relevant documents	Main outcomes
First Meeting	06.05.2014, 10:00–12:00	Aysenur Kazokoglu – Head of Academy	Presentation slides	Common understanding of the case study.
Project Kick-Off	27.05.2014, 16:00–17:00	Mario Raatz – Chief Sales & Marketing Officer – Member of the Board Michael Baier – Chief Operating Officer - Member of the Board Alexander Schwarz – International Partner Manager	Agenda, minutes, presentation slides	Common understanding of the case study; got to know each other; definitions of the first project steps and initial work packages; identification of the sponsor's field of interest.

The initial planning of the abas case study was based on these two first meetings, in which the researcher identified together with the case study sponsor the first work packages. Furthermore, goals reflecting the interest of the case study sponsor were identified and reported. Both elements were the basis for the first steps of the case study. Through these meetings, abas agreed to provide the researcher access to relevant information. This included conducting interviews with abas experts as well as a survey to analyze specific aspects of the abas partner ecosystem.

Table G illustrates the identified work packages relevant to the case study's conduct.

Table G: Summary Meetings

ID	Work Packages	Description
1	Expert interviews	Expert interviews conducted with key representative of abas (fourth quarter, 2014)
2	Partner survey 1	Partner survey announced at a partner event in Barcelona (calendar week 26, 2014)
3	Partner survey 2	Partner survey announced at the international partner conference in Karlsruhe (calendar week 39, 2014)
4	Partner survey 3	Partner survey conducted
5	Partner conference	Researcher participated in the abas partner conference
6	User conference	Researcher participated in the abas user conference

However, the next steps of the case study evolved in an iterative manner as its range of evolved, influenced by the SV's activities concerning the phenomena of interest as well as the researcher's research activities.

1.1.2 Summary of the Case Study Design

The researcher used an embedded (multiunit) multiple-case study with a literal replication approach. The focal case study represents one of a total of three case studies.

Rationale

The main rationale for conducting the case study was to complement the previous research results of the mixed-methods approach with further results derived from a real-world context. These results were intended to be descriptive in nature and contribute additional details.

Objective

The objective of the case study was to identify and describe the building blocks of a partner program and partner network.

Research Questions

Consequently, the research questions were:

RQ 1: What are the building blocks of a partner program?

RQ 2: How can a software company foster the development of a partner network?

Theoretical Framework

Theories evolved from the researcher's previous research activities were used as a reference for the design and implementation of the case study. The developed theory represented the foundation for deriving the structure for the focal case study. Based on this theory, the researcher determined the units of analysis. These units were the guiding skeleton for the focal case study. Table H summarizes the theoretical framework consisting of the units of analysis for the case study.

Table H: Overview Theoretical Framework

Management Areas	Core Categories
Partner Program	Strategy
	Core Competencies
	Organizational Structure
	Culture
Partner Network	

1.1.3 Data Collection Procedure and Sources

This section summarizes the main elements of the case study from a methodological perspective. For this purpose, the researcher described the core research activities based on the categorization of the main sources of evidence. In addition to semistructured interviews and complementary documents, the researcher mainly used participant and direct observations as sources.

1.1.1.4 Participant Observations

In contrast to direct observations, participant observations do not just involve a passive observation role. Instead, the researcher participated in the actions being studied. In the current case, the researcher's role ranged from sparring partner to a methodological supporter for the analysis of the SV's value chain.

Analysis Workshop Value Chain (July 24, 2014)

The objective of this workshop was to optimize and restructure the abas partner certification, based on the analysis of the value chain related to the abas software products (abas business suit). The relevant data were provided by Aysenur Kazokoglu (head of abas Academy and responsible for the partner certification program). The investigator supported the workshop from a methodological point of view.

The analysis workshop comprised four main steps:

- Description of the value chain related to the software product abas Business Suite.
- Identification of the key activities along the value chain, relevant to offering the customer the whole solution and enabling the value of the product.
- Identification of the knowledge areas required for performing the identified key activities.
- Design of the partner certification program based on the SV's value chain and identified knowledge areas

The following paragraphs summarize the results of the workshop.

Description of the value chain and the corresponding key activities: Four key elements of the value chain were identified through the workshop: (1) Product Development; (2) Marketing and Sales; (3) Implementation; and (4) Support and Operation. Product Development comprises two aspects, namely the development of abas Business Suite and development of complementary software modules. Figure C illustrates the value chain and corresponding key activities along the value chain required to offer the customer product value.

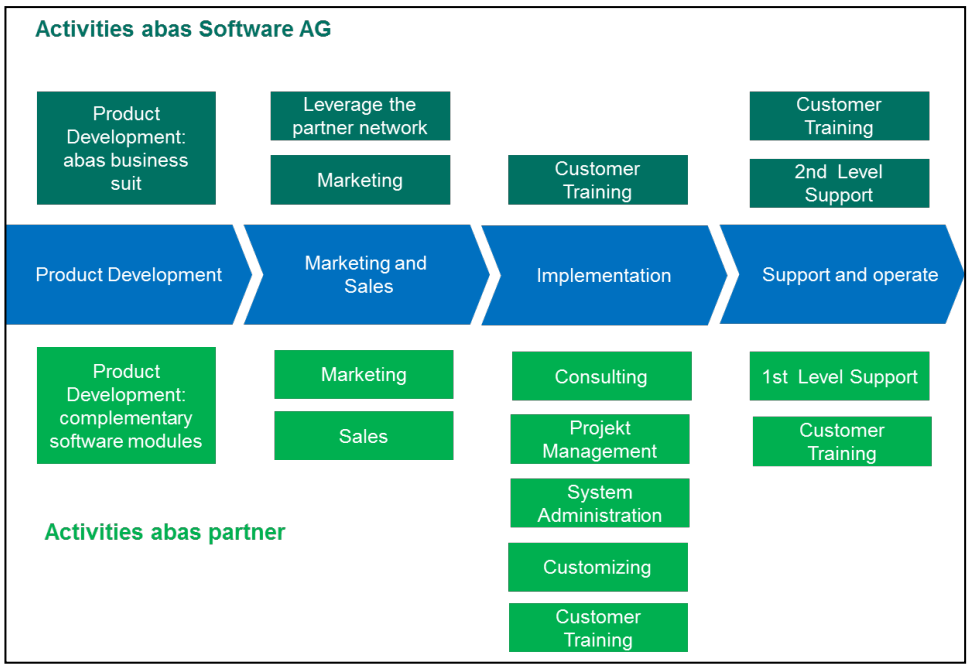


Figure C: Description of the Value Chain and the Corresponding Key Activities

Knowledge areas required for performing key activities: The abas partners require training in different knowledge areas to be able to implement the relevant key activities. This comprises areas such as product development, requirement management, and the GIM (global implementation method). Figure D illustrates the relevant knowledge areas identified through the analysis.

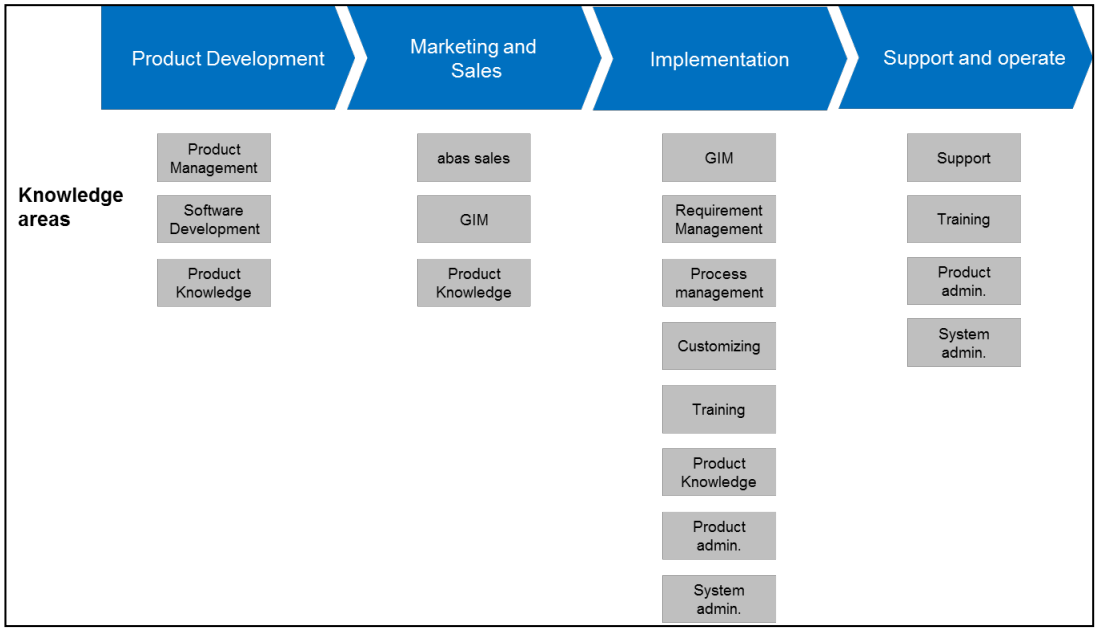


Figure D: Knowledge Areas Required for Performing Key Activities

Partner certification program: The main result of the workshop was the design of an initial version of the abas partner program. Nine different certification roles were identified, and . Furthermore, based on these roles, five additional specializations were identified. A summary of the certification roles is shown in Figure E and Figure F.

Figure E: Partner Certification Program 1/2

Figure F: Partner Certification Program 2/2

Academy Workshops Partner Certification and Training Program (August 8, 2014, 10:00–16:00)

With the purpose to integrate all relevant stakeholders and their perspectives regarding partner certification, abas conducted an additional workshop with an extended group of participants, featuring project managers, partner managers, and support staff as well as representatives of top and middle management. In total, 18 employees participated. In this workshop, the researcher acted as an additional participant with an active but rather restrained role. The main objective of the workshops was to integrate all relevant perspectives into the development of an attractive training program. Thus, the focus was on embedding the training in the partner certification program. For this purpose, the participants agreed on four main topics:

- Training of the partners embedded in a person-based certification program.
- The use of blended learning; a combination of classroom training and e-learning.
- Training concept for the (international) partners.
- Development of an attractive and innovative training concept for customers.

The findings of this workshop were used to refine and concretize the initial design of the partner certification program. For this purpose, the researcher supported Aysenur Kazokoglu through two additional follow-up workshops (Table I). These workshops were conducted to integrate the participants' feedback from the previous workshop into the partner program.

Table I: Overview Follow-up Workshops

Meeting	Date	abas participants	Relevant documents	Main outcomes
Follow-up Workshop Partner Certification (1)	04.09.2014 12:00–16:00	Aysenur Kazokoglu – Head of Academy	Minutes Academy Workshops Partner Certification and Training Program	Partner Certification Program
Follow-up Workshop Partner Certification (2)	27.05.2014, 10:00–12:30	Aysenur Kazokoglu – Head of Academy	Minutes Academy Workshops Partner Certification and Training Program	Partner Certification Program

The final version of the partner certification program was presented at the abas partner conference on September 24, 2014.

1.1.1.5 Direct Observations

Because in the current case study the phenomena of interest were not purely historical, some relevant social and environmental conditions were available for observation. This involved observations of analysis workshops, partner training, as well as user and partner conferences. The case study protocol was used to capture the essence of these observations.

abas 360° Global Conference

abas Software AG hosted its annual abas 360° Global Conference at the Kongresszentrum in Karlsruhe, Germany from September 24 to 26, 2014. The first day, Partner Day, was dedicated to the abas partners, whereas the following two days were designed as a customer-centered user conference. As part of the abas case study, the researcher visited both parts of the conference.

abas Partner Day (September 24, 2014)

The researcher participated on the abas partner day on September 24, 2014. This conference takes place every year in September; abas partners from around the world can meet each other as well as abas employees. The objective is to provide a platform for sharing information, ideas, new developments, and goals for the future. For this purpose, the partner conference offers presentations, workshops, meetings, and networking opportunities meant to keep the partners updated on new developments in the company, among the partners, and regarding the abas Business Suite.

The core topics of Partner Day included abas business development and repositioning, product and technology development, marketing strategy, a new training program, pricing model, and the future of the company's web presence. An overarching topic of the conference was the partner concept and enablement.

Introductory Speech

Partner Day began with an opening speech from abas CEO and cofounder Werner Strub, delivered to abas partners. He summarized the essential success KPIs, which include supporting 3,000+ customers, a 90%+ customer satisfaction rate, and the fact that 24% of abas' customers have been with the company for 10 or more years. Strub emphasized the vital contributions of the partners to abas' success and thanked them for their efforts. Altogether, 960 experts on 65 sides in 29 countries contribute to abas' ERP solution. (abas Software AG 2014b)

Strub also described that one of the building blocks of their success, which are relevant to maintaining abas' current momentum in the future, are abas' partners and their focus on customers. Furthermore, he underlined that abas together with its partners must be adaptive to changing needs, never stop innovating, and take a global approach to developing products, enabling partners, and providing quality training. (abas Software AG 2014b)

Further topics of the presentation included the new abas partner portal, a new partner certification program, the repositioning of abas, and the redesign of the company's web presence.

In sum, the keynote underlined the partners' vital role abas' business model and showed a clear commitment and dedication of abas and its management to a partner channel.

Marketing and Repositioning

The partners participated in strategy workshop sessions as well as operative workshops regarding abas' new marketing concept. During the strategic workshop, the partners were briefed on the strategic objectives of abas, the repositioning of the abas brand, and the critical contribution of the SPs. In additional workshops, the partners were informed how abas planned to support the partners' marketing activities and lead generation activities.

New abas Partner Portal

A highlight of the partner event was the announcement of the new abas partner portal. It emphasized abas' commitment to its partner strategy and indicated the importance of the partner network in the company's business model.

The partner portal is part of the improvements to partner enablement and offers optimized access to information and materials required for sales, presales and marketing activities as well as concerning the abas Business Suite. It also integrates an online partner community, and thus fosters communication among partners. A search function allows easy access to the contact information of other partners and relevant contacts within abas. Furthermore, a chat area offers immediate online communication with abas employees, and a dashboard provides new blog posts, updated information, relevant news, and an overview of current events.

Partner Certification

The relaunch of the partner certification program was an important announcement for the partners. abas ensures the quality and expertise of its partners through an extensive qualification and certification program (abas Software AG 2014a). It ensures that abas partners can provide the best services to customers, and thus, it provides customers confidence that certified partners are proven and reliable expert in products, technologies, implementation, and services.

The certification program provides active assistance for partners through presence training, practice phases, hands-on periods, self-tests, and complementary online courses. It covers knowledge areas in sales, project management, consulting, product technologies, as well as industry-specific topics. Thus, through the certification program, the partners not only acquire current knowledge of abas products and technologies but also expertise in relevant subject matter. Furthermore, certified partners are capable to professionally apply the abas Implementation Method to conduct customer projects successfully. The abas certification program is based on different roles, and each certification role requires a specific training path.

The five main identified roles are: Certified Sales Professional, Certified Consultant, Certified Project Manager, Certified Solution Developer, and Certified Administrator.

- A Certified Sales Professional can assist customers with all of their sales-related questions.
- A Certified Consultant has the necessary product knowledge and experience to support customer projects through all phases.
- A Certified Project Manager is responsible for achieving the project results agreed to with the customer. He/she ensures that deadlines and budgets are met, and inspections and approvals are conducted properly.
- A Certified Solution Developer has the skills to implement customer requirements.
- A Certified System Administrator can plan, install, configure, and maintain the abas system environment.

The certification can be supplemented with three roles: Certified Presales Professional, Certified Trainer, and Certified Support Professional.

The supplementary role of Certified Presales Professional confirms the ability to support the sales department with all technical questions. The supplementary role of Certified Trainer teaches methods to deliver high quality, systematic, and didactic courses. The supplementary role of Certified Support Professional builds knowledge in professionally handling customer requests.

Moreover, specialized certification can be achieved. These specializations represent more in-depth knowledge in specific areas, including accounting, automotive, and reporting.

The obtained certification is granted for one or more roles. The roles require an annual renewal as part of a recertification process, which consists of participating in online courses accompanied by online exams. These activities are meant to keep the partners up to date on current developments and ensure continuous quality and expertise.

abas User Conference, September 25–26, 2014

Nearly 900 new and long-time abas customers from different regions participated in this 2-day user event. The 2 days were filled with more than 50 presentations, workshops, and network opportunities aimed at engaging with and providing customers with the latest trends and developments, as well as fostering knowledge transfer. Through the event, abas and partners demonstrated new developments and highlights of the abas-based solution suite. It enabled communication with abas experts, both

employees and partners of abas, to discuss specific product topics, as well as offered educational presentations oriented on practical examples and best practices using the abas solution.

The event offered customers an opportunity to network with other abas customers and with abas partners, exchange experiences and learn from each other.

abas experts and partners shared their expertise on a full spectrum of topics such as ERP, Mobile Apps, DMS, CRM, BI, Project Management, and PLM. They presented real-world examples of the use of abas Business Suite and how to maximize day-to-day work using abas. Furthermore, abas partners presented their third-party solutions and demonstrated the benefits of integrating with the abas Business Suite.

Partner Exhibition

An essential element of the conference was the partner exhibition, where 29 certified partners offered the conference visitors easy access to information regarding industry- and function-specific extensions and services and specialized applications for abas ERP.

Networking

The abas Global 360 Conference was designed as a communication platform for partners and customers. In addition to the event itself, the researcher identified the following main components that were meant to engage the participants in dialog and the exchange of ideas and experience with other practitioners and experts: the evening event, after-work drink, and communication enabler.

Evening Event (September 25, 2014, 07:00 p.m.)

The evening event took place at the Gartenhalle in Karlsruhe. Partners, customers, and abas employees participated at this after party. Live music, delicious meals, and a seating arrangement that enabled communication between the participants fostered networking.

After-work Drink (September 26, 2014, 04:15 p.m.)

The event closed with the last network event and farewell drink. It was an additional opportunity to network and a possibility for abas to obtain feedback regarding the event in an informal setting. Furthermore, follow-up business activities could be scheduled, and suggestions and critiques were discussed.

Communication Enabler: breaks with catering, global meeting point, stickers

The whole event fostered networking between the participants, especially among partners and customers. Tools that enabled communication were regular breaks with coffee, soft drinks, and snacks. Another helpful communication tool was the use of stickers that showed the primary interests of the participants (for example, I'm into numbers, techie, using abas for 15+ years, talk to me, production and supply, the boss). Furthermore, a meeting point to get together with partners and customers were offered in the first-floor foyer.

Partner Education (Project Management Fundamentals – Part 1. September 17–18, 2015 in Karlsruhe)

According to abas, the implementation of an ERP system represents a critical challenge for a company (abas Software AG 2019e). Thus, it is vital for a successful ERP project that abas partners are experienced and use a proven implementation strategy. To enable the partners, abas developed the GIM,

which represents a proven project implementation method and partners are trained in it to ensure the highest level of professionalism and quality during the implementation of the abas ERP solution. It is a standardized seven-step approach and aims to increase project success, obtain a similar project implementation procedure, and achieve homogenous quality among the partner project.

To complement the GIM, abas offered general project management courses to set up the basis of project management. The researcher participated in the fundamentals of project management course. The training was designed to offer participants an overview of the basic concepts of project management. It covered general project management topics such as project organization, stakeholder analysis, project planning, work breakdown structure, and risk management. However, the course provided hands-on examples of and specific insights into challenges encountered in ERP projects. The trainer was an experienced and highly professional project manager, and the participants were motivated and dedicated. In sum, the components and quality of the training demonstrated the relevance of partner education for the abas partner concept and enablement. Furthermore, the attitude of the trainer and participants demonstrated their strong commitment to abas, as well as abas' strong support for their partner network.

Interviews

The researcher conducted interviews with three key informants. For this purpose, the researcher developed upfront a structured questionnaire consisting of a list of well-formulated interview questions. However, rather than forcing the interviewees into a predefined structure and interrogatively asking every single question on the questionnaire, the researcher kept the interview informal and conversational. The questionnaire was used as a guide to ensure that all relevant topics were sufficiently addressed. The researcher fostered the exploration of participants' experience on these related topics and encouraged them to share their personal experience regarding the relevant topics.

Key Informants

Peter Forscht: Cofounder of abas and Chief Customer Care Officer and Chief Channel Officer. The interview was conducted on July 21, 2014 and lasted 1:55 hours. The interview was recorded and later transcribed.

Jürgen Nödinger und Peter Walser: Jürgen Nödinger is the Chief Technology Officer (CTO) of abas, and Peter Walser is the Technical Product Manager and former CTO of abas. The joint interview was conducted on September 4, 2014 and lasted 1:19 hours. The interview was recorded and later transcribed.

Key Documents

A variety of documents that provided additional information and details were used as complementary resources for the case study.

1.1.1.6 Data Collection Questions

The primary objective of protocol questions is to keep the researcher on track during data collection. These questions are to be answered by the researcher during the single case. According to (Yin 2012a), these are so-called level 2 questions.

(Yin 2012a) differentiates between five levels of questions.

- Level 1: Questions addressing specific interviewees
- Level 2: Questions addressing the individual case
- Level 3: Questions addressing the pattern of findings across multiple cases
- Level 4: Questions beyond the case study's evidence addressing the entire study
- Level 5: Questions going beyond the narrow scope of the study

Aligned with (Yin 2012a), in the case study protocol, the researcher covered level 2 questions. Although these questions supported the researcher on a meta-level, the researcher conducted the case open-mindedly and fostered the exploration of the case and its context. The researcher avoided being limited by these questions.

Level 2 questions:

- What is the background of the company?
- What is the business context of the company?
- Which role does the partner ecosystem play for the company?
- What are the building blocks of the partner program?
- What role does the partner academy have for the partner program?
- What impacts do the development and management of a partner ecosystem have on the company's scope?
- What impacts do the development and management of a partner ecosystem have on the channel strategy?
- What impacts do the development and management of a partner ecosystem have on the product strategy?
- What impacts do the development and management of a partner ecosystem have on the company's core competency?
- What impacts do the development and management of a partner ecosystem have on the organizational structure and processes?
- What impacts do the development and management of a partner ecosystem have on the company culture?
- How does the company foster the development of a partner network?
- How does the company foster collaboration among the partners of its partner ecosystem?

1.1.1.7 Case Study Report and Documentation

To contribute to the reliability of the case study, the case study protocol included an overview of the reporting activities as well as a guide for the final report. (Yin 2012a)

A variety of reports were produced during the case study. These included reports and minutes capturing the essence of different events and meetings:

- Case Study Kick-Off Meeting (06.05.2014)
- Analysis Workshop Value Chain (24.07.2014)
- Academy Workshops Partner Certification and Training Program (06.08.2014)
- abas Partner Day (24.09.2014)
- abas User Conference (25–26.09.2014)
- Partner Education Project Management Fundamentals – Part 1 (17–18.09.2015)

Furthermore, the interviews were recorded and transcribed:

- Peter Forsch (21.07.2014)
- Jürgen Nödinger and Peter Walser (04.09.2014)

The final report of the case study was structured and aligned with the identified elements of the partner program and partner network. Thus, the different sections reflect the findings of the case study. Furthermore, the case study report begins with a short overview of the analyzed company. In sum, the final case study report is structured under the following section headings:

- Company Overview
- Partner Program
    - Strategy
    - Organizational Structure
    - Culture
    - Core Competency
- Partner Network

1.2 CAS Case Study Protocol

1.2.1 Overview and Background of the Case Study

1.2.1.1 Company Overview

CAS Software AG is the leading German provider of CRM solutions for small and medium-sized enterprises. The company employs approximately 400 people and in 2016 had a total turnover of €40 million. CAS Software AG developed a hybrid channel approach that comprises a direct channel as well as an indirect channel through more than 200 partners.

(CAS Software AG 2018e; CAS Software AG 2019i)

1.2.1.2 Rationale for Selecting the Case

CAS Software AG is a software company in the EAS industry that established a partner ecosystem as its primary business channel.

The case contributes to the addressed research questions (RQ 1: What are the building blocks of a partner program? RQ 2: How can a software company foster the development of a partner network?) Furthermore, CAS allowed the researcher access to relevant data and representatives to address these research questions.

CAS is a perfect match for the previously determined selection criteria:

- CAS is an SV in the enterprise software industry (B2B market).
- CAS offers complex software products to solve complex business problems for its customers.
- CAS must provide complementary business services to offer customers a satisfactory solution for their business needs.
- CAS developed and evolved a partner ecosystem as an important business channel.

1.2.1.3 Case Study Initiation

The case study was started after a kick-off meeting with the cofounder and co-CEO of CAS, Ludwig Neer. In this meeting, he gave an overview of the company, its focus, and history. Furthermore, Ludwig Neer authorized the researcher to contact relevant informants and potential interviewees to gain access to relevant data for the case study. The next steps of the case study evolved iteratively and incrementally.

1.2.2 Summary of the Case Study Design

The researcher used an embedded (multiunit) multiple-case study with a literal replication approach. The focal case study represents one of a total of three case studies.

Rationale

The main rationale for conducting the case study was to complement the previous research results of the mixed-methods approach with further results derived from a real-world context. These results were intended to be descriptive in nature and contribute additional details.

Objective

The objective of the case study was to identify and describe the building blocks of a partner program and partner network.

Research Questions

Consequently, the research questions were:

RQ 1: What are the building blocks of a partner program?

RQ 2: How can a software company foster the development of a partner network?

Theoretical Framework

Theories evolved from the researcher's previous research activities were used as a reference for the design and implementation of the case study. The developed theory represented the foundation for deriving the structure for the focal case study. Based on this theory, the researcher determined the units of analysis. These units were the guiding skeleton for the focal case study. Table J summarizes the theoretical framework consisting of the units of analysis for the case study.

Table J: Overview Theoretical Framework

Management Areas	Core Categories
Partner Program	Strategy
	Core Competencies
	Organizational Structure
	Culture
Partner Network	

1.2.3 Data Collection Procedure and Sources

This section summarizes the core research activities based on the categorization of sources of evidence. The researcher conducted semistructured interviews and used a variety of complementary documents as well as indirect observations as sources.

1.2.3.1 Direct Observations

In the current case study, the phenomena of interest have not been purely historical. Participation in the CAS customer conference allowed the researcher to observe relevant social and environmental conditions. The case study protocol was used to capture the essence of these observations.

The researcher participated in the annual Customer Centricity Forum 2017. This conference focuses on CAS customers and the principle of customer centricity. Furthermore, it offers customers a variety of speeches, interactive workshops, best practice approaches, and information regarding new trends in CRM and customer centricity. In addition, it offers CAS partners a platform that fosters communication among partners, customers, and CAS employees. CAS contributed communication and get-together sessions and provided partners with a dedicated area to present its company and solutions. In sum, the conference fostered the exchange of information between the participants, especially among partners and customers.

1.2.3.2 Interviews

The researcher conducted interviews with one key informant. He was an executives in a relevant department (partner management and sales). This interview was part of the previously conducted GT study. However, for the purpose of the focal case study, the researcher extracted data specific to CAS. The researcher used a questionnaire as a guiding element to ensure that all the relevant topics were covered. However, rather than forcing the interviewees in a predefined structure and interrogatively asked every single questions from the questionnaire, the researcher kept the interview informal and conversational. Both interviews were recorded and later transcribed.

1.2.3.3 Key Documents

Relevant elements selected from the interviews were used as a skeleton for a variety of documents that provided additional information and details. These documents offered valuable data and were used as essential resources for the case study.

1.2.4 Data Collection Questions

The following protocol questions are meant to keep the researcher on track as the collection of the data proceeds. According to (Yin 2012a), these questions are to be answered by the researcher during the single case. (Yin 2012a) calls these types of inquiries level 2 questions.

(Yin 2012a) differentiates between five levels of questions.

- Level 1: Questions addressing specific interviewees
- Level 2: Questions addressing the individual case
- Level 3: Questions addressing the pattern of findings across multiple cases
- Level 4: Questions beyond the case study evidence addressing the entire study
- Level 5: Questions going beyond the narrow scope of the study

Aligned with (Yin 2012a), the researcher only covered level 2 questions in the case study protocol. However, the researcher avoided being limited by these questions and conducted the case open-mindedly, fostering the exploration of the case and its context.

1.2.5 Case Study Report and Documentation

The case study protocol contributed to the reliability of the case study by offering an overview of the reporting activities and providing a skeleton for the final report. (Yin 2012a)

Reports and minutes captured the essence of the following events and meetings visited by the researcher:

- Case Study Kick-Off Meeting
- CAS customer conference Customer Centricity Forum 2017

Furthermore, two interviews were recorded and logged. While one of these interviews were part of the general interviews conducted as part of the initial GT study, elements concerning CAS Software AG were extracted and used as additional sources of evidence. However, these elements were always accompanied by additional documents.

The final report of the case study was structured and aligned with the identified elements of the partner program and partner network. Consequently, the final case study report is structured under the following section headings:

- Company Overview
- Partner Program
    - Strategy
    - Organizational Structure
    - Culture
    - Core competency
- Partner Network

1.3 HABEL Case Study Protocol

1.3.1 Overview and Background of the Case Study

1.3.1.1 Company Overview

HABEL is one of the leading software companies in the field of document management (DM). The company offers small and medium-sized enterprises tailor-made solutions. HABEL employs approximately 80 people. In addition to its direct channel, HABEL started developing a partner ecosystem in 2011. Since then, the company has doubled its customer base as well as its revenue. Today, HABEL possesses a hybrid channel approach with approximately 60 to 70 partners. (HABEL GmbH & Co. KG 2019b; HABEL GmbH & Co. KG 2019a)

1.3.1.2 Rationale for Selecting the Case

HABEL is a software company in the EAS industry that started the development of a partner ecosystem in 2011. Since then, the software company has invested significantly in the development of the partner ecosystem. Although the partner ecosystem has already reached a professional level, HABEL is still in the evolution stage of the partner ecosystem, and not all elements are fully developed. Thus, it was an ideal opportunity to analyze a partner ecosystem in an early stage of development.

The case contributes to the addressed research questions (RQ 1: What are the building blocks of a partner program? RQ 2: How can a software company foster the development of a partner network?) and offers access to relevant data to address these research questions.

Furthermore, HABEL is an excellent match for the previously determined selection criteria:

- HABEL is an SV in the EAS industry (B2B market).
- HABEL offers complex software products to solve complex business problems for their customers.
- HABEL must provide complementary business services to offer their customers a satisfactory solution for their business needs.
- HABEL developed and evolved a partner ecosystem as an important business channel.

1.3.1.3 Case Study Initiation

The researcher met Florian Veit, Head of Sales & Marketing at HABEL, at the partner conference of abas (24.09.2014). Veit explained that HABEL shifted its business focus from a purely direct sales-oriented company to a hybrid mix that comprises direct sales activities as well as indirect activities through partners; Veit was responsible for this development. Thus, we agreed to conduct a study on the HABEL case and perform several deep-dive interviews. Also, Veit offered access to documents and data relevant to the case study. The next steps of the case study evolved iteratively and incrementally, mainly driven by the conducted interviews.

1.3.2 Summary of the Case Study Design

The researcher used an embedded (multiunit) multiple-case study with a literal replication approach. The focal case study represents one of a total of three case studies.

Rationale

The main rationale for conducting the case study was to complement the previous research results of the mixed-methods approach with further results derived from a real-world context. These results are intended to be descriptive in nature and contribute further details.

Objective

The objective of the case study was to identify and describe the building blocks of a partner program and partner network.

Research Questions

Consequently, the research questions were:

- RQ 1: What are the building blocks of a partner program?
- RQ 2: How can a software company foster the development of a partner network?

Theoretical Framework

Theories evolved from the previous research activities were used as a reference for the design and implementation of the case study. The developed theory represents a foundation for deriving the structure for the focal case study. Based on this theory, the researcher determined the units of analysis. These units were the guiding skeleton for the focal case study. Table K summarizes the theoretical framework consisting of the units of analysis for the case study.

Table K: Overview Theoretical Framework

Management Areas	Core Categories
Partner Program	Strategy
	Core Competencies
	Organizational Structure
	Culture
Partner Network	

1.3.3 Data Collection Procedure and Sources

This section summarizes the core research activities based on the categorization of sources of evidence. The primary sources of the focal case study were four deep-dive semi-structured interviews with Veit (4:24 min in total). Additional documents were used to complement the insights of the conducted interviews.

1.3.3.1 Interviews

The researcher conducted four interviews with Veit. To perform the interviews, the researcher developed a structured questionnaire. However, rather than forcing the interviewee into a fixed structure, the researcher kept the interviews informal and fostered the exploration of the participant's experience. The researcher focused on encouraging Veit to share his expertise regarding the transformation of HABEL into a partner-centric company. The three interviews on November 3, 2014 (00:44 hours), November 24, 2014 (02:05 hours), and December 1, 2014 (01:35 hours) were recorded and later transcribed.

1.3.3.2 Key documents

Various accompanying documents were used as additional resources for the case study. These documents provided further details and supplementary data.

1.3.4 Data Collection Questions

The subsequent protocol questions support the researcher in keeping track as the collection of data proceeds. These are so-called level 2 questions and are meant to be answered by the researcher during the single case (Yin 2012a).

In total, (Yin 2012a) differentiates between five levels of questions.

- Level 1: Questions addressing specific interviewees
- Level 2: Questions addressing the individual case
- Level 3: Questions addressing the pattern of findings across multiple cases
- Level 4: Questions beyond the case study evidence addressing the entire study
- Level 5: Questions going beyond the narrow scope of the study

The researcher addressed solely level 2 questions in the case study protocol. Nevertheless, he avoided being constrained by these questions and fostered the exploration of the case and its context.

1.3.5 Case Study Report and Documentation

The case study protocol contributes to the reliability of the case study by offering an overview of the reporting activities and providing a skeleton for the final report. (Yin 2012a)

The conducted interviews were recorded and transcribed:

- Florian Veit (24.11.2014, 02:05 hours)
- Florian Veit (01.12.2014, 01:35 hours)
- Florian Veit (03.12.2014, 00:44 hours)

The final report of the case study was structured and aligned with the identified elements of the partner program and partner network. Consequently, the final case study report is structured under the following section headings:

- Company Overview
- Partner Program
    - Strategy
    - Organizational Structure
    - Culture
    - Core competency
- Partner Network

F Appendix VI – The Grounded Theory Coding Procedure

Table L: Some Exemplary Data Chunks Associated to Corresponding Open Codes

Exemplary data chunks from the interviews	Open Codes
„… Gut zum einen gibt es Partner, die man einfach kennen vom Markt, wo man einfach weiß oder die Leute, also Firma IDpendant in München, da wissen wir einfach, gut die ist seit Jahren am Markt, die ist unterwegs und ist allgemein bekannt. Mit denen arbeiten wir dann zusammen. (...) Manche Sachen das sind dann schon Erfahrungen, wie ich gesagt habe, wo wir sagen, wir trennen uns wieder, wo vielleicht durch ein Projekt getrieben ist, wo man sieht, okay das bewährt sich ganz gut und die machen einen guten Eindruck. …“ „The second criteria which we normally look at is to success; how many customer projects they have done; what kind of projects they have done and what has been the success there“ “Also Empfehlungen sind sehr wichtig. Wenn ich weiß, ein Partner hat mit einem Partner gute Erfahrungen gemacht und der mir den empfiehlt und ich mich mit dem treffe und die erste Harmonie stimmt, dann gucke ich auch nicht mehr nach weiteren.” … von daher gesehen gucken wir uns einfach mittelständische ERP-Hersteller an und wir bewerten die Geschichte natürlich…“ „…Ist er erfolgreich in dem, was er tut? Weil, klar, das möchte ich schon irgendwie haben, dass er erfolgreich ist, damit er dann auch wieder was Neues oder wenn er eben unsere Produkte da mit aufnimmt, dass er die halt auch erfolgreich mit nach außen tragen kann…“ „Also da muss ich schon gucken, dass ich jemand finde, der von Hause aus eine gewisse Position hat, einen gewissen Ruf hat…“ „Wie kennt er den Markt, den ich nicht kenne, aufgrund seiner nachgewiesenen Expertise im Sinne von langfristig gut gelaufenen Projekten, …“ „… Wie ist so sein Erfolg bisher? ...“	Reputation

„… Und wenn der am Markt ist, etabliert ist und schon einen guten Namen hat, …“ „… Das heißt, wir suchen Firmen, die im IT-Security-Beratungsumfeld unterwegs sind, die vielleicht ähnliche Produkte, RSA Tokens oder Authentisierungssachen anbieten und die gehen wir dann, schauen uns an, was haben die für ein Standing, …“	
„Das was wir hier machen, da muss man damit rechnen, dass man erstmal ein Jahr lang Pipelinepflege macht. Das heißt Kontakte aufbauen, entwickeln, präsentieren, rausfahren, anbieten, wieder präsentieren, wieder rausfahren, etc. Kosten, Kosten, Kosten und kein Return. Wenn ich das halt nicht durchstehe, dann habe ich ein Problem, dann bin ich halt relativ schnell wieder weg.“ „Also jetzt wiederum aus Sicht eines etablierten Softwareanbieters, würde ich sagen, tendenziell eher Unternehmen was schon einen gewisse Substanz, was schon eine bestimmte Anzahl von Bestandskunden hat. was auch in der Lage ist, ein neues Geschäftsfeld zu eröffnen, ohne gleich daran zu Grunde zu gehen.“ „Aber dann muss der auch die Leute ausbilden, dann muss er das von anderen Bereichen abziehen, dann muss er einstellen vielleicht. Und das andere ist, wenn du so ein tolles Produkt hast, dass die Leute, die Partnerunternehmen, die potenziellen Partner auf dich zukommen, dann musst du auch die Richtigen auswählen, mit den du zusammenarbeiten willst. Das hat ja auch wiederum damit zu tun, wie du draußen am Markt bei Interessenten und Kunden auftrittst. Also das ist IMMER auch da, deine Verantwortung, zumindest mit deine Verantwortung, wenn beim Partner dann irgendwas schief geht, wenn die Mitarbeiter wechseln oder, oder, oder. Klar, das kannst du nur bedingt beeinflussen. Aber du hast die mit ausgewählt, das heißt, das musst du auch bewerten, wie stabil ist dieses Unternehmen?“ „Ja, also wenn man mit/ in der Branche mit einem Partner fünf Einführungsprojekte und der geht dann pleite, dann hat man viel Spaß.“ „Also da spielt da auch finanzieller Background und so weiter durchaus eine Rolle. Und da hat sich die CAS einige Male verbrannt, wo sie Partner hatten, die eigentlich finanziell nicht stabil waren.“	Financial Stability
“… Eine gewisse Unternehmensgröße sollte er haben. Ich hab in der Vergangenheit schon einiges mit jungen Unternehmen versucht und das ist eigentlich auch gut, das zu tun. Aber ein junges Unternehmen, was keinen Markterfolg oder keinen Marktzugang hat oder nur sehr wenig Marktzugang, was dann auch noch mit einem neuen Produkt daher kommt, das ist halt viel viel viel schwieri-	Company Size

ger …" „... Also wir haben auch so eine Schablonen, wo ich sage, okay, das sind so die Rahmenerwartungen an Partner. Details will ich jetzt gar nicht sagen, aber das hat ja auch mit der Größe des Partners zu tun, mit dem Commitment, mit den Zielen, die er definiert mit uns, mit der Erfahrung …" „… Also ich kann jetzt nicht einen Freiberufler als Alleinvertrieb für Nordamerika engagieren. Das muss passen, klar …" „…ein ganz kleines Unternehmen kann das nicht leisten, man braucht eine gewisse Größe, um auch quasi Ressourcen zu haben, die das können, ja, Innovation voran zu treiben …" „... der muss ja Kunden bedienen können, die dann vielleicht auch 50 Lizenzen, 100, 1000 Lizenzen abnimmt, ja? Und der muss eigentlich ein Partner sein, der dafür auch geeignet ist …" „… Die spielt halt für die Skalierung eine Rolle und für die Wichtigkeit. Und das ein Mann Partner ist halt auch kritisch, also da ist die Zuverlässigkeit mit Risiko behaftet …" „… Und das hängt nicht nur von der Größe ab, sondern auch von der Größe der Einheit, wenn man einen Partner hat, der 100 Mitarbeiter hat, aber nur einer ist für einen zuständig, dann bringt es einem auch nichts …" "… ist es schon so, dass wir gucken, erst mal wie groß ist der Partner, also unter fünf Personen eigentlich gar nicht mehr. Wie steht er wirtschaftlich dar? ..." „… Dann muss es auch natürlich irgendeine bestimmte Größe haben, wo ich dann denke, okay der kann die Aufgabe, die ich ihm übertrage, mittragen. Also wenn ich jetzt davon ausgehe, der Partner muss irgendwie jemanden haben, der vielleicht verkauft, zwei Leute haben, die dann beraten, implementieren und dann irgendwie noch Leute haben, die vielleicht (...) Anwendungsentwicklung, also diese Kundenanforderungen in der Software programmiert. (…) Es muss von der Struktur her, muss es zu uns passen, also zu dem Unternehmen passen, aber auch eine bestimmte Größe haben, um die Aufgaben …" „… Generell. Würde ich sagen, dass er eine gewisse Größe haben muss, einfach, um ein gewisses Knowhow und auch eine gewisse Abdeckung zu haben, sowohl technologisch als auch vertrieblich als auch/ Würde ich schon sagen. Größe, also deutlich über fünf Personen, würde ich sagen …"	
„Also sie müssen zumindest soweit kompatibel sein, dass sie mit den .. Auswirkungen der Unternehmenskultur klar kommen. Also auch da wieder ein Beispiel, .. wenn du mit Oracle zusammen arbeitest muss dir klar sein, irgendwel-	Cultural Compatibility

che Verträge, die du aushandelst, die gibt Oracle vor und da gibts wenig Diskussionsspielraum, um Anpassungen zu machen. So, als Partner musst du damit klar kommen, also musst dich quasi auch diesem .. diesem Korsett sozusagen unterordnen können. Wenn du das nicht kannst, brauchst du nicht mit Oracle zusammenarbeiten.“ „Es muss letzten Endes passen. Oder du musst zumindest adaptierter sein, an der Stelle. Heißt nicht, dass du selber dann intern das gleiche machst, aber du musst halt an der Schnittstelle, ... musst kompatibel sein.“ „Da war es so, dass wir schon gedacht haben, ja wir können natürlich jetzt das internationale Partnernetz nutzen in der Hardware. Wir waren viel unterwegs mit Schulungen und es hat sich gezeigt, dass einfach vom Niveau waren es zwei Welten. Vom Pricing, von der Denke her hat das nicht funktioniert.“ „Der andere Punkt natürlich, was sehr wichtig war, war die persönliche Sache und die Kultur, die Firmenkultur. Also schwedisches Unternehmen, sehr innovativ, von den Leuten offen und das war eigentlich eine Sache auch, wo ich Gefühl hatte, von der Menschlichkeit her passt, man hat sich gekannt. Also war auch dann mit den Eigentümern, private Eigentümer, die das Unternehmen weitertreiben wollen. Mit denen hat man sich getroffen irgendwie und das hat einfach gut gepasst.“ „Und bei dem anderen muss man sich zu mindestens so weit passen, dass man halt miteinander agieren kann.“ „Und wenn jemand gekommen ist und hat gesagt, ich muss jetzt einen (NDA?) unterschreiben, erst mal, bevor er überhaupt mit mir redet, habe ich gewusst, das funktioniert niemals, der schafft es nicht. “ „Erstens muss der Partner zu dem Unternehmen passen. Er muss insgesamt menschlich passen.“ „und wenn man mal gemeinsam ein, zwei Projekte gemacht hat, dann kann man dafür auch ein Gefühl entwickeln, wie das Zusammenspiel eben zwischen ERP und der Erweiterungslösung dann aussehen kann“ „Ja, gibt es, definitiv, und zwar in der Form, dass wir sehr stark auf persönlichen Kontakt Wert legen, das heißt, wie gucken uns an, wer die Leute sind, die hinter einem Unternehmen stehen. Also sprich oftmals die Geschäftsleitung, einfach, wie die agieren, was die für Ziele haben. Bei Partnern, die auf Augenhöhe mit uns zusammenarbeiten, jetzt bei Lieferanten zum Beispiel.“ „Genau, das muss einfach passen. Wir tasten uns an solche Leute ran. Die Erfahrung hat einfach gezeigt, es gibt Partner, also die Partner werden wollen, oder wo wir ernsthaft eine Partnerschaft anstreben. Wo wir einfach merken,	

dass die Ansprechpartner uns, Salesmanager zum Beispiel, die dann für uns als Kunden zuständig sind oder einfach die direkten Ansprechpartner, dass die möglicherweise bestimmte Vorstellungen vom Business haben, wie sie ihr Business machen, wie sie ihre Kunden oder ihre Partner behandeln und wenn wir halt feststellen, dass das eben nicht zu unserer Philosophie passt, dass man geradeaus zu jemandem auf den Kopf zusagt: Das möchte ich und das möchte ich nicht, und sie damit eventuell ein Problem haben, (unv. #00:02:25.0#) grundsätzlich, dann muss man einfach überlegen, ob die Partnerschaft Sinn macht“. „Die Unternehmenskultur und auch das Bauchgefühl. Persönliche Zusammenarbeit, das muss passen. Und dann erst kommt der technische Aspekt, dass es wenig Überschneidungen gibt, dass es gut zusammenpasst.“	
„…und dass sie halt unsere Philosophie auch mittragen, dass sie Werte vermitteln …“ „… letztendlich soll der Kunden das Produkt mit irgendeinem Wert, oder mit Werten erfahren und die Werte sollen Partner genauso vermitteln wie ich als Unternehmen, dann wäre es ideal, finde ich. Also ich hab eine bestimmte Wertevorstellung sag ich und möchte ich dem Kunden diesen Service bieten, dann erwarte ich, dass die Partner das genauso bieten.“ „… Gut meine ich, die in der eigenen Philosophie denken, also in der gleichen Philosophie denken, die die gleiche Servicelevels anbieten, die man als Unternehmen auch anbieten möchte. Also oder eben die man anbieten möchte, dass sie die auch bedienen können ... Dass sie so in der gleichen Denkweise sprechen, wie ich als Hersteller …“ „Und natürlich hat das Einfluss auf die Wahrnehmung des Unternehmens und damit auch des Produktes. Also von daher deckt sich die Kultur des Unternehmens schon auch auf die Wahrnehmung des Produktes aus.“ „… für die Anfangsphase ist halt wichtig, dass man ein gemeinsames Auftreten gegenüber dem Kunden hat und eben dem Kunden für seine Anfragen, für seine Problemstellungen eine gemeinsame Lösung bieten kann, die einfach ist, die eigentlich für den Kunden keinen Mehraufwand irgendwo bedeutet, sondern dass er wirklich eine durchgängige schöne Lösung hat“	Customer-perceived Culture

Table M: Open Codes and Axial Codes of the Core Category Partner Selection

Open Codes	Axial Codes
Expertise in the EAS Industry	Fundamental Fit
Reputation	
Financial Stability	
Company Size	
Cultural Compatibility	Cultural Fit
Customer-perceived Culture	
Organizational Fit	Organizational Fit
Strategic Fit	Strategic Fit
Commitment	Commitment
Ecosystem Fit	Ecosystem Fit
Complementary Business Services	Complementarity
Complementary Components	
Complementary Products	
Regional Presence	Market Access
Existing Customer Bases	
Market Knowledge	

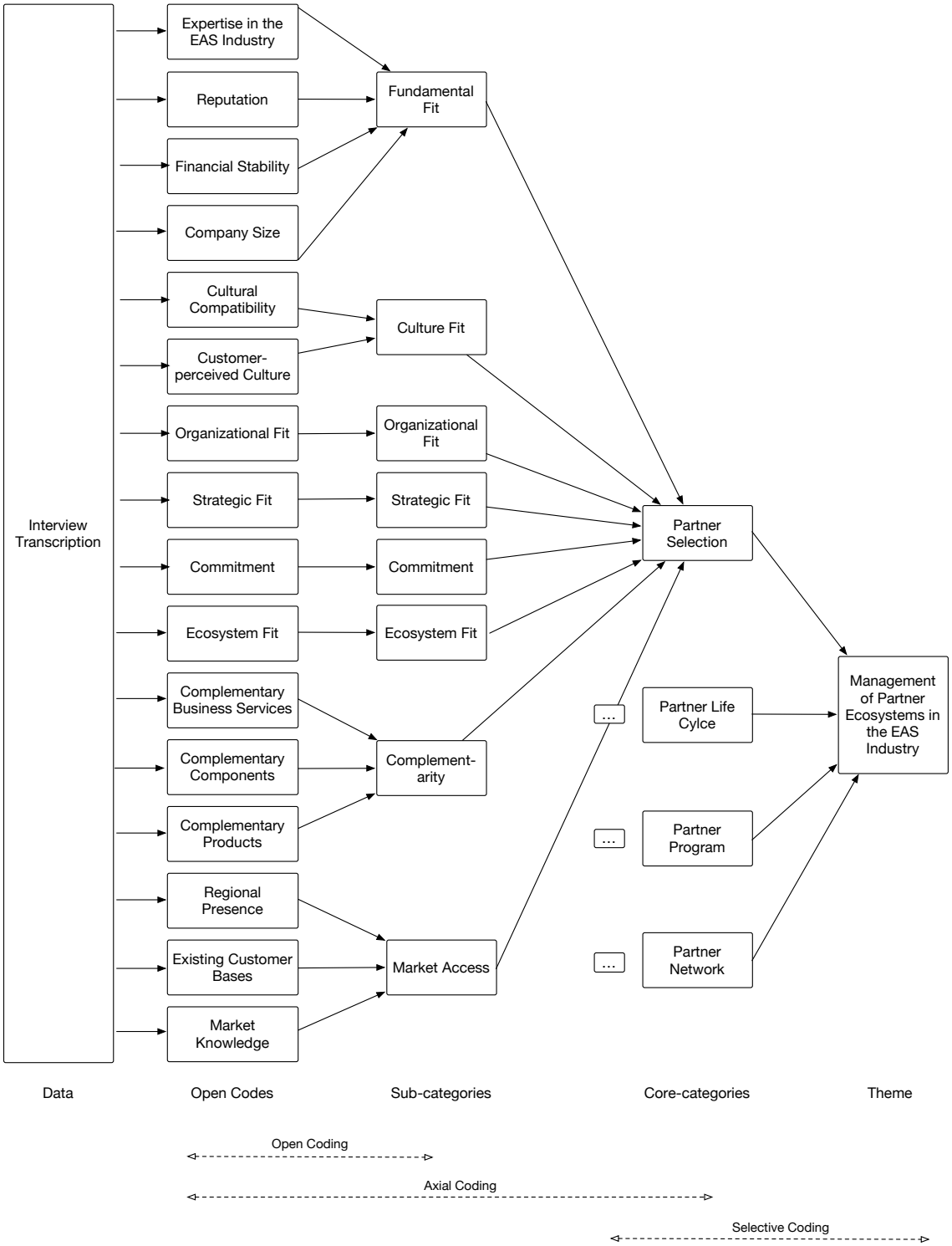


Figure G: Representation of the Overall Coding Process

Table N: Overview of the identified Core Categories and Sub-categories

Open Codes	Sub-Categories	Core Categoires
Expertise in the EAS Industry	Fundamental Fit	**Partner Selection**
Reputation		
Financial Stability		
Company Size		
Cultural Compatibility	Cultural Fit	
Customer-perceived Culture		
Organizational Fit	Organizational Fit	
Strategic Fit	Strategic Fit	
Commitment	Commitment	
Ecosystem Fit	Ecosystem Fit	
Complementary Business Services	Complementarity	
Complementary Components		
Complementary Products		
Regional Presence	Market Access	
Existing Customer Bases		
Market Knowledge		
Design	Design	**Partner Life Cycle**
Enablement	Enablement	
Ramp Up	Ramp Up	
Partner Assistance	Operation	
Communication		
Organizational Structure	Organizational Structure	**Partner Program**
Culture	Culture	
Channel Strategy	Strategy	
Product Strategy		
Collaboration	Core Competency	
Building Consensus		

Alignment		
Quality Assurance		
Enablement and Support		
Communication	Supporting Hub	**Partner Network**
Collaboration		
Mutual Support		
Exchange of experiences and information		
Conflict Management		

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