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Interacting performance effects of marketing and sales activities: Case Aalto EE Open programs and Forums

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ABSTRACT
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INTERACTING PERFORMANCE EFFECTS OF MARKETING AND SALES ACTIVITIES: CASE AALTO EE OPEN PROGRAMS AND FORUMS

This study focuses on the interacting performance effects of marketing and sales activities. Literature review draws together relevant research relating to this topic and thus, concentrates on marketing performance and marketing-sales relationship. Both of the fields have received only limited attention in the earlier literature.

A fresh approach called Fuzzy Set Qualitative Comparative Analysis (FS/QCA) is used as an approach and as a methodology in this study. FS/QCA assists in explicating the causal link between marketing and sales activities and performance. Configurations of marketing and sales activities can affect marketing performance in various ways, as it is demonstrated in this study. The case company is a Finnish company called Aalto University Executive Education Ltd (Aalto EE), which offers executive education services. This study focuses on the business area of Open programs and Forums. The data for the empirical part is obtained mainly through interviews, observation, and by collecting data from the case company's electronic data sources.

The most important contribution of this study is that it disentangles the relationship between the performance outcomes and the configurations of marketing and sales activities at Aalto EE. This study also demonstrates that FS/QCA can be implemented in marketing context and it can explain marketing outcomes. The results confirm that a single activity can affect the examined outcome differently when it's part of a different configuration. Sales e-mail campaigns represent an important marketing activity for the case company, which is why there is a separate 'mini-study' on these.

Depending on the type of the examined program, some configurations seemed to be more effective than others in reaching the sales targets; and thus, the cases were divided into two separate groups. The success of the sales of the programs in one group was highly contingent on the success of various marketing activities. Especially high sales effort done by the program manager and the success of the info session were identified as crucial activities. In the second group high sales revenue was reached through an exceptionally low amount of marketing and sales activities. In these cases program manager's or program partner's high sales effort sufficed to cause high sales revenue for the program.

KEYWORDS: marketing performance, marketing-sales relationship, configurations, fuzzy set qualitative comparative analysis, FS/QCA

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MARKKINOINNIN JA MYYNNIN VÄLISEN VUOROVAIKUTUKSEN SUHDE SUORITUSKYKYYN: TAPAUS AALTO EE AVOIMET OHJELMAT JA FOORUMIT

Tutkielma keskittyy siihen, miten markkinoinnin ja myynnin aktiviteetit vaikuttavat suorituskykyyn. Kirjallisuuskatsaus keskittyy markkinoinnin suorituskykyyn sekä markkinoinnin ja myynnin väliseen suhteeseen, jotka ovat jääneet vain vähälle huomiolle aiemmassa kirjallisuudessa.

Tutkielmassa käytetään tuoretta lähestymistapaa nimeltä Fuzzy Set Qualitative Comparative Analysis (FS/QCA), joka on sekä lähestymistapa että metodologia. FS/QCA auttaa selvittämään kausaalisia suhteita markkinoinnin sekä myynnin aktiviteettien ja suorituskyvyn välillä. Markkinoinnin ja myynnin aktiviteettien konfiguraatiot voivat vaikuttaa markkinoinnin suorituskykyyn monella tapaa, kuten myös tässä tutkimuksessa on todistettu. Tapausyrityksenä toimii Aalto University Executive Education (Aalto EE). Aalto EE tarjoaa liikkeenjohdollisia kouluttautumispalveluja. Aalto EE:llä on useita liiketoiminta-alueita, mutta tässä tutkielmassa keskitytään avoimiin ohjelmiin sekä foorumeihin. Tutkielmassa käytetty aineisto kerättiin haastatteluiden, havainnoinnin, sekä elektronisten aineistojen avulla.

Tämän tutkimuksen tärkein tulos on Aalto EE:n markkinoinnin ja myynnin konfiguraatioiden ja ohjelmien myynnin suorituskyvyn välisen suhteen selventäminen. Tutkimus osoittaa, että FS/QCA:ta voidaan onnistuneesti käyttää markkinoinnin kontekstissa ja sen avulla voidaan selittää markkinoinnin tuloksia. Samalla aktiviteetilla voi olla erilainen vaikutus lopputulokselle kun se on osa eri konfiguraatiota. Myyntihakuiset sähköpostikampanjat ovat tärkeä markkinointiväline Aalto EE:llä, minkä takia näitä päädyttiin tarkastelemaan myös erillään muista aktiviteeteista.

Tietyt konfiguraatiot olivat muita tehokkaampia myynnin tavoitteiden saavuttamisessa ja usein ohjelman tyypillä oli vaikutus tietyn konfiguraation tehokkuuteen. Tämän takia ohjelmat päädyttiin jakamaan kahteen erilliseen ryhmään. Ensimmäisessä ryhmässä ohjelman myynnin onnistuminen oli riippuvainen useista eri myynnin ja markkinoinnin aktiviteeteista. Varsinkin ohjelmapäällikön myyntipanostus sekä infosession onnistuminen olivat ensiarvoisen tärkeitä aktiviteetteja. Toisessa ryhmässä tarvittiin vain vähän aktiviteetteja myynnin onnistumiseksi; hyvä myynti saatettiin saavuttaa pelkällä ohjelmapäällikön tai ohjelmapartnerin tekemällä myyntipanostuksella.

AVAINSANAT: markkinoinnin suorituskyky, markkinoinnin ja myynnin suhde, konfiguraatiot, fuzzy set qualitative comparative analysis, FS/QCA

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1 Introduction

People tend to see patterns in their lives and many times assume causality in situations where there are none. In business it is highly important to identify these causal relationships; *why didn't a customer accept my sales offer, why has the demand for our products increased in a certain customer segment, what type of marketing campaigns are most effective in attracting customers*? The list is endless. Companies that are more aware of reasons behind a certain outcome or a change in competitive setting will certainly have an advantage over others.

This study focuses on the interacting performance effects of marketing and sales activities. Marketing-sales relationship is an area, which has received only limited attention in academic research, and this study attempts to contribute into that discussion. Moreover, even less is known about how marketing-sales interaction affects marketing performance and thus, I intend to explicate the dynamics behind this. Although studied for many decades, marketing performance remains too often a 'black box' for academics and practitioners. Fortunately, people have started to realize the need for better marketing accountability. "Accountability and ROI (return-on-investment) of marketing expenditures" was named the top research priority for 2008-2010 by Marketing Science Institute (Marketing Science Institute, 2012).

In this introductory section I will first introduce the reader to the subject by presenting substantive background information. Then I will outline the research questions and objectives, which will be followed by presenting the methodology and scope. In the end of this introduction I will define the key concepts and present the main contributions of this study.

1.1 Background

In order for any company to be profitable, it needs customers of some sort. In order to attract customers a company must deliver the desired customer value, in which marketing and sales functions play a critical role (Guenzi & Troilo 2007). Marketing's interfunctional interfaces have gained generally a lot of attention in academic research (e.g. Ruekert & Walker 1987b), but marketing-sales interface has traditionally received only a little attention (Guenzi & Troilo 2006, 974). Though, some studies have tried to conceptualize the marketing-sales interface

(Cespedes 1993; Dewsnap & Jobber 2000, 2009), the issue particularly in the empirical studies is that they haven't typically distinguished marketing and sales (Homburg, Jensen & Krohmer 2008, 133). This is problematic since in managerial practice marketing and sales frequently are separate functions (ibid., 149).

Since, a vast amount of earlier marketing research has disregarded the concept of marketing-sales interface, this area of study needs specific attention. One reason for neglecting this particular topic until recently is that some organizations and consumers see sales and marketing as a single function (Le Meunier-FitzHugh & Piercy 2009, 611), which is understandable since, for example, both of them are dealing with customers. However, at least in large organizations, marketing and sales are structured as discrete and separate units (Workman, Homburg & Gruner 1998, 37) and this constitutes an obvious dilemma between theory and practice.

According to more recent studies, the relationship between marketing and sales can have an effect on business performance (Homburg & Jensen 2007, 124; Le Meunier-FitzHugh & Piercy 2009, 625). This constitutes as another important reason for researching this topic. Even though this is a novel research area, the concept of marketing performance has been studied for at least 60 years (Parker 1962). Still, according to Morgan, Clark, and Gooner (2002, 363), both managers and academics lack a comprehensive understanding of the marketing performance process. Historically, marketing productivity analysis and marketing audit concept have dominated as the marketing performance metrics (ibid.).

"Half the money I spend on advertising is wasted; the trouble is I don't know which half". This popular saying illustrating the complexity of advertising is attributed to John Wanamaker, but it also represents well the problems that business executives are facing in allotting marketing resources. There is a need for more contextually relevant marketing performance models (Morgan et al. 2002, 368), which also have the ability to identify causal relationships between marketing activities and performance. Researchers and practitioners are in dire need of suitable tools to assess marketing performance. In this study I will use an unusual approach called Fuzzy Set Qualitative Comparative Analysis (FS/QCA), which will assist in explicating the causal link between marketing and sales activities and performance.

In his doctoral dissertation, Antti Vassinen (2012) demonstrated that FS/QCA can successfully be implemented in assessing marketing performance. As a research approach and as a methodology, FS/QCA can be used to explain marketing outcomes that result from combinations of causal conditions (configurations) yielding managerially relevant knowledge that would otherwise be difficult to obtain (Vassinen 2012, 1).

This study aims to explicate the interacting performance effects of marketing and sales by looking at different configurations in the marketing-sales interface. Homburg et al. (2008) have looked at the configurations between marketing and sales on a general level, but the aim here is to deepen the view and look at the activities in both marketing and sales on a more detailed level. The goal is to find out how different configurations in marketing and sales activities affect marketing performance. According to my knowledge, in addition to this thesis and the dissertation done by Vassinen (2012), there haven't been similar studies in the past attempting to explain marketing performance by investigating causal configurations in marketing and sales activities.

1.2 Research question and objectives

Marketing-sales interface is still a largely unexplored area and even less is known about how it affects marketing performance. This study investigates the interacting performance effects of marketing and sales activities through looking at configurations in these activities. Furthermore, the relationship between these configurations and marketing performance is examined. The objective is to produce empirically tested knowledge on how the interaction between marketing and sales activities affects marketing performance. Another key objective of this study is to use a fresh approach, namely FS/QCA, in explaining marketing performance outcomes.

The research question is defined as following:

How do the interacting effects of marketing and sales activities affect performance outcomes?

In order to elaborate the research question, it is accompanied with two sub questions:

What are the interacting effects between marketing and sales in producing performance outcomes?

Which configurations in marketing and sales activities have the highest impact on performance outcomes?

1.3 Methodology and scope

This study employs a fresh approach to assess marketing performance by looking at configurations in marketing and sales activities that bring about performance outcomes. By investigating these causal relationships with a suitable methodology it is possible to see more clearly into the 'black box' of marketing. The methodology (FS/QCA) used here, isn't something that marketers are used to but it has great potential in expanding our knowledge in relation to marketing performance. FS/QCA, when used as an approach and as a methodology, is able to reveal the configurations in causal conditions that lead to performance outcomes. This kind of knowledge can be hard to obtain with the more traditional methods used in marketing.

The empirical data is obtained mainly through interviews, observation, and by collecting data from case company's electronic sources. The case company is a Finnish company called Aalto University Executive Education Ltd (Aalto EE), which offers executive education services.

1.4 Key concepts

In this chapter I will introduce the most important concepts relating to this study. Most of the concepts are explained in more detail in the following chapters.

Marketing. Marketing as a concept can be understood as an organizational function or as a process that includes various types of activities. The latter interpretation usually gives

marketing a more holistic and strategic view in a company. The newest approved definition by American Marketing Association (2008, 1) includes both elements of marketing: "Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large".

Sales. Sales can also mean either an organizational function or a process of activities. In both cases the main activity is to sell products or services. In this study sales function is clearly distinguished from marketing function, whereas some studies in the past have typically subsumed both under marketing organization (Homburg et al. 2008, 133).

Marketing-sales interface. The term refers to the connection, which marketing and sales as functions and as sets of activities and processes have and share. Terms like *marketing-sales relationship* and *interaction of marketing and sales* refer to the same matter, and are used interchangeably in this thesis. The properties and nature of a marketing-sales relationship depend on the situation.

Marketing performance. In a holistic sense, marketing performance can be reflected in the delivery of long-term economic, social, and environmental value to customer, employee, supplier, community, and shareholder stakeholders of a business in order to enhance sustainable financial performance (Murphy, Maguiness, Pescott, Wislang, Ma, & Wang 2005, 1049). In this thesis the focus will be on financial performance, and more closely in the performance of sales of open programs and forums.

1.5 Main contributions of the study

The most important contribution of this study is that it disentangles the relationship between the marketing and sales activities and the performance outcomes at Aalto EE. FS/QCA is used to investigate causal configurations behind performance outcomes. It is demonstrated that by using FS/QCA in analytically suitable contexts, researchers and managers can acquire a new and better way to assess marketing performance. The present study identifies the configurations that have the greatest impact on marketing performance at the case company.

On theoretical side, this study takes part in the discussions concerning marketing-sales interface and marketing performance, which have received only limited attention in the academic literature before.

1.6 Structure

This thesis is divided into six chapters. After the introduction (chapter 1) I will move on to the literature review (chapter 2). Chapter 3 presents the methodology, FS/QCA. Then I will present the case company and the results of this study (chapters 4 and 5). Sixth, and the final chapter, includes conclusions, limitations, and possible avenues for further research.

2 Literature review

The background of my thesis is that of strategic marketing, marketing performance and cross-functional relationships. Marketing needs a strategic role in order for companies to achieve better business performance (Homburg, Workman and Krohmer 1999, 12). In order for marketing to realize its potential contribution to the organization's marketplace and financial performance it needs to connect to the three core business processes of the company, which are customer relationship management (CRM), product development management (PDM), and supply chain management (SCM) (Srivastava, Shervani & Fahey 1999, 169–170). Although marketing performance has been an important domain in marketing research for long, it still remains as an underdeveloped one (Morgan et al. 2002, 364). Marketing's role in business strategy implementation is concerned with managing two critical interfaces: the external interface of customers, distributors, shareholders, etc. but also the internal interface with other functions, internal systems and structure (Morgan & Piercy 1996).

I will examine closely various marketing and sales activities, which in this thesis can be any activities related to marketing or sales, e.g. social media promotion or a discussion with a potential lead. According to Srivastava et al. (1999, 168), marketing activities can be seen as subprocesses of the three core business processes (customer relationship management, product development management, & supply chain management) generating customer value and, in turn, shareholder value. Marketing acts as cross-functional glue that integrates these core business processes together, what in turn means that marketing managers need on top of functional marketing excellence cross-functional process competence to ensure the implementation of marketing ideas (ibid., 178).

In resource-based view (Rumelt 1984, Wernerfelt 1984, Amit & Schoemaker 1993, and others) marketing and sales activities generate or leverage resources to produce performance outcomes like competitive advantage. Market-based assets are resources that are generated and leveraged in large part through marketing activities and meet at least some of the resource-based view attributes (valuable, rare, inimitable, and non-substitutable). Assets can be tangible or intangible, and two types of intangible market-based assets can be distinguished: relational and intellectual. The core constituent elements in resource-based view framework are assets, processes and capabilities (Srivastava, Fahey & Christensen 2001,

779.) Marketing and sales activities usually form a group of activities in a given context. I will look how these different activities are configured and, moreover, how configurations impact the performance outcomes.

In this chapter I will present the relevant literature relating to the issue at hand. First, I will discuss marketing performance. Then I will proceed to investigate interacting effects of marketing and sales activities. In the last part of this chapter I will draw the discussed literature together and present a synthesis of the subject.

2.1 Marketing performance

Even though there has been research on marketing performance at least for 60 years (Parker 1962) it remains a vital concern for many executives (Rust, Lemon & Zeithaml 2004, 109). By treating the marketing process as a 'black box' it is extremely difficult, if not impossible to discern how inputs and outputs are linked and in what ways (Morgan et al. 2002, 371). Still, after 60 years of research, both managers and academics lack a comprehensive understanding of marketing performance process and the factors that affect the design and use of marketing performance systems in organizations (ibid., 363).

Fortunately, people have started to realize the need for better marketing accountability. Marketing managers need suitable tools for marketing performance assessment so that they can better justify marketing actions. Marketing is a critical factor in determining the success or failure of organizations; therefore, accountability is essential (Herremans & Ryans 1995, 52). Otherwise the impact of marketing actions might remain a mystery. Need for accountability in marketing actions (or in any other action, for that matter) is heightened in the time of economic downturn, when there is usually a decreased availability of resources. On the other hand, an increase in resources in general or in slack resources usually reduces profitability monitoring and performance assessment in companies (Cooper 2012).

Marketing has tactical, strategic, and cultural dimensions and one can be favored at the expense of others (Webster 1992, 10). According to Webster (2005, 4) the tactical dimension has dominated for the past two decades with an emphasis on operational marketing decision

variables and short-term business performance results. Short-term tactical outcomes (e.g. sales volume) are also easily observed in relation to long-term marketing outcomes, like customer value creation and enduring inter-personal or inter-organizational relationships. Thus, in practice, performance assessment systems in companies may be influenced more by information availability than by strategic goals and competitive means (Morgan & Piercy 1996, 232–233). Without strategic level of marketing the tactical marketing actions lose their direction; after all, strategy should guide tactics (Webster 2005, 4). Pressure from financial markets and shareholders should not impede companies retaining the strategic focus in marketing and marketing performance assessment.

Though, there is a dire need for new and better functioning marketing performance assessment systems, there has been a couple of approaches that have dominated in this area: marketing productivity analysis and marketing audits (Morgan et al. 2002, 363). Next I'm going to introduce shortly these two approaches.

2.1.1 Earlier approaches on marketing performance assessment

As noted earlier, marketing productivity analysis and marketing audit concept have dominated as the approaches to marketing performance assessment. Marketing productivity analyses have mainly focused on the efficiency perspective whereas marketing audits on the effectiveness perspective (Gama 2011, 646).

Marketing productivity analysis. The idea in productivity analysis is to examine the relationship between inputs and outputs or more accurately, the ratio of output to input. Convertible inputs and durable resources are used to produce outputs like products, services, or information (Misterek, Dooley & Anderson 1992, 30.) In another words productivity analyses focus on the efficiency of the transformation process from inputs to outputs. The marketing productivity research stream has made at least two major contributions to marketing performance assessment (Morgan et al. 2002, 365): 1) it has provided a managerially relevant model of the efficiency dimension of marketing performance, and (2) marketing productivity analysis has increased understanding concerning the identification and measurement of marketing costs and revenue. The challenges in marketing productivity

analysis include, inter alia, measuring less tangible inputs and outputs, measuring time lag differences, and also that it focuses upon the amount and not the quality of marketing inputs and outputs (Gama 2011, 646).

Marketing audits. Marketing audits approach was originally introduced in parallel with marketing productivity analysis and intended to emulate accounting's financial audit to marketing context (Morgan et al. 2002, 365). It can be presented as "a comprehensive, systematic, independent, and periodic examination of a company's – or business unit's – marketing environment, objectives, strategies and activities with a view to determining problem areas and opportunities and recommending a plan of action to improve the company's marketing performance" (Kotler, Gregor & Rodgers 1989, 50). The main contributions of this approach are that it represents the first systematic attempt to assess marketing effectiveness and that it was in many ways an important antecedent for market orientation and marketing capabilities (Morgan et al. 2002, 365). Still, this approach suffers from several drawbacks. First, there are conceptual weaknesses, such as marketing audits are not systematic marketing control systems and they were developed as universal, prognostic, normative tools rather than as performance measurement systems that are company-contingent (ibid., 366). Second, there are implementation problems in different stages of marketing audits (Kotler et al. 1989).

2.1.2 Integrated MPA system

Lately, there have been only limited developments in these two approaches. Neither approach has been able to keep up with the advances in relevant literature like in organizational performance and competitive advantage.

According to Morgan et al. (2002, 366) there is a need for a new approach that: "integrates past productivity and audit approaches; is grounded in current theoretical frameworks explaining organizational performance; and is capable of producing MPA systems that are relevant to management needs and implementable in different corporate contexts". The authors suggest two distinct but closely related marketing performance assessment (MPA) systems – normative and contextual MPA systems. The normative system provides an

universal conceptual framework whereas the contextual one is an application of the normative system in a *particular* organization context; conceptual system is in a way a subset of the normative system. Consider figure 2-1, which shows an example of a normative MPA system.

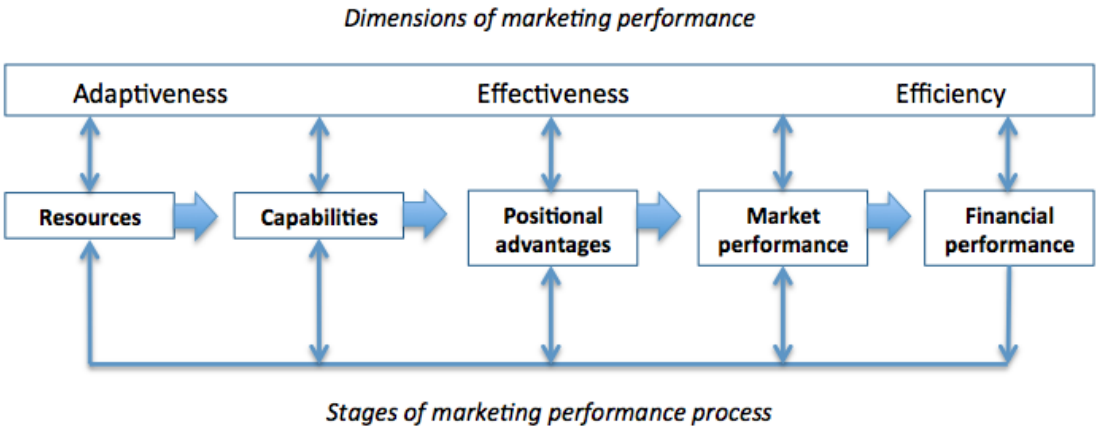

Figure 2-1. A normative marketing performance assessment system (Morgan et al. 2002, 367).

In the normative MPA system, marketing performance is seen as a process in which four broad stages can be identified: first, sources of advantage (resources & capabilities); second, positional advantages; third, market performance outcomes; and fourth, financial performance outcomes (Morgan et al. 2002, 366). There are three dimensions comprising the dimensions of marketing performance: effectiveness (Ruekert & Walker 1987a), adaptiveness, and efficiency.

A contextual MPA system is the application of the normative system in a specific organization context (see figure 2-2). Based on the previous literature, at least marketing strategy, corporate context, and task environment comprise as the most important contingencies in MPA systems. These contingencies have an effect on MPA system response variables, which are under MPA characteristics in the figure: performance standards, referents, measurement orientation, time-span of assessment, and reward system contingency. Finally, there are MPA system performance factors that include strategy execution effectiveness, user satisfaction, and organizational learning (Morgan et al. 2002, 368.)

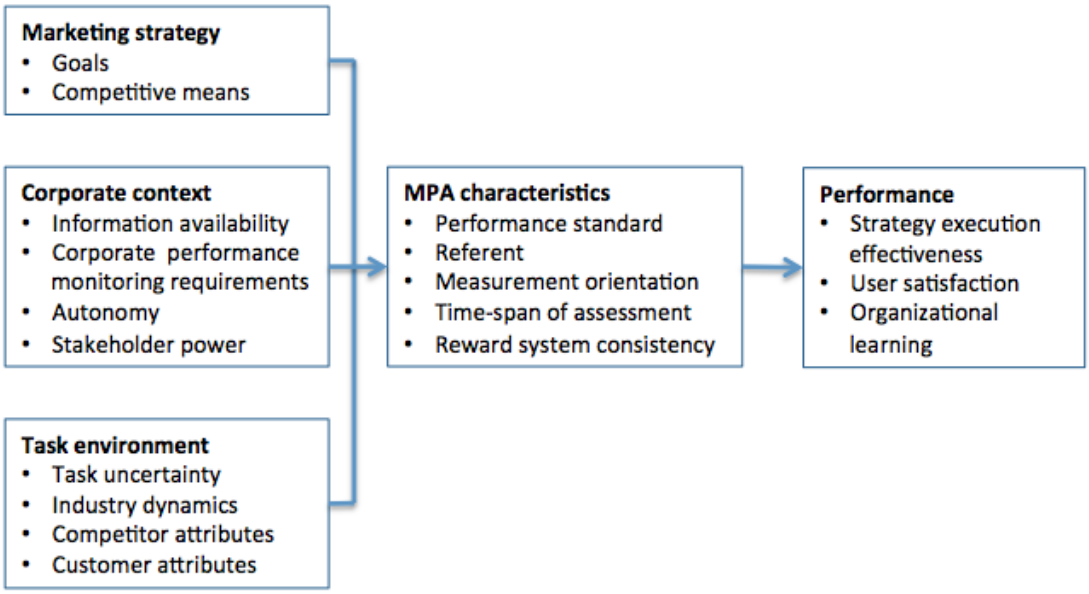

Figure 2-2. A contextual marketing performance assessment system (Morgan et al. 2002, 368).

Marketing performance can be understood in myriad ways. Traditionally it has been identified with either effectiveness or efficiency. As a complex whole, performance represents "a multifaceted reality including not only the results but also the processes leading to them and the conditions that allowed both" (Gama 2011, 644).

2.2 Interacting effects of marketing and sales activities

"Every company can and should improve the relationship between Sales and Marketing." (Kotler, Rackham & Krishnaswamy 2006, 78)

Inter-functional relationships between marketing and sales are discussed in varying terms in the literature, like marketing-sales interface (e.g. Homburg. et al. 2008; Malshe 2011), relationship (e.g. Kotler et al. 2006), or integration (e.g. Rouzies, Anderson, Kohli, Michaels, Weitz & Zoltners 2005). Some terms might be more suitable when focusing on a certain aspect, e.g. the term marketing-sales integration already includes a hint that the author will concentrate on the integrative perspective of the matter. In this study I use also the term *interacting effects of marketing and sales activities*, which illustrates more accurately the interactive element and the configurational aspect between marketing and sales activities.

Marketing's inter-functional interfaces have gained generally a lot of attention in the academic research (e.g. Gupta, Raj & Wilemon 1986; Rinehart, Cooper & Wagenheim 1989; Ruekert & Walker 1987a, 1987b; Lim & Reid 1992), but despite its strategic importance scholars haven't paid much attention to marketing-sales interface (Guenzi & Troilo 2006, 974; Malshe 2011, 46) and especially empirical investigations are limited in number (Dewsnap & Jobber 2009, 1002). According to Homburg et al. (2008, 133) the issue particularly in the empirical studies is that they haven't typically distinguished marketing and sales, when in practice, as a rule, these two units remain as two separate functions within an organization (Kotler et al. 2006, 68). This comprises as an apparent mismatch between the theory and practice of marketing-sales relationship.

One reason for the lack of studies in the marketing-sales interface is that the earlier research on marketing organization implies that sales should be a part of marketing (Bund & Carroll 1957, 271; Ruekert, Walker & Roering 1985, 14). For example according to Bund & Carroll's (1957, 271) definition of marketing, "Marketing implies integration of all functions in moving any type of goods or services from production to the final user" and they also suggest, that "In marketing, a single executive assumes total responsibility for both selling and all of the other related activities like advertising and sales promotion, manpower development, marketing research, and product planning". Moreover, Carson (1968, 35) argues that the chief marketing officer should have authority over selling, advertising and marketing research. However, Workman & Homburg (1998, 37) didn't find any evidence in their study of 47 companies that a sales manager would report to a marketing manager.

It is time to start to acknowledge marketing and sales functions as separate also in the academic literature if no substantial controversial empirical evidence is found e.g. sales function being subsumed under marketing organization. Additionally, as pointed out by Workman & Homburg (ibid.), it would be interesting to find out why this organization structure recommended by many marketing scholars hasn't gain momentum in business practice. Fortunately, the interest in marketing-sales interface has been growing in recent years (e.g. Kotler et al. 2006; Guenzi & Troilo 2006; Homburg et al. 2008; Malshe 2011). Next I'm going to introduce the most prominent empirical and conceptual studies relating to the marketing-sales interface.

2.2.1 Empirical studies

Homburg et al. (2008) found in their collective study eight empirical studies relating to the marketing-sales interface, but only three of these are specifically focusing on the marketing-sales interface. Two of these are qualitative (Cespedes 1995; Workman et al. 1998) and one is quantitative (Strahle, Spiro & Acito 1996). Strahle et al. (1996) examine the alignment between business-unit level marketing strategies and functional level sales objectives and activities. The authors found out that there are often discrepancies between marketing executives and sales managers relating to specific product strategies (ibid., 1). Cespedes focuses on the interfaces between sales, marketing, and customer service. He investigates the integrative perspective but also the issues that might impede effective integration of these three groups (Cespedes 1995.)

The study by Workman et al. (1998) is the first one to identify and explicitly address variation in the organization of marketing and sales. Key outcomes of the study considering marketing-sales interface are that marketing and sales are typically separate departments and that in none of the organizations studied sales and marketing were integrated under a chief marketing executive (ibid., 37.) Massey and Dawes (2007) examine the effects of affect- and cognition-based trust on performance outcomes in marketing-sales working relationship. Moreover, they test how these two trust dimensions mediate the effects of three personal characteristics (psychological distance, marketing manager's sales experience, and formal education) on the outcome variables (dysfunctional conflict, functional conflict, and perceived relationship effectiveness) (ibid., 1117).

The study by Le Meunier-Fitzhugh and Lane (2009) relates to marketing-sales collaboration. According to their results marketing-sales collaboration has a positive and significant impact on both market orientation and business performance and their results also confirm that market intelligence system and management attitudes towards coordination have a positive relationship with market orientation and marketing-sales collaboration (ibid., 301). In a more recent study, Malshe (2011) integrates the conceptual and empirical studies about the

connections of marketing-sales interface. On top of the earlier linkages found in the literature, he identifies social and philosophical linkages in his qualitative empirical study (ibid., 51–52).

It is apparent that there is a general lack of empirical studies in the marketing-sales interface. The study by Homburg et al. is the first one to analyze the various marketing-sales configurations, since all the previous studies, with one exception, concentrate on an "average" marketing-sales relationship and do not distinguish variation in the configuration of the relationship (Homburg et al. 2008, 134).

2.2.2 Conceptual studies

The first conceptual study on marketing-sales interface according to my knowledge is done by Cespedes (1993), who investigates how the coordination between sales and marketing could be improved. However, most of the conceptual studies are done many years after Cespedes' study and generally there is a lack of conceptual studies focusing directly on the marketing-sales interface. Dewsnap & Jobber (2000) propose a conceptual framework for marketing-sales interface and identify a range of organizational factors, such as formalization, decentralization and physical proximity, that facilitate marketing-sales integration and they argue that the achieved integration has positive consequences for business performance. Couple years later by taking on a social psychology perspective the same authors investigate how goal conflict and strength of in-group identity can damage the effectiveness of marketing-sales relationship (Dewsnap & Jobber 2002).

Rouzies et al. (2005) propose a framework for sales and marketing integration, where the four main integrating mechanisms are structure, process/system, culture and people. They also identify conditions under which marketing-sales integration has the greatest impact on business performance. Kotler et al. (2006) contrast the marketing-sales relationship to a war-zone and suggest, inter alia, how activities, systems, and organizational structures could be more integrated and aligned. In his viewpoint paper, Oliva, (2006) discusses three key linkages in improving marketing-sales connections, and by key linkages he means linkages in language, linkages in organization, and linkages in systems. Oliva gives a practical and an

actionable approach how to leverage these three key linkages in strengthening the effectiveness of marketing and sales teams (ibid., 395).

In 2009, Dewsnap & Jobber confirm and extend their earlier conceptualization (Dewsnap & Jobber 2000). They explore sales-marketing integrative devices and how these devices link to higher levels of collaboration between marketing and sales and also to higher levels of business performance. The two main integrative devices identified are trade marketing and category management. They argue that it is the effectiveness of integrative devices and not their mere existence that differentiates between higher and lower levels of sales-marketing collaboration (Dewsnap & Jobber 2009.)

2.2.3 Conceptualization of the marketing-sales interface

There have already been a couple of studies that have brought together the scant empirical and conceptual literature on the marketing-sales interface (Homburg et al. 2008, Malshe 2011). Homburg et al. (2008) present a conceptual model of the marketing-sales interface, which consists of five conceptual domains (see figure 2-3). These are *information sharing, structural linkages, power, orientations*, and *knowledge*. The domains on the other hand entail conceptual dimensions. Next I will explain these domains shortly.

The first conceptual domain is information sharing, which translates to the level of cross-functional intelligence dissemination and knowledge sharing (ibid., 137). According to Day (1999, 45) when a marketing oriented company seeks market leadership, it must, *inter alia*, take care of *navigation*, which comprises effective market sensing and sharing of information. Whereas too little of information sharing and communication is seen as a negative thing, there can also be too much of these. According to Rouzies et al. (2005, 118) there is a possibility that sales and marketing communicate so much that they won't have enough time left for their core activities. In other words it is essential that the information sharing process is effective and the information shared and disseminated is relevant.

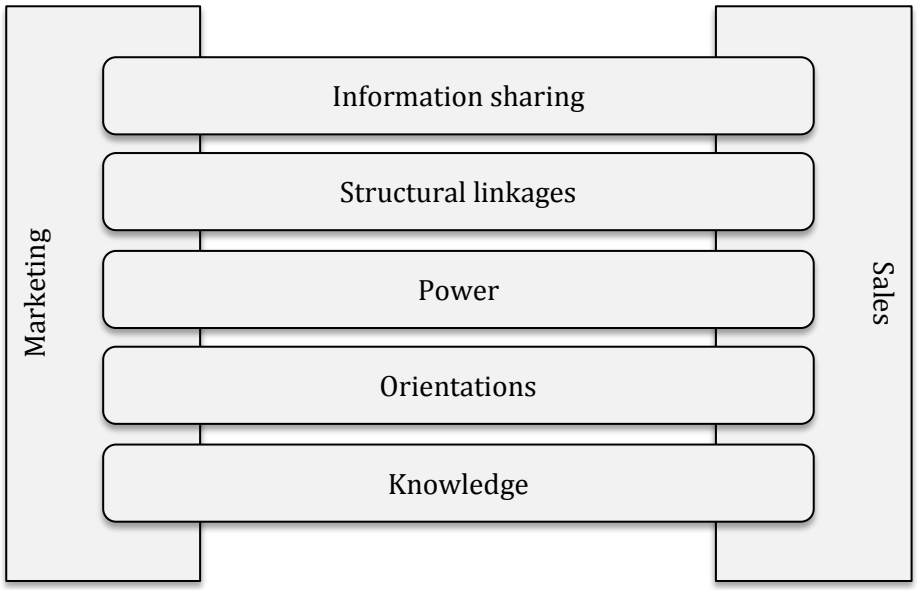

Figure 2-3. Marketing-sales interface (Homburg et al 2008, 138).

The second conceptual domain consists of structural linkages (Homburg et al. 2008, 137). If marketing and sales are fully integrated, the boundaries become blurred (Kotler et al. 2006, 72), and then it's more about shared structures than structural linkages. Nevertheless, in order to achieve integration between marketing and sales, organizational structures should be integrated (ibid., 76). Rouzies et al. (2005, 116) suggest de-centralization, cross-functional teams and integrators as structural approaches for improving the marketing-sales integration. Structural linkages deal with organizational structuring, such as reporting relationships and bureaucratic dimensions (Workman et al. 1998, 27), and they can also refer to any platforms created for interdepartmental activities.

Power is the third domain and it reflects how the power over market-related activities is allocated between marketing and sales (Homburg et al. 2008, 138). According to the earlier literature the power domain shows great variation between firms (ibid., 137). In some cases the budget for both groups might indicate which department wields more power in the organization (Kotler et al. 2006, 71), in spite of what is argued elsewhere. Dewsnap & Jobber (2000, 114) argue that a de-centralized and participative organization where there is power to make decisions also in the lower level would help to create an environment where marketing and sales could solve their problems in their level. The allocation of power between marketing and sales depends also on the organizational structure (e.g. vertical, horizontal and hybrid organizations), which also influences information flow (Day 1999, 38).

The fourth domain groups together various orientations, which can be for example time horizon (short- vs. long-term) or objects (customer vs. product) of an organization unit (Homburg et al. 2008, 137). Due to salespeople's incentives and results orientation they tend to be more short-term oriented than marketers (Rouzies et al. 2005, 115). The differences in time horizon relate to the very nature of marketing and sales: salespeople have to focus on deals at hand whereas e.g. results from marketing actions might take months or even years to actualize. Although different orientations between marketing and sales are challenging to coordinate, according to the results by Homburg & Jensen (2007, 133) different orientations between sales and marketing have a positive effect on overall market performance. In his pioneer work relating to marketing-sales interface Cespedes (1993, 37) gives an example in orientation differences: "*... marketing managers operate at a national level and with specific product orientations. –– Meanwhile, Sales is driven by specific accounts, volume shipments and trade deals*". A sales manager relating to the same study describes product manager quite aptly as "*ivory-tower headquarters theorists*" (ibid.).

The fifth domain is knowledge, which refers to the level of expertise in an organizational unit. Knowledge can refer to e.g. product knowledge or market knowledge of marketing/sales (Homburg et al. 2008, 138.) Le Meunier-FitzHugh and Piercy (2007a, 210) note that an important part of organizational learning is sharing knowledge that promotes successful collaboration. Also the same authors propose that a commitment to organizational learning will have positive effects on marketing-sales collaboration (Le Meunier-FitzHugh & Piercy 2007b, 945).

Homburg et al. (2008) use the conceptual domains in their empirical part of the study, where they are able to produce a taxonomy on five different configurations of marketing and sales, which is the main contribution of the study. These configurations found through cluster analysis are called *ivory tower*, *brand-focused professionals*, *sales rules*, *marketing-driven devil's advocacy*, and *sales-driven symbiosis*.

2.3 Interacting performance effects of marketing and sales activities

"Knowing the marketing *cause* along with the financial *effect* makes information more valuable for decision making." (Herremans & Ryans 1995, 53)

Marketing-sales relationship can have an effect on business performance (Kotler et al. 2006, 70; Le Meunier-FitzHugh & Lane 2009; Le Meunier-FitzHugh & Piercy 2009) and on customer value creation (Guenzi & Troilo 2006). Business performance as a term has various explanations and it's always strongly related to the context. It can be measured in universal ways, like in profit or market share, or it can relate to specific goals of a company. According to Venkatraman & Ramanujam (1986) business performance comprises both financial performance and operational performance.

Marketing and sales are closely related activities in companies and both of them should be concerned with the marketing performance of a company. Marketing alone cannot achieve as much as it can when it collaborates with other functions or activities; outcomes are usually reached through various activities done by different actors. This doesn't necessarily mean integration, though also integration can enhance value creation and business performance (Rouzies et al. 2005, 115; Dewsnap & Jobber 2009). In this thesis the focus is in marketing and sales activities. It is crucial for managers to understand how to arrange and configure activities in a way that they also fit the implementation requirements of the company's business strategy (Vorhies & Morgan 2003, 110).

Figure 2-4 depicts the framework for this thesis. Marketing activities and sales activities together form configurations (of activities) that generate and modify outcomes, like marketing performance. Same activity in a different configuration might have a different effect on the outcome, which is an example of causal complexity. Marketing-sales interface consists of five different conceptual domains: information sharing, structural linkages, power, orientations, and knowledge (Homburg et al. 2008). Marketing integration is seen as a dynamic process in which two functional areas create more value by working together than in isolation (Rouzies et al. 2005, 115). A company may or may not have this kind of integration, which is why it is depicted with a dotted line.

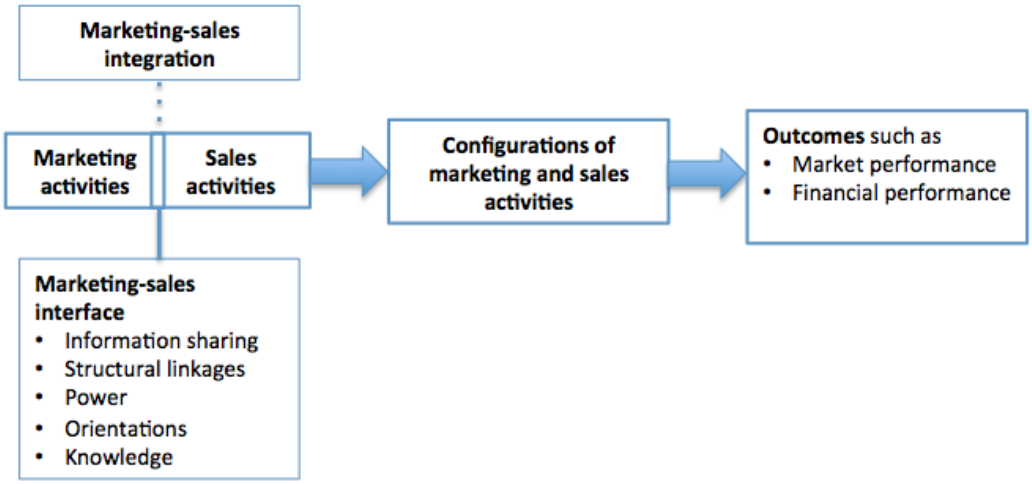

Figure 2-4. Interacting performance effects of marketing and sales activities.

I argue that by systematically examining the causes behind outcomes, be them performance outcomes or other, and by learning about the causal complexity, an organization becomes more informed and that way more capable in running its business. After 60 years of marketing performance research neither the marketing academics nor the practitioners have been fully successful in finding the tools for better marketing accountability. New approaches are needed in explicating marketing outcomes. In this thesis FS/QCA is used as an approach and a methodology. It has already been proven that FS/QCA can be used to discover configurational explanations for marketing outcomes in analytically suitable research contexts (Vassinen 2012, 202).

3 FS/QCA and configurational causality

Marketing is a unique combination of quantitative and qualitative problems (Wierenga 2010, 8), but many times we limit our view by researching it from qualitative *or* quantitative standpoint. Although quantitative and qualitative methodologies can be used separately to assess marketing performance, an approach that would internalize both views could possibly deliver fresh and meaningful insight into the domain of marketing performance assessment, as it remains an under-developed area.

Like Vorhies and Morgan noted (2003, 100), "the wide range of possible contingencies makes the identification of 'correct' configurations of marketing organization variables needed to implement a particular business strategy extremely difficult". Furthermore, "available research approaches in marketing are not well suited to deal with these problems" (ibid.). Organizational configurations have been studied in some amount and they have a long history in organizational studies (e.g. Carper & Snizek 1980; Ketchen, Thomas & Snow 1993), but according to Fiss (2007) there has been an apparent mismatch between theory and methods and thus he proposes set-theoretic methods to overcome this mismatch. QCA techniques bring set-theoretic methods to scientific inquiry. Marketing and sales activities of an organization represent complex configurations that can lead to various outcomes and these activities are causally linked to outcomes like performance. When assessing business or marketing performance, it is beneficial to identify the causes that as combined lead to a certain outcome. Configurational approaches like QCA offer a rigorous and nuanced way to examine these kinds of effects and interrelationships (ibid., 1194).

A key objective in this study is to examine how various marketing and sales activities affect marketing performance. With this in mind, Aalto University Executive Education Ltd (Aalto EE from here on) and the business area of Open programs and Forums comprise an interesting research area, since this particular business area uses a variety of marketing and sales activities to promote the sales of programs and forums. But what makes the research area even more interesting is the fact that there is only a little knowledge about how effective or relevant these different activities are for the sales of programs and that way eventually for the success of the business area. In the end, not much can be said about success of marketing if the marketing performance is left unmonitored. In this thesis a configurational approach

called Fuzzy Set Qualitative Comparative Analysis (FS/QCA) is used as an approach and as a methodology in trying to examine how configurations in marketing and sales activities affect marketing performance. It has already been demonstrated that FS/QCA can be used in finding configurational explanations for marketing outcomes (Vassinen 2012).

The structure of this chapter is twofold: I'll start with introducing the reader to Qualitative Comparative Analysis (QCA) and then move on to a variant of that methodology which is used in this thesis, namely to FS/QCA.

3.1 QCA as an approach and as a set of techniques

Qualitative Comparative Analysis (QCA) forms the basis of the methodology and FS/QCA is a modification of that methodology. Other variants of QCA include at least Multi-Value QCA (MVQCA), Crisp-Set QCA (CSQCA) as well as "Most Different, Similar Outcome" (MDSO) and "Most Similar, Different Outcome" (MSDO) (Rihoux & Ragin 2009). MDSO and MSDO are designed for a more specific type of use and they can be used e.g. as a prior step to further QCA analyses (Berg-Schlosser & De Meur 2009, 32). In this subchapter (3.1) I will present the basics of QCA.

3.1.1 Case oriented QCA and configurations

QCA can be seen as an approach and a methodology, and this has been clear since the launch of QCA by Charles Ragin (Rihoux & Lobe 2009, 222). By combining qualitative and quantitative properties QCA allows the researcher to examine a large set of cases that wouldn't be possible or meaningful by traditional qualitative methods. Thus, QCA aims to meet the advantages of both the qualitative (case-oriented) and quantitative (variable-oriented) techniques (Berg-Schlosser, De Meur, Rihoux & Ragin 2009). QCA techniques help to compare cases systematically, and this is also where configurations come in (ibid., 6). Still QCA techniques can be seen as more case-oriented since they deal with a limited number of complex cases in a configurational way (ibid., 6; Rihoux & Lobe 2009, 222). Moreover, "each individual case is considered as a complex combination of properties, a specific "whole" that

should not be lost or obscured in the course of the analysis—this is a holistic perspective" (Berg-Schlosser et al. 2009, 6).

The advantage in "thick", single case studies is that they allow a deep understanding of that single case (Rihoux & Ragin 2009, xviii). Also the interaction between a phenomenon and its context is best understood by in-depth case studies (Dubois & Gadde 2002, 554). Partly because of these benefits the case study approach is applied extensively in many disciplines, including psychology, sociology, political science, anthropology, history, economics, urban planning, public administration, public policy, management, social work, and education (Yin, 1994). Probably the main limitation in single case studies is that the findings are mostly limited to that single case, which makes it difficult to form generalizations. Thus, it would be highly interesting to look at multiple cases and compare them while maintaining the complexity of the cases.

Rihoux and Ragin (2009, xix) state, that "in order to enable the systematic comparative analysis of complex cases, those cases must be transformed into *configurations*". A configuration is a specific combination of attributes (called *conditions* in QCA terminology) that produces an outcome (ibid.). A key aspect in QCA is to find the conditions that are necessary or sufficient regarding the outcome, which enables the researcher thereon to identify the relevant configuration(s) producing the focal outcome. To elaborate, a condition is (ibid., xix):

- *Necessary*, if the outcome cannot occur in the absence of the condition.
- *Sufficient* for an outcome if the outcome always occurs when the condition is present. However, the outcome could also result from other conditions.

In the process of configurational comparative analysis it is important that the researcher engages into a dialogue between the cases and relevant theories, and the selection of the conditions and outcome must be theoretically informed (Berg-Schlosser et al. 2009, 6). It should be noted that in QCA *configurations* are studied as different types of cases and as such, this method differs from conventional (variable-based) approaches because cases aren't disaggregated into independent, analytically separate aspects (Fiss 2007, 1181).

3.1.2 Causality and modest generalization

Configurational analysis stresses the concept of equifinality (cf. Katz & Kahn 1978), which recognizes that the same outcome can be reached through different initial conditions and by following different paths. For example, several different strategies (if successfully implemented) can lead to superior performance (Day & Wensley 1988). In performance outcomes, different levels of performance can be obtained through different configurations and not only by altering the level of intensity or effort within the same configuration set. Unifinality, on the other hand, would assume that there exists only one optimal configuration (Fiss 2007, 1181).

It is indeed important to notice that QCA rejects many assumptions that are included in the mainstream statistical techniques and approaches. Rather than suggesting singular causation and linear relationships, QCA assumes complex causality and nonlinear relationships (ibid.). Causality is also context specific, which means that there is no permanent causality in QCA. Additivity, which means that each single cause has its own separate, independent impact on the outcome, isn't assumed; additivity is replaced by the assumption that several causes can be simultaneously present, constituting a causal combination, for the outcome to occur (Berg-Schlosser et al. 2009, 9). Additionally, in QCA, uniformity of causal effects is not assumed, and neither is causal symmetry. In causal *asymmetry* presence and absence of an outcome may require different explanations (ibid.)

Generalization can be seen as an important part of any empirical scientific study and hence, a well-executed QCA should go beyond plain description and consider modest generalizations. In other words, the propositions, which are formulated from a systematic comparison of comparable cases, can be applied, with appropriate caution, to other similar cases sharing a reasonable number of characteristics with the original cases. (Berg-Schlosser et al. 2009, 11–12).

3.1.3 Replicability and transparency

As already mentioned, QCA shares some of the key advantages with quantitative approach, and these include e.g. formalization and replicability. Formalization stems from the fact that QCA techniques are based on Boolean algebra and set theory (Berg-Schlosser et al. 2009, 14). In Boolean algebra each case is reduced to a series of variables, i.e. to conditions and an outcome (Rihoux & Lobe 2009, 224). Thus QCA, as an analytic approach, offers replicability, because it has formal rules that are fixed and stable. Simply put, replicability means that another researcher would produce the same results when using the same data set and selecting the same preferences (King, Keohane & Verba 1994, 26). Replicability is important even if no one would ever replicate the study and only by reporting the study in sufficient detail is it possible for others to replicate it and also evaluate the procedures followed and methods used (ibid.).

Reporting in sufficient detail improves transparency, which is also a major advantage in QCA techniques since they demand that the researcher acts with transparency in several points of analysis. During the analysis process the researcher also regularly refers back to the cases, and this "dialogue with the cases" combined with the transparency of choices is a definite virtue of QCA (Berg-Schlosser et al. 2009, 14).

3.2 FS/QCA

FS/QCA, Fuzzy Set Qualitative Comparative Analysis, is one of the techniques included in the QCA approach. FS/QCA, like other QCA techniques, is a set-theoretic method. The main distinction from other QCA techniques is the use of fuzzy sets. The virtue in fuzzy sets is the qualitative power in membership calibration; fuzzy sets allow researchers to calibrate partial membership in sets using values in the interval between 0 (full nonmembership) and 1 (full membership) without forsaking core set-theoretic principles (Ragin 2009, 88). For example in the most widely used QCA technique so far, Crisp Set QCA, variables can only have two values (fully in or fully out). FS/QCA solves the problem of trying to force-fit cases into one of two categories (CS/QCA) or into one of three to four categories (MV/QCA) (ibid., 88). By combining quantitative and qualitative power FS/QCA offers a great potential to marketing

performance assessment. In this section I will present the unique characteristics of fuzzy sets and also introduce the reader to FS/QCA.

3.2.1 Fuzzy sets defined

A key advantage in fuzzy sets compared to crisp sets is that we can assess conditions that vary by level or degree and not just by presence (and absence). Moreover, fuzzy sets are simultaneously quantitative and qualitative, since they incorporate both kinds of distinctions in the calibration of degree of set membership (Ragin 2008, 30). While having many similar advantages than conventional interval- and ratio-scale variables, especially the ability to make fine-grained distinctions, fuzzy sets permit also set-theoretic operations and qualitative assessment (Ragin 2009, 89). Let's look this through an example: A certain company has gained very high brand awareness and it receives a membership score of 1.0 (full membership) in the set of *companies with high brand awareness*. The same company might have a score of only 0.9 (slightly less than full membership) in the set of *companies with high profit margin*, if the company has a relatively high profit margin but it's not one of the highest in its field. So while membership score of 1.0 indicates full membership, scores close to it (e.g. 0.9) indicate strong but not full membership in a set.

In addition to full membership (1.0) fuzzy sets include also two other qualitative breakpoints: full nonmembership (0.0) and the crossover point (0.5), where there is maximum ambiguity (fuzziness) regarding whether a case is more in or more out of a set (Ragin 2008, 30). Thus, fuzzy sets combine quantitative and qualitative assessment; 0 ("fully out") and 1 ("fully in") are qualitative assignments and values between 0 and 1 indicate partial membership (Ragin 2009, 90).

Table 3-1 illustrates the general idea behind fuzzy sets. A simple three-value logic (a rudimentary fuzzy set) adds already one extra value compared to crisp set, namely 0.5, indicating objects that are neither fully in nor fully out of the set in question. Four-value fuzzy set uses the numerical values of 1, 0.67, 0.33, and 0 to indicate "fully in", "more in than out", "more out than in", and "fully out", respectively. The four-value scheme is especially useful when researchers have substantial amount of information about cases, but the nature of

evidence is not identical among cases (Ragin 2008, 31). The six-value set is even more fine-grained fuzzy set, and on top of two qualitative states ("fully in" and "fully out") it utilizes two intermediate levels between the crossover point and "fully in" and two intermediate levels between "fully out" and the crossover point. There might be also different number of levels in fuzzy sets (it is up to researcher) and it is not necessary to use equal intervals between the levels (Ragin 2009, 91). According to Ragin (2009, 92) the key point when developing fuzzy sets is that the researchers calibrate membership scores using substantive and theoretical knowledge.

Crisp set	*Three-value fuzzy set*	*Four-value fuzzy set*	*Six-value fuzzy set*	*Continuous fuzzy set*
1 = fully in 0 = fully out	1= fully in 0.5 = neither fully in nor fully out	1 = fully in 0.67 = more in than out 0.33 = more out than in 0 = fully out	1 = fully in 0.9 = mostly but not fully in 0.6 = more or less in 0.4 = more or less out 0.1 = mostly but not fully out 0= fully out	1 = fully in Degree of membership is more in than out: $0.5 < X_i < 1$ 0.5 = cross-over: neither in nor out Degree of membership is more out than in: $0 < X_i < 0.5$ 0 = fully out

Table 3-1. Crisp set compared to different fuzzy sets (Ragin 2009, 91).

In the last column of the table 3-1 is a continuous fuzzy set, which permits cases to take values anywhere in the interval from 0.0 to 1.0. Like all other fuzzy sets, a continuous fuzzy set utilizes the two qualitative states (fully out and fully in) but also the qualitatively anchored crossover point to distinguish cases that are more out than in and vice versa (Ragin 2008, 32). To clarify, let's consider an example of a continuous fuzzy set: a set of companies with high profit margin. The first step in translating the variables to fuzzy sets is to specify the three

qualitative anchors: the point in profit margin distribution where full membership is reached (i.e. definitely high profit margin), the point where full nonmembership is reached (i.e. definitely not high profit margin), and the point of maximum ambiguity in considering whether a company is more in or out of the set of companies with high profit margin (cf. Ragin 2008, 33). In another words three qualitative points (fully out, fully in, crossover point) play key roles when translating variables to fuzzy membership scores, which should never be automatic or mechanical; and the researcher should have an explicit rationale for each breakpoint (ibid.). Calibration process is explained in more detail in the next section (3.2.2).

It is important to notice that fuzzy sets employ set-theoretic methods (such as set membership), and although they might look like ordinal scales, they are qualitatively different from such scales (Ragin 2009, 91). Ordinal measurements describe mere order or rank and do not usually refer to criteria such as set membership. A fuzzy set can be seen as a continuous variable that, according to Ragin (2008, 30), "has been *purposefully calibrated* to indicate degree of membership in a well-defined and specified set".

3.2.2 Calibration of fuzzy sets

Calibration of fuzzy sets is a key operation in FS/QCA and should be performed with great care (Ragin 2009, 93). Table 3-1 in previous section illustrated already how membership scores are linked to verbal labels. There are two general methods in calibrating interval- and ratio-scale variables as fuzzy sets: *direct method* and *indirect method* from which the former is used in this thesis and will be presented next.

The direct method of calibration. Direct method uses the previously presented qualitative anchors to structure calibration and hence, defining the thresholds for full membership and full nonmembership, and setting the crossover point, are key operations (Ragin 2008, 90). The qualitative anchors make it possible to distinguish between irrelevant and relevant variation in data. For example variation among companies with unambiguously high profit margin is not relevant, at least from the fuzzy set perspective.

Table 3-2 demonstrates the different metrics that are used in the direct method. The core task of calibration when using the direct method is to transform the interval-scale variables into the log odds metric in a way that respects the verbal labels (ibid., 87–88). The first column includes various verbal labels that can be attached to different degrees of set membership, which are listed in the second column. Degree of membership is rounded to three decimals. Set membership scores (column 2) can be transformed to the odds of full membership (column 3) by using the following formula:

$$\text{odds of membership} = (\text{degree of membership}) / [1 - (\text{degree of membership})]$$

The fourth column shows the natural logarithm of the odds reported in the third column. The last three columns are, therefore, different representations of the same numerical values, but using different metrics. For example the degree of membership attached to crossover point is 0.500 and converting it to an odds value yields 1.00. And finally, the natural log of 1.00 is 0.0.

1. Verbal label	2. Degree of membership	3. Associated odds	4. Log odds of full membership
Full membership	0.993	148.41	5.0
Threshold of full membership	0.953	20.09	3.0
Mostly in	0.881	7.39	2.0
More in than out	0.622	1.65	0.5
Crossover point	0.500	1.00	0.0
More out than in	0.378	0.61	–0.5
Mostly out	0.119	0.14	–2.0
Threshold of full nonmembership	0.047	0.05	–3.0
Full nonmembership	0.007	0.01	–5.0

Table 3-2. Mathematical translations of verbal labels (Ragin 2008, 88).

Thus, the direct method of calibration uses estimates of the logarithm of the odds of full membership in a set as an intermediate step (Ragin 2008, 87). Log odds approach offer a standard method for calibrating data. The log odds metric is also useful since it's completely symmetric around 0.0 (an odds of 50/50) and it suffers neither from floor nor ceiling effects (ibid.). It should be noted that a fuzzy set membership score represents a truth value, *not* a probability; this is an important distinction that is sometimes confused (ibid., 88).

Once the tree qualitative points (thresholds for full membership and full nonmembership, and crossover point) are selected, it is possible to calibrate the degrees of membership. This is done in two parts: for values above the crossover and for values below it. Log odds values can be calculated for both parts with the following formula:

$$p_x = \Delta x * (\text{log odds of membership at threshold}) / \Delta\text{threshold}$$

where Δx signifies deviation of raw score from the crossover point, *log odds of membership at threshold* is either 3.0 (used for values above the crossover point) or –3.0 (values below the crossover point), and Δthreshold signifies the deviation of threshold (for full membership or full nonmembership) from the crossover point (cf. Ragin 2008, 90–91). Now the scores are in log odds metric, and at this point log odds can be converted to fuzzy set membership scores (Ragin 2008, 91). This is done with a standard formula that converts log odds to values in the range [0.0,1.0]:

degree of membership = exp(log odds) / [1 + exp(log odds)], i.e.

$m_x = e^{\wedge}p_x / (1+e^{\wedge}p_x)$.

Now it has been demonstrated how traditional interval- or ratio-scale variables can be transformed into fuzzy membership scores with the direct method of calibration, by using the three qualitative points defined by the researcher and the above-mentioned formulas. *The indirect method*, in contrast, relies on the researcher's broad groupings of cases according to their degree of membership in the target set (Ragin 2008, 84). More closely, the researcher would perform an initial sorting of cases into different levels of membership, assign preliminary membership scores for these levels, and after that refine these membership scores using the interval-scale data (ibid.).

3.2.3 Negation and logical operators

There are three common operations that can be performed on fuzzy sets: negation, logical *AND*, and logical *OR* (Ragin 2009, 94).

Negation. Negation affects both the label and the values attached to a set. For example, when negating the set of companies with high profit margin it transforms to the set of companies with *not-high profit margin*. Scores are reversed also so that scores close to 1 are close to 0 and vice versa after negation. Only score that does not change is the score with maximum ambiguity, 0.5. In a crisp set negation switches membership scores from 0 to 1 and 1 to 0. The negation of a fuzzy set *A* is calculated as follows (Ragin 2009, 94):

(membership in set *not-A*) = 1 – (membership in set *A*), or
$\sim A = 1 - A$

(The tilde sign indicates negation).

Logical AND. Logical *AND* is used when two or more sets are combined, which is also known as set intersection (Ragin 2009, 96). When operating with fuzzy sets logical *AND* takes the minimum membership score ("weakest link") of each case in the sets that are combined. The result of this indicates the degree of membership of a case in a combination of sets.

Logical OR. Two or more sets can also be joined through logical *OR*, which is the same as set union (ibid.). With logical *OR* it is the maximum score in the component sets that is the degree of membership of each case in their union of sets.

3.2.4 Fuzzy subsets, necessity & sufficiency, consistency & coverage

The key set theoretic relation in studying causal complexity is the *subset relation*; cases can be precisely assessed by their degree of consistency with the subset relation, with the aim of establishing that a combination of conditions is sufficient for a given outcome (Ragin 2009, 120). Put more simply, if cases sharing several causally relevant conditions uniformly experience the same outcome, these cases constitute a subset of instances of the outcome (ibid., 99).

Sufficiency and necessity play key role when assessing fuzzy subsets. According to the subset principle "a causally relevant condition is necessary but not sufficient only if it can be demonstrated that instances of the outcome are a subset of the instances of the cause" (Ragin

2000, 213). On the other hand, we can also find a fuzzy subset relationship where a cause is sufficient, but not necessary, to bring about an outcome (Vassinen 2012, 53). This relationship doesn't necessarily represent the only path to the outcome; also other conditions may exhibit the same outcome.

After the empirically relevant causal combinations have been identified, each configuration's consistency as a subset of the outcome is evaluated to judge the degree to which the empirical evidence is consistent with the subset relation in question (Ragin 2009, 107–108). Hence, if the consistency is low it means that the subset relation is not strongly supported by the empirical evidence. Consistency values in FS/QCA are analogous to correlation estimates in statistical hypothesis testing (Woodside, Hsu & Marshall 2010, 794). The degree of consistency is assessed with the following formula (Ragin 2008, 99):

$$\text{Consistency } (X_i \leq Y_i) = \sum[\min(X_i, Y_i)] \,/\, \sum(X_i)$$

where X_i is degree of membership in set X; Y_i is degree of membership in set Y; $(X_i \leq Y_i)$ is the subset relation in question and min indicates the selection of the lower of the two values. If all values of the condition X_i are equal or less than the corresponding values of the outcome Y_i, the consistency is 1.0, signifying full consistency.

Set-theoretic coverage, by contrast, indicates the degree to which a cause or causal combination accounts for instances of an outcome. When there are several different paths to the same outcome, the coverage of a single causal combination (configuration) may be small (Ragin 2008, 44.) FS/QCA coverage values are analogous to effect size estimates in statistical hypothesis testing (Woodside et al. 2010, 794).

3.2.5 Truth table and property space

A truth table is the key tool for the systematic analysis of causal complexity; it lists (as rows) the logically possible combinations of causal conditions along with the outcome exhibited by the cases conforming to each combination of causal conditions (Ragin 2008, 124). The

number of causal combinations (or truth table *rows*) is an exponential function of the number of causal conditions:

$$\text{number of combinations} = 2^k$$

where k equals the number of different conditions (ibid., 124–125). *A property space* on the other hand is closely related to the truth table: a property space is a vector space with k dimensions. Consequently, multidimensional vector space constructed from fuzzy set causal conditions has 2^k corners, when a crisp truth table has 2^k rows (ibid., 124).

The fuzzy membership scores determine the position of a case in the property space. This is based on fuzzy set intersection: membership scores are joined together using logical *AND* so the degree of membership of a case in a given corner of the fuzzy set vector space is determined by the minimum membership score in the conditions that are combined (ibid., 129). A case is always closer to one corner in the property space (except when a case has exactly 0.5 membership i.e. maximum ambiguity regarding every condition).

4 Case Aalto EE – Open programs and Forums

The focal company, Aalto EE, sells executive education services. The core business areas are Degree programs, Open programs & Forums, and Customized solutions (Aalto University Executive Education 2012.) The products and the way they are marketed are very different among these business areas. Therefore, I will concentrate on one business area: Open programs & Forums. In this business area a large variety of different marketing and sales activities is used, which makes this particular business area interesting.

Open programs are targeted for varying kind of professionals, and most of the programs concentrate on management or leadership development (Director, Open programs & Forums 2012). Some of these programs can be credited also to MBA (Degree) programs. Forums on the other hand are bit different than open programs. Whereas an open program is like a course on a specific subject that involves individual studying, forums are more like seminars that are held every once in a while (Aalto University Executive Education 2012.) Some of the programs are repeated (usually once or twice a year), but also new programs are constantly developed and launched. Because the programs start at different times, every program has its own marketing and sales period before the program start (Director, Open programs & Forums 2012.)

4.1 Selection of cases and defining the outcome

The observed programs and forums comprise as cases in this thesis. In this thesis, the term program can refer either to an open program or a forum. At first there were nearly forty cases (37 of programs and forums), but only sixteen were involved in the actual study. Several different reasons led into delimiting the cases. First, in order to make comparative analysis, cases must parallel each other sufficiently and be comparable along certain specified dimensions (Berg-Schlosser & De-Meur 2009, 20), which ruled out several cases. For example one program's marketing had been outsourced, and because of this it was not comparable to other cases that were marketed by the focal firm. Secondly, there was only fragmented data to be found on older programs (2010 and older), which is why these had to be left out from the study.

Open programs and forums involved in this study are listed in table 4-1. These include all the programs marketed and sold in 2011 and early 2012 by the focal company. The year in the program name refers to the year that the program or forum started. AaltoJOKO 82-83 started in 2011, and AaltoJOKO 84 was supposed to start in early 2012, but it never did due to the lack of participants. Young Manager 2012 faced similar problems, and it was cancelled.

Open programs	Forums
AaltoJOKO 82	Aalto Leader's Insight 2011
AaltoJOKO 83	Aalto Leader's Insight 2012
AaltoJOKO 84	Divia 2012
Autoalan JOKO 2011	
Executive HR 2011	
Finance for Executives 2011	
Future Leadership 2011	
Johtaminen Terveydenhuollossa 2011	
Leading Sales 2011	
Leading Service Business 2011	
Teknisen Kaupan JOKO 2011	
Young Manager 2011	
Young Manager 2012	

Table 4-1. Programs involved in the study.

An important matter in selecting the cases is to know the problem, i.e. the *outcome* (in QCA terminology) that we're interested in (Berg-Schlosser & De-Meur 2009, 20). Specifying the relevant background characteristics and the outcome helps to select cases that are in fact enough alike to permit comparisons. The outcome in this study is the sales of a given program or forum. The sales volume tells us how many customers eventually participated to the given program and that way paid the program fee. Every program has its own sales targets, which means that twenty sold 'seats' might be a satisfying result in one program while bad in another. Sales were chosen as outcome, since it is the best single factor to illustrate how successful or unsuccessful the company was in marketing and selling the program. Cases with positive outcome and cases with negative outcome were both taken aboard, since the causes behind these might be different and also, it is generally advantageous in terms of QCA to include both (ibid., 21).

4.2 Marketing and sales activities

Before any actual marketing or sales activities take place, the program manager briefs the marketing manager. The program manager will give an overview of the program and all the necessary background information, e.g. the target group and key messages how the program should be communicated. After receiving all the relevant information, the marketing manager and the marketing team can start crafting marketing plan for the program (Marketing Manager 2012.)

The first two things to do when starting the marketing of any program, are the program brochure and website. If it's a repeated program, the brochure and website can be just updated. The brochure is always available on the program website, but not always in print (Marketing Manager 2012.) Optionally there can be an info session about the program and its content, which is usually held at Aalto EE's own facilities. Speakers at an info session usually consist at least of the program manager and some outsider expert (e.g. a professor) depending on the marketed program. Websites, brochures and info sessions are considered in a sense to be marketing activities, since these activities are recurrent and very central in marketing the programs. The objective in these, as in other marketing activities, is to promote programs and eventually get people to join them. A classification of programs' marketing and sales activities can be found in Table 4-2.

Integrated activities	Additional activities
• Brochure design/update • Website • SEM/SEO • Sales calls • Sales meetings • Sales e-mail	• Info session • Web banner • Magazine advertising • Insert advertising • Promotion in Facebook & Twitter

Table 4-2. Marketing and sales activities, Open programs & Forums.

Marketing and sales activities have a common objective: get people to enroll in programs. Marketing and sales period of a program is usually six months. Sales meetings and calls are an

integral part of the activities. Search engine marketing (SEM), search engine optimization (SEO), and sales e-mails are used frequently in marketing the programs. SEM and SEO are planned and implemented for each program individually, but Aalto EE has also company level SEM and SEO. Sales e-mail campaign is an activity that is done in every program's marketing and there can be also several sales e-mail campaigns pertaining to one program. The target group is defined on an individual basis depending on the program at hand and is modified if several e-mail campaigns are made in order to avoid spamming.

When the activities already mentioned are an integrated part of any program, there are certain marketing and sales activities that are used varyingly. These include info sessions, banner ads, magazine advertising, insert advertising and also promotion in Facebook and Twitter. By far the most commonly used additional activities are Facebook and Twitter.

A tentative objective in many of the activities is to attract people to download the brochure from the program website (Communications & Brand Manager 2012). This is beneficial for the company, since the downloader is required to give contact information before any brochure can be downloaded. This information is then automatically sent into the CRM system of the company and added to a lead list where all the people interested about the program are collected. According to the marketing manager most of the leads are collected through this method. Various marketing and sales activities e.g. sales e-mails and sales calls are then targeted to these leads.

4.3 Data collection

All the relevant marketing and sales activities relating to the studied programs are examined. This is a challenging task, partly because of the sheer number of the programs and the various activities belonging to these, but also because there has been quite a rapid turnover in the marketing manager's position at Aalto EE during the examined period. Only after detecting all the marketing and sales activities used in these programs I was able to start collecting data about the actual activities.

The main sources for data collection in addition to the interviews with employees are Aalto EE's CRM system, intranet, servers and website. Total of 15 people working at Aalto EE are interviewed, some of them twice. The main interviews are held with the marketing manager and the communications and brand manager. Additionally some other employees, like the managing director and all the program managers, are interviewed. The length of the interviews varies between couple of minutes to half an hour. CRM system provides much needed information for example about activity dates and info session participants. A vast amount of data (e.g. financial reports, press releases, promotional material like brochures, testimonials, etc. and all sorts of other documents) is stored on the company servers. Employees of the company use these servers regularly to save, share, and search information. For example, different marketing managers have recorded information about the marketing campaigns and such on these servers. Only the employees of the company have access to these servers. Some of the server data is only accessible to managers. Company website offers a domain for more general information. Some third party systems and software are used to gather information about specific activities like social media and sales e-mail campaigns. In addition to the independent data collection I exchanged numerous e-mails with the employees in order to get data that was not otherwise accessible.

4.4 Selection of conditions

Now I have defined the cases (open programs and forums) and the outcome (sales of each program). The conditions on the other hand are based on the various marketing and sales activities. The objective is to find the causally relevant marketing and sales activities considering the outcome, i.e. sales.

The initial property space in table 4-3 lays out initial scope of conditions. The table includes the condition names and short descriptions of the conditions. This rudimentary property space constructed already after the first meeting with Aalto EE aimed to describe all the potentially interesting conditions in this particular research setting. Thus, the idea was to sketch the possibly interesting conditions and then, later on, narrow it down to the final, significantly smaller, property space. The intention was not to include all initial conditions in the actual research.

There are number of reasons that limit the number of conditions in the analysis. First of all, it is important to focus on the most interesting and causally relevant conditions. Secondly, data inaccessibility limits the number of conditions. Thirdly, the final property space (described in the following chapter) should be trimmed to a size that is well suited for the current fsQCA software.

Condition name	Explanation
Start of sales	Calendar week and year of the start of the sales period
End of sales	Calendar week and year of the end of the sales period
Objectives and results	
Objective for enrollments	Set objective for the number of new enrollments for a given program
Realized enrollments	Realized number of new enrollments
New customers	Number of new customers
Returning customers	Number of returning customers
Program budget	Program budget in euros
Revenue objective	Revenue objective for a given program
Realized revenue	Realized sales revenue (relating to a given program)
Common conditions related to campaigns/activities	
Start of campaign	Date
End of campaign	Date
Length of campaign	Number of days
Days until	Days until the program starts (from the start of the campaign)
Customer contact point	The person (inside the focal company) that the customer contacts
Conditions related to activities	
Brochure design	
Brochure newness	A completely new brochure vs. updated version
Brochure design	In-house or agency brochure design
Website	
Visitors	Number of visitors on the program website
Visits	Number of visits on the program website
Sales e-mail	
Title	Title contents, e.g. dates, name, invitation etc.
Language	Chosen language for the email
Price offer	Price offer present vs. absent in the e-mail
Price	Offer price
Benefits	How clearly are the benefits of the program presented
Customized content	The level of customization, e.g. none (mass email) to highly customized (to each receiver)
Photo	E-mail with photo(s) or without
Email visits	Number of visits through emails
Delivered	Number of emails delivered
Recipients	Number of different recipients
Forwarded	Number of emails forwarded
Time	Time that the e-mails are sent
SEM	
Search engine	Search engine used
Keywords	Number of keywords used
Keyword language	Chosen language for the keywords
CTR	Number of clicks per impression

Sales calls	
Total calls	Total number of sales calls pertaining to a given program
Unique calls	Number of (different) persons contacted
Caller	The person making the calls
Sales meetings	
Total meetings	Total number of sales meetings pertaining to a given program
Info session	
Registered	Number of registered participants
Actual	Number of people actually present at the info session (registered - no shows)
Banner advertising	
Website	Website that the banner ad is shown on
CTR	Number of clicks per impression
Day	Day of the week when banner is shown
Magazine advertising	
Magazine	Name of the magazine
Size of the ad	Size of the ad, e.g. full page, half page, etc.
Insert advertising	
Paper	Name of the newspaper or magazine that the insert is sent with
Total inserts	Number of inserts sent
Brochures mailing (snail mail)	
Pieces	Number of brochures mailed
Language	Chosen language for the brochure
Price offer	Absence or presence of price information
Price	Offer price
Letter	Is the brochure mailed with a letter
Facebook	
Content	Type of the content of the message
Time	Time that the message/post is published
Language	Chosen language for the post
Link	Type of link, if present
Twitter	
Content	Type of the content of the message
Time	Time that the message/post is published
Language	Chosen language for the post
Link	Type of link, if present

Table 4-3. Initial scope of conditions.

5 Results

All in all there are 16 programs included in the study from which thirteen belong to open programs and three to forums. Still these programs and forums belong to the same business area, since they are much alike and are marketed in a similar way. This enables the possibility to make systematic comparisons between all the programs. All the programs that started between January 2011 and the middle of April 2012 and were marketed by the focal company are involved in the study. It'd have been interesting to examine also programs that had started before 2011, but unfortunately the lack of data considering several important conditions hampered this attempt.

For convenience, from now on I shall use abbreviations for the program names when deemed appropriate (e.g. when reporting results). The abbreviations for the respective programs are listed in table 5-1.

Program name	Abbreviation
AaltoJOKO 82	AJOKO82
AaltoJOKO 83	AJOKO83
AaltoJOKO 84	AJOKO84
Aalto Leaders Insight 2011	ALI11
Aalto Leaders Insight 2012	ALI12
Autoalan JOKO 2011	AUTO11
Divia 2012	DIVIA12
Executive HR 2011	EHR11
Finance for Executives 2011	FFE11
Future Leadership 2011	FL11
Johtaminen terveydenhuollossa 2011	JTH11
Leading Sales	LS11
Leading Service Business	LSB11
Teknisen kaupan JOKO 2011	TEKN11
Young Manager 2011	YM11
Young Manager 2012	YM12

Table 5-1. Abbreviations for the program names.

5.1 Examined activities

Table 4-2 in the previous section presented the various marketing and sales activities that are used in the business area of open programs and forums. The modified table shown below (table 5-2) illustrates the activities that are ultimately involved in the analyses. Some of the activities, although important ones, turned out to be quite 'mechanical' activities that are done in a similar way in almost every program's marketing or selling phases: namely, brochure design and SEM/SEO activities. These are left unmonitored so that more time and effort can be used to analyze the activities that are used more varyingly and, hence, could potentially account for the variation in the sales of the programs (outcome).

Integrated activities	Additional activities

• **Website**
• **Sales effort**
  ○ Sales calls
  ○ Sales meetings
• **Sales e-mail**
	• Third party help (in sales)
	• **Info session**
	• **Web banner**
	• **Print advertising**
	  ○ Magazine advertising
	  ○ Insert advertising
	• **Social media**
	  ○ Facebook
	  ○ Twitter

Table 5-2. Marketing and sales activities involved in the actual study, Open programs & Forums.

Based on various interviews at the focal company it seems that the importance of the brochure as a promotional activity has decreased in the recent years at Aalto EE. For example, the company doesn't usually send print copies of the brochure to potential customers anymore. In addition, the website offers same type of information than the brochure. Still, the company keeps track who downloads brochures on the website and this activity generates precious leads. Also search engine marketing and optimization are used systematically throughout the programs. That is why these important activities are listed under integrated activities. The lack of data also hindered a meaningful comparison of click-through rates and such. Still, the main reason for leaving out brochure design and SEM/SEO is the lack of apparent variation in the use of these activities.

There is a separate team dedicated to sales at Aalto EE. Additionally, the program manager is usually held responsible for achieving the sales quota. The intention was at first to monitor sales calls and meetings separately, but it turned out that there were no data to be found on these from 2011 since the monitoring of these activities had started in the beginning of 2012. Based on my interviews with the managing director, program managers, sales people and other it became clear that the sales effort done by the program manager could have a huge effect on sales. Thus, I interviewed every program manager to get a coherent view about his or her sales effort. In a situation where the examined program's manager was no longer working at Aalto EE I interviewed their team leader (business area director) who had a clear understanding of the sales in each of the programs. In order to avoid unnecessary bias (program managers telling about *their own* effort) I decided to interview the team leader about all the programs. Finally, to further ensure the validity of this sales effort indicator, I consulted the managing director, who reaffirmed my earlier results (Managing Director 2012). So, based on the numerous interviews I was able to look at general *sales effort*, which is based on the amount of sales work (sales calls, meetings, etc.) done by the program manager. Sales effort pertaining to two programs (Autoalan JOKO 2011 and Teknisen Kaupan JOKO 2011) includes also the sales effort done by the partners. These partners help in marketing and generally acquire a great deal of participants to the programs.

Third party help (in sales) was not in the original list but is now added to the list of additional activities, since in some programs some of the sales work is outsourced. In these programs the work is usually outsourced to the same company and even to the same sales person. Finally, I succeeded to gather the needed information relating to all the additional activities so all the original additional activities are included in the final study. The objective is to examine how different marketing and sales activities affect sales revenue. In order to maintain the level of activities more consistent, Facebook and Twitter were combined as "Social media", and magazine ad and insert were combined as "Print advertising".

5.2 Final conditions and calibration

The previous section laid out the initial scope of conditions (table 4-3), which included 60 different conditions. The final property space comprising the conditions selected for the final study is described in table 5-3. The identification condition, *program id*, is not listed in the final property space.

Condition name	Explanation	Abbreviation	Distribution	Calibration
Program conditions				
High sales revenue (outcome condition)	Sales result compared to targets	outpart	Discrete	Direct method, fuzzy set
Budget	Program budget in euros	budget	Continuous	Direct method, fuzzy set
Conditions related to activities				
Sales effort				
Sales effort	Program manager's own sales effort	saleff	Discrete	Qualitatively sorted four-value fuzzy set
Third party	Use of third party help in sales	thirdp	Dichotomous	Boolean
Info session				
Info	The popularity of an info session (number of participants present)	info	Discrete	Direct method, fuzzy set
Sales e-mail campaigns				
Unique clicks	Number of unique clicks	uclick	Discrete	Direct method, fuzzy set
Website				
Visits	Number of visits on the program website	visits	Discrete	Direct method, fuzzy set
Banner advertising				
Banner	Use of banner ads in marketing	banner	Dichotomous	Boolean
Advertising in printed media				
Print	Use of magazine ad or insert	print	Dichotomous	Boolean, with logical operator OR
Social media				
Social media	Use of Facebook or Twitter for promotional activities	some	Discrete	Direct method, fuzzy set, with logical operator OR

Table 5-3. Final property space.

The purpose of the initial property space was primarily to guide the selection of the conditions for the final property space; the intent was never to include all the initial conditions in the final study. The available data on some activities are more accurate than on others and, hence, enables more fine-grained calibration. Still, all the relevant marketing and sales activities were successfully translated into conditions. In relation to some conditions,

even though all the necessary data was collected, they are not included in the final data analysis; for example:

- 'Registered for info session' correlates strongly with the condition *info* (actual participants at info session) and is therefore present in the same configurations.
- Condition *visitors* (website) has the same impact on the outcome than *visits*, which is already included in the analysis.
- Additionally, there is much more data (and hence, conditions) to be found on sales e-mails than on some of the other activities. To study the marketing and sales activities as a cohesive whole, only the condition *Unique clicks* is taken aboard. Also some of the tentative conditions have the same effect on the outcome (e.g. total clicks and unique clicks). A mini-study is performed on sales e-mails on a later stage to examine this important activity more closely.

Next I'm going to present all the conditions included in the analysis. *Program id* (not listed in final property space) stands for the name of the program and therefore acts as an identifying condition.

5.2.1 High sales revenue

High sales revenue is the outcome condition; the study attempts to examine how other conditions affect this outcome condition. In other words the purpose is to find out what accounts for the variation in the outcome condition i.e. sales. Sales revenue is also a performance measure of marketing and sales activities. Ultimately, the intent is to examine both the positive outcome (high sales revenue) and the negated outcome ('not-high' sales revenue) since the grounds for these might be different (c.f. *causal asymmetry*, section 3.1.2).

The target set *High sales revenue* is based on number of participants (enrollments), since the price per program is fixed. The outcome condition is calibrated into fuzzy set using Ragin's (2008) direct method of calibration. The direct method uses three qualitative points to structure calibration, namely full membership, cross-over point, and full nonmembership. There were explicit target levels considering participants, which helped in anchoring the data.

I also interviewed the business area director of Open programs and Forums about the target levels after which I was able to derive the three qualitative points needed for the calibration. Since, every program has its own targets, the qualitative points have to be decided separately for each program. The actual sales of the programs and the related qualitative points are illustrated in table 5-4 along with the calibrated fuzzy set membership degrees. Membership degrees are rounded to three decimals.

Program	Actual sales (participants)	Threshold for full non-membership	Cross-over point	Threshold for full membership	Degree of membership
AJOKO82	28	22	25	28	0,953
AJOKO83	29	22	26	30	0,905
AJOKO84	16	22	26	30	0,001
ALI11	6	12	15	20	0,000
ALI12	13	16	24	30	0,016
AUTO11	26	12	15	20	0,999
DIVIA12	58	70	90	100	0,008
EHR11	13	12	14	16	0,182
FFE11	5	12	14	16	0,000
FL11	10	12	14	16	0,002
JTH11	26	22	25	28	0,731
LS11	13	12	14	16	0,182
LSB11	24	12	14	16	1,000
TEKN11	12	9	10	12	0,953
YM11	14	12	16	20	0,182
YM12	7	12	16	20	0,001

Table 5-4. Calibration of High sales revenue.

5.2.2 Budget

Although a program budget is not directly a marketing or sales activity, it influences the available marketing and sales activities and that way also the outcome, sales revenue. For example when the budget is small, there are not so many marketing activities available for use.

High degree of membership in the target set translates as high budget. The target set is calibrated using Ragin's (2008) direct method. The cross-over point is set 7,000€, rounded from the average 7,037.5€. For the threshold of full membership in the target set, I use a program budget value of 11,000 €. The threshold for full nonmembership is set to 4,000€. For illustration of the calibration, consider figure 5-1, which shows the plot of degree of membership in the set of *Budget* against program budget.

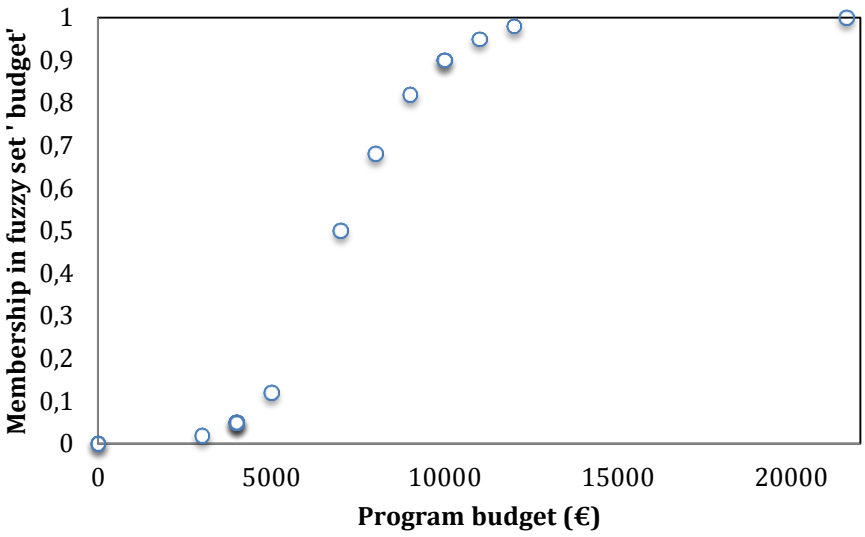

Figure 5-1. Calibration of Budget.

5.2.3 Sales effort

Sales effort acts as an indicator of the sales effort done by the program manager and it is short for high sales effort. I collected quite an extensive amount of data on this by interviewing program managers, their team leader, and the managing director. In a situation where a researcher has a good amount of information about the cases, but the evidence is not systematic, a four-value fuzzy set is especially useful (Ragin 2008, 31). A four-value scheme is chosen for calibrating high sales effort, ranging from 0 (fully out) to 1 (fully in), and having two intermediate levels of 0,33 (more out than in) and 0,67 (more in than out).

5.2.4 Third party

In some of the programs part of the sales work is outsourced to a third party. It is important to distinguish the sales work done by the focal company and a third party, since the effect on the outcome might be totally different. *Third party* is a dichotomous set; it can only have two values, either 0 (no third party help) or 1 (third party help used).

5.2.5 Info

prog_id	Original values	Calibrated membership score
AJOKO82	13,5	0,92
AJOKO83	12,5	0,82
AJOKO84	8,5	0,08
ALI11	0	0
ALI12	0	0
AUTO11	0	0
DIVIA12	0	0
EHR11	6	0,01
FFE11	5	0
FL11	22	1
JTH11	0	0
LS11	9,5	0,18
LSB11	27	1
TEKN11	0	0
YM11	10	0,27
YM12	8	0,05

Table 5-5. Calibration of Info.

Info is about the actual participants present at the info session, and a high degree of membership in the target set indicates a highly popular info. Not all the programs have info sessions and these are coded as 0, representing full nonmembership in *Info*. By observing the data distribution itself and by using substantive knowledge gathered by interviews I was able to calibrate the rest of the data. Four of the programs have two info sessions, in which case the average of these two is used. The minimum number of participants at an info session is 5, and the maximum 27. The median and the average for the number of participants at an info

session are 9,75 and 12,2, respectively. The full membership point for *Info* is set to 14, which represents a very successful (popular) info session. The crossover point is set to 11, representing maximum ambiguity about the success of an info session (popular vs. not). The point for full nonmembership is set to 8, so info sessions with eight or less participants are seen as not popular.

The original and the calibrated values for *Info* are presented in table 5-5. The calibrated membership scores are rounded to two decimals. Note that the original values for AJOKOs, FFE11, and LS11 are averages of two separate info sessions.

5.2.6 Unique clicks

Sales e-mails are an integrated part of marketing and selling the programs. Fortunately, Aalto EE has used the same e-mail service provider for the last two years, which simplifies the data collection for this activity. But then again, the software does not give out collective tracking reports and therefore all the data from the e-mail campaigns has to be collected individually, which takes a serious amount of time. All in all, total of one hundred e-mail campaigns are investigated from the sixteen programs. For example, the e-mail content, presence of links, use of references or testimonials, number of clicks, number of opened e-mails, click-through rates, and number of e-mail campaigns per program are examined. Since, sales e-mail campaigns comprise as an important marketing medium for Aalto EE and there is an extensive amount of data available about them, they are investigated also separately in the chapter 5.4. The FS/QCA analysis concentrates on unique clicks, which is a good indicator for how many people consider the e-mail or its content appealing enough to open it and click one or more of its links. The amount of unique clicks is therefore an intermediate marketing result in itself, but here the purpose is to examine how it affects the desired outcome, high sales revenue. *Unique clicks* stand for the amount of unique individuals' clicks on one or more links located in the e-mail. When a program has multiple e-mail campaigns, the unique clicks are totaled together.

Unique clicks are calibrated as a continuous fuzzy set using Ragin's (2008) direct method. The qualitative points are in this case based on the characteristics of the distribution, since there

are no valid external criteria for calibrating this kind of data. When lacking substantive, external criteria, using the characteristics of the distribution in determining the qualitative points has been proved effective (cf. Vassinen, 2012). Additionally, the marketing staff is consulted about the criteria for low and high rates for unique clicks. Full membership in condition *unique clicks* can be seen as high level of unique clicks, and full nonmembership in *unique clicks* can be seen as not-high level of unique clicks, respectively. The qualitative points are as follows: full membership is set at 1100 (maximum value was 1650), cross-over point at 650 (rounded from median, 648), and full nonmembership at 200 (minimum value was 59). The distribution of values in comparison to fuzzy membership scores can be seen in figure 5-2.

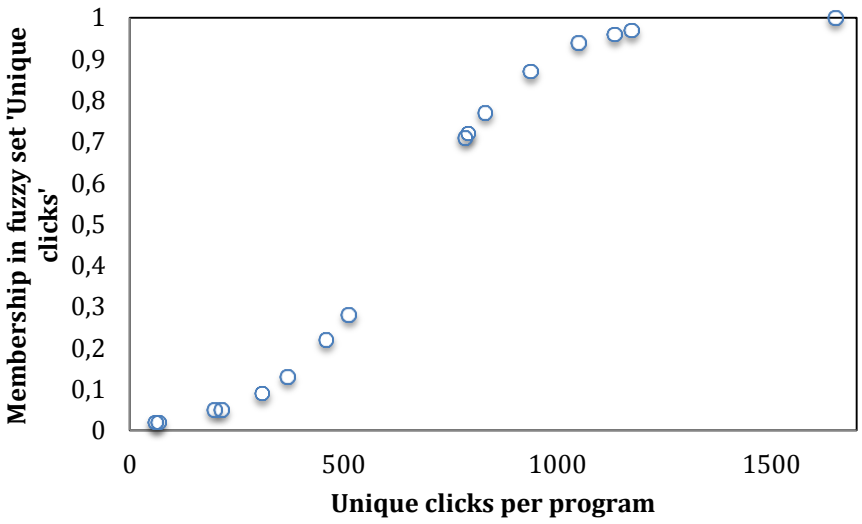

Figure 5-2. Calibration of Unique clicks.

5.2.7 Visits

Visits stand for high number of visits on a program website. High traffic on a program website is definitely positive for a company, and the 'program website goal' for Aalto EE is to get people to fill out applications for the program. Also, before a brochure can be downloaded the person is required to give out contact information, and this information is automatically uploaded to the company CRM. *Visits* on a program website is examined as a causal condition

for the revenue outcome. The overall visits are calculated from a six-month period before the program starts, which is the general marketing and sales period of a program.

Website visits are calibrated as a continuous fuzzy set using Ragin's (2008) direct method. The distribution of values acts as a basis for deciding the three qualitative points since no other substantive knowledge is available. The cross-over point is set to 1450 visits, which is rounded from the median (1438) and the average (1465) values. For the threshold of full membership in the target set, I use 2150 visits, which is a deviation score of 700. The threshold for full nonmembership in the target set is 950, which is a deviation score of -500. For further illustration of the calibration of the data into the target set (high number of visits on program website), consider figure 5-3, which shows a plot of membership degrees against the original values.

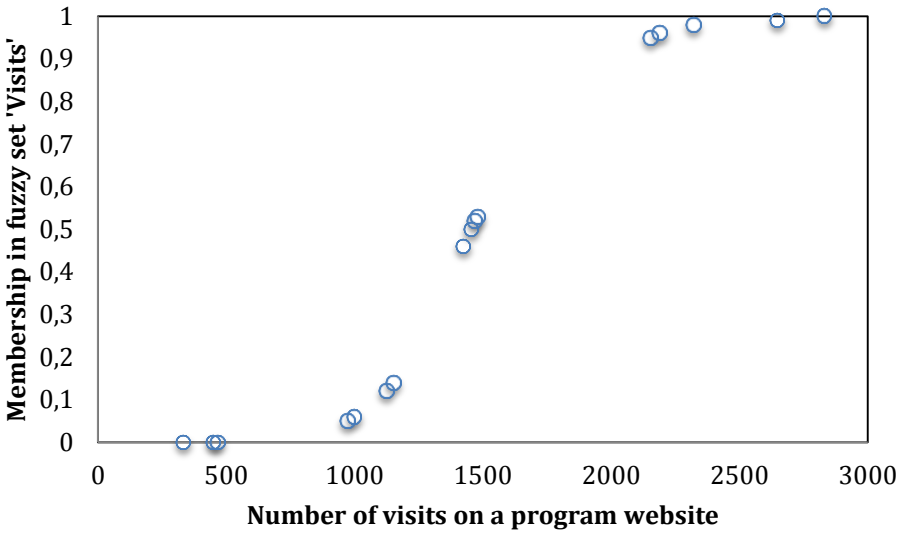

Figure 5-3. Calibration of Visits.

5.2.8 Banner

Web banners are used varyingly in marketing the examined programs. Originally, I was interested to examine the following conditions about banners (cf. table 4-3, *Initial scope of conditions*): *Website* (site where the banner is shown), *CTR* (number of clicks per impression), and *Day* (of the week when the banner is shown). Unfortunately, data in this detail is to be

found only for some of the banner advertising campaigns; I was forced to leave these conditions out from the analysis. Still, I was able to find out in which programs web banners had been used and in which not. If web banner is used in marketing a program, a membership score of 1.0 (full membership) is given. If the marketing of a program does not include web banner advertising, it receives a score of 0 (full nonmembership) in this condition.

5.2.9 Print

Print condition is a set union of two conditions, *magazine* and *insert*. These two conditions are combined with logical OR and it is the maximum score in the component sets that is the degree of membership of each case. Thus, this condition represents the use of print advertising, and it collects the different methods of print advertising together. *Magazine* and *insert* are calibrated as follows:

Magazine. Here the target set is dichotomous: a case is either in or out of the set. A case receives value of 1 when magazine advertising is used, and 0 when magazine advertising is not used.

Insert. *Insert* is used in advertising as a separate advertisement that is put in a magazine, newspaper, or other publication. The initial idea was to find out with what paper is the insert sent with and how many copies there are in total, but unfortunately there were no data to be found on these conditions. Fortunately, I was able to elicit the fact if and when inserts had been used. Hence, the target set is dichotomous; a case receives a value of 1 when inserts are sent, and 0 when inserts are not sent.

5.2.10 Social media

This condition is a set union of two calibrated sets, *Facebook* and *Twitter*. The maximum score in the component sets is the degree of membership in each case. This set union is established to study what kind of an effect social media could have on the outcome.

Facebook. The number of promotional posts per program published in Facebook is collected manually. In most cases a Facebook post promotes one program at a time. The target set, *Facebook*, is calibrated using the direct method. For the threshold of full membership in *Facebook* a case must have a high number of Facebook posts. Because of the lack of substantive, existing criteria on the matter, the evaluation of qualitative points is mainly based on the characteristics of the data distribution. While the average of the values is 4, the cross-over point is also set to 4. Both the threshold for full nonmembership and for full membership deviate two units from the cross-over point and thus, the thresholds are 2 and 6, respectively. Consider figure 5-4 for the plot of degree of membership in the set of *Facebook* against number of Facebook posts.

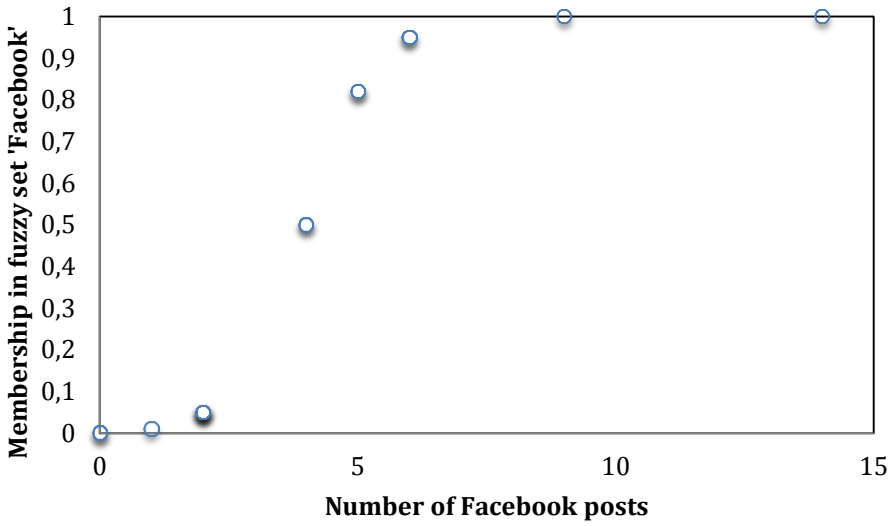

Figure 5-4. Calibration of Facebook.

Twitter. Also the posts or 'tweets' published in Twitter are examined. Full membership in *Twitter* designates a high number of tweets and full nonmembership not a high number of tweets. Like *Facebook*, also *Twitter* is calibrated using Ragin's (2008) direct method. The selection of the three qualitative points is mainly based on the properties of the data itself. The cross-over point is set to 2, which is the same as the median. For the threshold of full membership in the target set, I use 6, and for the threshold of full nonmembership, 1. Consider figure 5-5, which shows the plot of degree of membership in the set of *Twitter* against twitter posts (tweets).

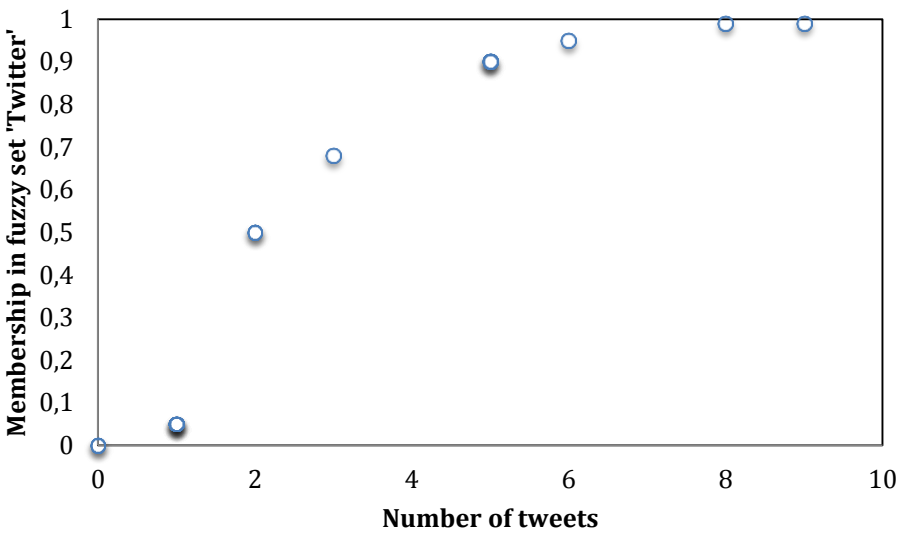

Figure 5-5. Calibration of Twitter.

5.3 FS/QCA analysis

The logical analysis of the data is done with the fsQCA software (version 2.0, Windows program for crisp and fuzzy sets) and it can be downloaded from www.fsqca.com (Ragin, Drass & Davey 2006). The fsQCA software offers three types of solutions as default: complex, parsimonious, and intermediate solution. Complex solution is automatically given while the other solutions might require additional input from the researcher.

After properly calibrating the conditions, a truth table can be created. A truth table lists all the logically possible combinations of causal conditions along with the outcome condition. The number of rows (i.e. combinations) is 2^9=512, when there are 9 conditions in addition to the outcome condition. One case is only listed on one row, since mathematically each case can have a 0.5 or greater membership in exactly one combination of all the truth table rows. All the truth tables generated with the fsQCA software are shown in Appendix A. The combinations that do not include any empirical instances are omitted from the list. When a solution consists of more than one combination of conditions, the exact numbers for coverage and consistency per configuration are to be found in Appendix B.

The set consistency cutoffs are presented together with the solutions. The minimum frequency of cases on the other hand is always set to 1, since every case and its causal recipe are seen as valuable. When analyzing all the cases together, the logical analysis is divided into two parts: first, with positive outcome cases (*High sales revenue*) and then, the second analysis is done with negated outcome (~*High sales revenue*).

5.3.1 All cases, positive outcome (*High sales revenue*)

Parsimonious solution. Let us consider the parsimonious solution first. This solution requires the selection of "prime implicants" to decide which configurations or individual conditions should act as the ones that make the distinction between the solution components. This is a typical situation in FS/QCA analysis and it is usually associated with a lack of diversity in data (Vassinen 2012, 125). The concept of implication provides an important tool for minimizing primitive expressions (Ragin 2006). The selection of prime implicants helps to divide the cases, which have only little difference between them, to configurations. Not all the solution components are necessarily affected by this selection. Parsimonious solution can be seen as an opposite of complex solution and the solution it gives is already minimal. The parsimonious solution is as follows:

Sales effort • ~*Social media* → *High sales revenue*

Raw coverage: 0.798361
Unique coverage: 0.798361
Consistency: 0.885455

In Boolean algebra multiplication indicates logical AND and tilde sign indicates negation. *Raw coverage* is a measure for the proportion of memberships in the outcome explained by each term of the solution. *Unique coverage*, on the other hand, means the proportion of memberships in the outcome explained solely by each individual solution term (memberships that are not covered by other solution terms). *Consistency* means the degree to which membership in each solution term is a subset of the outcome (Ragin 2006, 86–87.)

The presence of condition *High sales effort* combined with the absence of *Social media* leads to positive outcome, which is high sales revenue. The configuration has good consistency level (roughly 0.89) and almost as high coverage (roughly 0.80). To remind you, *High sales effort* represents the amount of effort done by the program manager and the possible partner, not the effort done by the separate sales team. So it seems that the effort done by the program managers and the possible partners is of utmost importance considering the success of sales. The absence of *Social media* in this configuration is a bit surprising, and I decided to interview the managing director about the use of social media. He suggested that in some instances social media is used as a last resort when there are few sales (Managing Director 2012), which could explain why ~*Social media* appears in the configuration. Solution consists of five cases: AUTO11, TEKN11, AJOKO82, AJOKO83, and JTH11. In these programs the high sales effort combined with the lack of social media use has led to high sales revenue.

While the parsimonious solution offers a simple causal recipe, it might leave out substantial information about the cases and the conditions while seeking parsimony. A configuration with more than two conditions might offer a more rigorous answer and a better understanding for the causal mechanisms at work and, thus, the complex solution is considered next.

Complex solution. The aim in a complex solution is to offer a rigorous configurational explanation for the outcome. Ultimately, configurations with more than just few conditions might simply make more sense. The consistency cutoff can be set up to 1.0, i.e. 'fully consistent', since after that the consistency decreases radically. Consider the complex solution:

(1) *~Budget • Sales effort • ~Third party • ~Info • ~Unique clicks • ~Visits • ~Banner • ~Social media +*
(2) *Budget • Sales effort • ~Third party • Info • Unique clicks • Visits • ~Banner • ~Print • ~Social media +*
(3) *Budget • Sales effort • Third party • Info • Unique clicks • Visits • ~Banner • Print • ~Social media → High sales revenue*

Solution coverage: 0.654098
Solution consistency: 1.0

Addition sign indicates logical OR. *Solution coverage* means the proportion of memberships in the outcome that is explained by the (complete) solution whereas *solution consistency* means

the degree to which the membership in the solution is a subset of the membership in the outcome (Ragin 2006, 86). The solution includes an example of causal complexity; the same condition can affect the outcome condition differently when it's part of different configuration. For example, in the first configuration not-*High budget* is contributing to *High sales revenue* when in the latter two it is *High budget* that contributes to the positive outcome as part of the configurations. Let's consider the three configurations more closely.

The cases representing the first configuration (*~Budget • Sales effort • ~Third party • ~Info • ~Unique clicks • ~Visits • ~Banner • ~Social media*) are AUTO11, TEKN11, and JTH11. It is interesting how these programs have high sales revenues even though there is a low activity in marketing and sales: no third party help, not popular info session or not an info session at all, low amount of unique clicks, low number of visits on website, no banners used and a low activity in social media. The only condition in the causal recipe that is not negated is sales effort. Although this configuration might seem irrational, it is not. Let's have a closer look at the cases comprising the configuration: AUTO11, TEKN11 and JTH11. AUTO11 and TEKN11 are programs that have close partners. These partners can be held partially accountable for the sales. They can also do marketing for the programs and this doesn't show in the activities done by Aalto EE (that are studied here). In these two programs the program manager and the partner have together succeeded very well in making the sales, and both programs are at or over the threshold for full membership in *High sales revenue*. Thus, even though there is a general lack of other marketing and sales activities than *Sales effort*, it is not a hindrance for a positive outcome if the program manager and the partner succeed in acquiring the participants. Finally, low amount of marketing and sales activities by Aalto EE requires little money (*~Budget*).

JTH11 on the other hand is a very specialized program on leadership in health care. For some reason there is very little marketing done for this program and also the budget is low. Still, the program has a high membership in *High sales revenue*. There could be several reasons behind this; for example, some big institution in public health care has made a decision to invest in leadership education and sends several participants to the program. Other explanation could be that a simple print ad in a popular health care magazine or such would attract a lot of participants with a relatively low cost.

The cases representing configurations (2) and (3) are AJOKO82 and AJOKO83, respectively. There is a qualitative overlap between these configurations since there are only two conditions (*Third party* and *Print*) that differ between these two. It is possible to restructure the causal recipe into a more convenient order:

Budget • Sales effort • Info • Unique clicks • Visits • ~Banner • ~Social media *• ~Third party • ~Print*
• Third party • Print

A high budget and sales effort, a popular info, a high number of unique clicks, lots of visits on website are the key activities in these. Absence of web banners and a relatively low number of social media posts are also common terms whereas third party help and print advertising are present in the other configuration but not in the other one. Compared to the first (1) configuration the activity in marketing and sales is clearly higher. This requires also money (*Budget*). Seems that in AJOKO82 and AJOKO83 high sales revenue is contingent on the success of variety of efforts in sales and marketing. Mere sales effort done by the program manager is clearly not enough.

5.3.2 All cases, negated outcome (~*High sales revenue*)

There are more cases with low membership (<0.5) than high membership (>0.5) in *High sales revenue*, which means that most of the cases did not achieve high sales revenue. The outcome is now negated (~*High sales revenue*), meaning that the following configurations lead to low sales revenue.

Parsimonious solution. The parsimonious solution can sometimes oversimplify the situation. Here it offers two alternative configurations, when the other one has only one condition. Consider the following:

~Sales effort + Third party • ~Print → ~High sales revenue

Solution coverage: 0.880808
Solution consistency: 0.817245

This solution does not tell us much about the complex causal mechanisms behind the outcome, but still it gives us insight about the key conditions that might affect the outcome. In total of seven cases low sales effort leads to low sales revenue (AJOKO84, DIVIA12, EHR11, FFE11, FL11, YM11, and YM12). Third party help combined with absence of print advertising leads to low sales revenue in total of five cases (ALI11, ALI12, FL11, LS11, and YM11). Two of the cases are overlapping in these alternative configurations.

In order to get a more consistent solution I tried some alternative combination of conditions. This involved several iterations of the truth table. A more consistent parsimonious solution is achieved when the *Social media* condition is left out:

~Sales effort + Third party • ~Info → ~High sales revenue

Solution coverage: 0.895960
Solution consistency: 0.936642

The second solution term is now different: *Third party* is combined with *~Info*, and not with *~Print*. Combination of *Third party • ~Info* includes total of six cases (AJOKO84, ALI11, ALI12, DIVIA12, LS11, YM11), which represents 60 % of the cases with over 0.5 membership in *~High sales revenue*. According to the logical analysis, in seven cases (AJOKO84, DIVIA12, EHR11, FFE11, FL11, YM11, and YM12) the absence of sales effort has been the common cause behind low sales revenue. The high level of solution consistency and also coverage reveal that these solution terms have played crucial role in the process that has led to low sales revenue. It is interesting to see the solution without *Social media*, since as I mentioned earlier, there is a possibility that social media is used as a last effort to boost sales. To get a more holistic overview about the causal recipes behind *~High sales revenue*, let's move on to complex solution.

Complex solution. The default complex solution is as follows:

(1) *Budget • ~Sales effort • Third party • ~Info • ~Unique clicks • Banner • Print • Social media +*
(2) *~Budget • ~Sales effort • ~Third party • ~Info • Unique clicks • ~Visits • Banner • ~Print • Social media +*
(3) *Budget • ~Sales effort • ~Third party • ~Info • ~Unique clicks • ~Visits • ~Banner • Print • Social media +*
(4) *~Budget • ~Sales effort • Third party • Info • Unique clicks • Visits • Banner • ~Print • ~Social media +*
(5) *~Budget • Sales effort • Third party • ~Info • Unique clicks • ~Visits • Banner • ~Print • Social media +*
(6) *Budget • Sales effort • Third party • ~Info • Unique clicks • Visits • ~Banner • ~Print • Social media +*
→*~High sales revenue*

Solution coverage: 0.520202
Solution consistency: 1.000000

Notice that the solution consistency is the highest possible, 1.0. The solution coverage is also at a satisfying level (0.52). The case frequency in the first configuration alternative is two, and in the others one. The cases and the respective configurations are as follows: AJOKO84 & DIVIA12 (1), FFE11 (2), EHR11 (3), FL11 (4), LS11 (5), and ALI11 (6). Unfortunately, the complexity of the solution is overwhelming.

The problem especially in negated outcome solutions is that the parsimonious solution is too parsimonious and the complex too complex. The cases might be too dissimilar to be studied at once, which is why they are next divided into two separate categories. The cases are sorted to ones with info sessions and to ones without them. To divide the cases according to their stand on info session makes sense, since the type of the program usually decides if there will be an info session. Thus, both of the categories should include cases that are better comparable. I won't go through every possible solution, but I will present the most interesting results that are substantive considering the cases and add our knowledge about the causal mechanisms behind the examined outcome.

5.3.3 Analysis of cases with info session

Ten of the studied programs have info sessions: AJOKO82-84, EHR11, FFE11, FL11, LS11, LSB11, YM11-12. All of these programs are open programs and do not have partners that are

held accountable for marketing and sales. Program themes include leadership, management, finance, and HR.

Positive outcome. In the logical analysis of the positive cases a two-condition configuration is found with an acceptable level of solution consistency:

Sales effort • Info → High sales revenue

Solution coverage: 0.799410
Solution consistency: 0.844237

This minimal formula is parsimonious, but it gives us valuable information about the cases. First of all, it includes all the positive cases in the set (AJOKO82, AJOKO83, LSB11); high sales effort combined with a successful info session leads to high sales revenue in all of the positive outcome cases. Moreover, in the examined set, a case exhibiting this configuration leads to high sales revenue without exception. It would seem that the program manager's sales effort plays a very central role in reaching the sales targets. Also, Aalto EE should monitor closely the popularity of their info sessions, since these are very important indicators for the sales. Usually an info session is held at least couple of months before a program actually starts, which gives a program manager sufficient time to react if an info session attracts only a few participants.

Negated outcome. *Sales effort* and *Info* play key role also in the logical analysis of negated outcome (*~High sales revenue*). Consider this minimal formula:

~Sales effort + ~Info → ~High sales revenue

solution coverage: 0.924357
solution consistency: 0.899853

~Sales effort and *~Info* are combined with the logical OR, when in the analysis of the positive outcome they were combined with the logical AND. In the examined cases, either low sales effort or unpopularity of an info session leads to low sales revenue with 0.90 solution consistency (rounded to two decimals). Even though there are only two conditions in the solution bringing about the outcome, they are very consistent in this. Notice also the high level

of coverage (0.92). This logical analysis confirms the fact that these two activities, sales effort and info session, play a key role in marketing and sales of programs with info sessions. Cases belonging to ~*Sales effort* are: AJOKO84, EHR11, FFE11, FL11, YM11; and to ~*Info*: AJOKO84, EHR11, FFE11, LS11, YM11, and YM12.

5.3.4 Analysis of cases without info session

The programs involved in the following logical analysis do not have info sessions. This is why the condition *Info* is dropped, since all the cases have full nonmembership in this condition. Now there are eight conditions on top of the outcome; this means that there are 2^8=256 logically possible combinations i.e. configurations. Total of six cases belong to this category: ALI11, ALI12, AUTO11, DIVIA12, JTH11, and TEKN11. So all the forums (ALI11, ALI12, DIVIA12) are in this group, as well as the programs that have close partners (AUTO11, TEKN11). In addition there is one other program that is part of the group: JTH11, which is a very specialized program focused on the leadership in health care business.

Positive outcome. Three cases have over 0.5 membership in *High sales revenue*: AUTO11 (1.0), JTH11 (0.73), and TEKN11 (0.95). Consider the following solution:

~Budget • Sales effort • ~Third party • ~Unique clicks • ~Visits • ~Banner • ~Social media → High sales revenue

Solution coverage: 0.959410
Solution consistency: 1.0

All the positive cases are part of the configuration and this solution has the highest possible consistency: 1.0. Coverage is also extraordinarily high, namely 0.96 (rounded to two decimals). The configuration includes low budget, which already limits the number of marketing activities to be used. Still high sales revenue is reached through an exceptionally low use of marketing and sales activities: no third party assistance in sales, a low number of unique clicks (in e-mail campaigns) and visits on website, no web banners used, and a low number of posts in social media. Only condition that is present in the configuration is high sales effort. Seems that these particular programs are highly dependent on the program

managers' and partners' sales efforts. In this set of cases there isn't need for additional marketing or sales activities in order reach high sales revenue.

Negative outcome. Consider this two-condition solution that leads to the negated outcome:

Budget + Third party → ~High sales revenue

Solution coverage: 0.939210
Solution consistency: 0.990385

Although this minimal formula is parsimonious, it has a great level of consistency: 0.99 (when rounded to two decimals). Solution coverage is also high, almost 0.94. Solution term *Budget* includes cases ALI11, DIVIA12 and solution term *Third party* includes ALI11, ALI12 and DIVIA12. Clearly, when considering these cases, the third party help in sales has not paid off in terms of the outcome. Even though ALI11 and DIVIA12 have high budgets, they don't guarantee the success of sales. Maybe the budgets are used on activities that do not yield enough participants for the programs, or the high budgets are needed for paying the third party help in sales. If you look back to the previous analysis (positive outcome) you will find out that ~*budget* is one of the conditions in the configuration leading to high sales revenue.

Aalto EE should assess the necessity and the value of third party sales help, at least in the programs without info session. Closer look should also be taken on the program budgets, since clearly high budgets do not guarantee success in sales whereas a configuration including low budget (~*budget*) leads to high sales revenue in the analysis of cases without info session.

5.3.5 A closer look on social media

Some of the results suggested that the absence of the condition *Social media* is associated with high sales revenue. It was stated earlier that social media at Aalto EE could be used as a last effort to boost sales; in this section I attend to study whether this is in fact a general trend. Consider figure 5-6, which shows for each post the number of days between social media activity and the related program start date. Three lines are added to indicate 30, 60, and 90 days. The same criteria are used for creating a histogram to represent frequency distribution

(figure 5-7). In general, the marketing and sales period of a program is six months (before program start), which means that 90 days is approximately half of that.

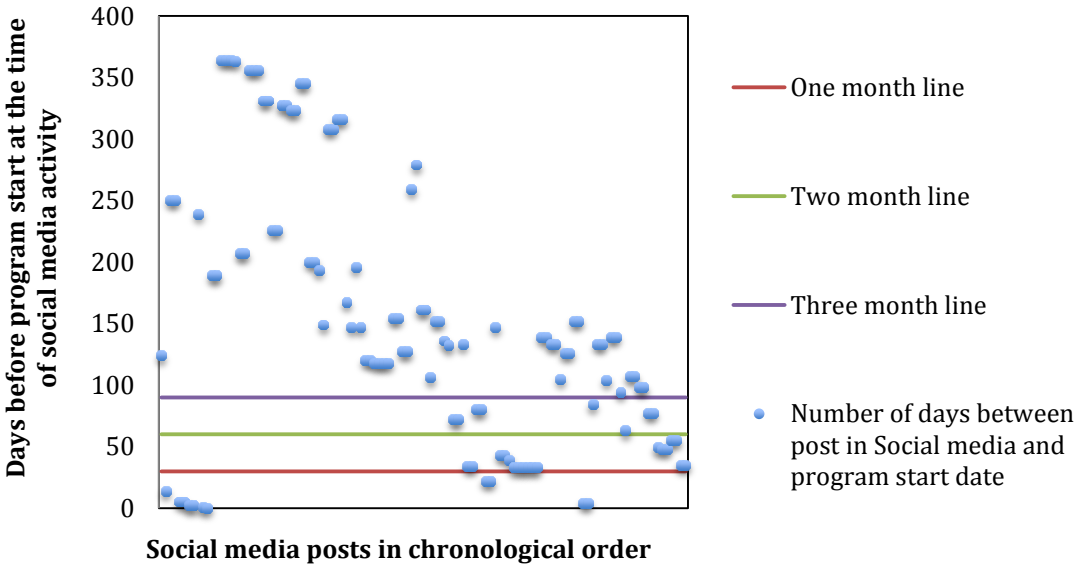

Figure 5-6. Days between post in social media and program start.

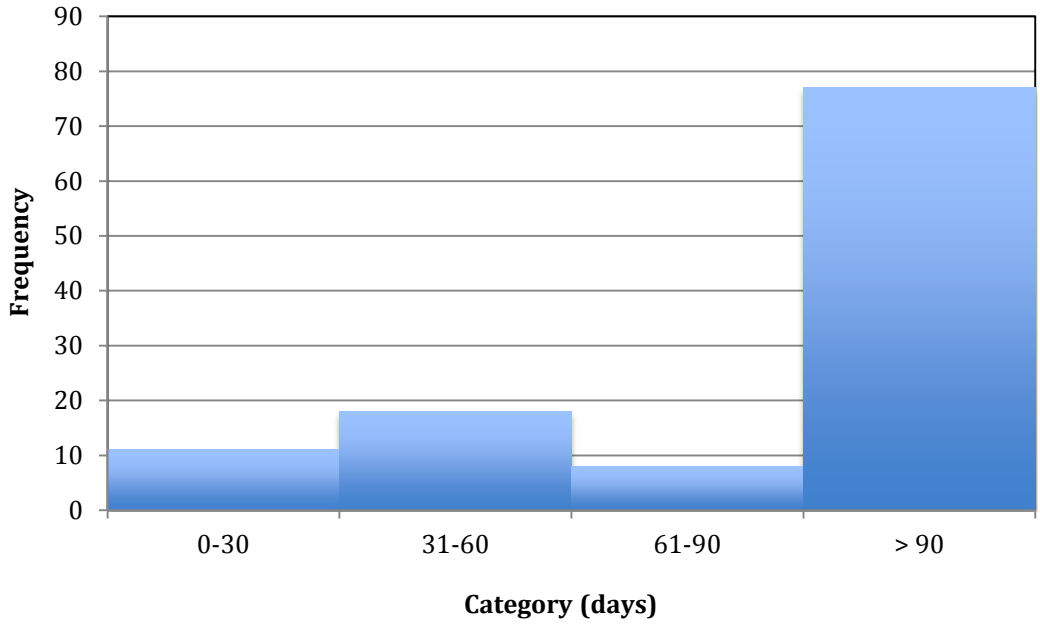

Figure 5-7. Histogram of the social media frequency distribution.

It is apparent that the data don't support the statement that social media would be used as a last minute activity in boosting sales. The majority of the social media activity is done well

ahead, i.e. three months before program start. Still, it is possible that social media has been used as a last resort in some of the programs, but at least this is not a general trend.

5.4 A 'mini-study': Sales e-mail campaigns and click-through rates

Sales e-mail campaigns are one of the most important marketing activities at Aalto EE (Communications & Brand Manager 2012). Fortunately, there was quite an extensive amount of data to be found on sales e-mail campaigns that allowed me to study this activity more closely. Total of one hundred sales e-mails campaigns are studied, which represent all the campaigns pertaining to the examined programs. Table 5-6 shows the average click-through rates for campaigns involving different type of components. CTR measures the success of an e-mail campaign and it is an intermediate marketing outcome.

	Average CTR (delivered)	Average CTR (opened)
ALL CAMPAIGNS (100)	5,52 %	33,22 %
Price offer in e-mail (12)	2,72 %	20,01 %
- no price offer (88)	5,90 %	35,02 %
Reference or testimonial used (13)	3,57 %	18,88 %
- not used (87)	5,81 %	35,37 %
Program content revealed (70)	4,46 %	31,48 %
- not revealed (30)	8,01 %	37,30 %
Info date present (58)	5,33 %	33,72 %
- no info date (42)	5,79 %	32,54 %
In Finnish (52)	5,56 %	36,77 %
In English (15)	4,50 %	31,62 %
In both (33)	5,92 %	28,36 %
Customized content for recipients (24)	6,48 %	39,57 %
- not customized (76)	5,22 %	31,22 %

Table 5-6. Analysis of click-through rates.

CTR (delivered) is calculated by dividing unique clicks by successfully delivered e-mails whereas CTR (opened) is calculated by dividing unique clicks by opened e-mails. As you can see, having price information in the e-mail reduces click-through rates dramatically compared to total average rates. Total of 12 sales e-mail campaigns included price information. It appears so that the use of references or testimonials in e-mails does not improve click-

through rates; on the contrary, it appears to decrease them. Not revealing program content seems to be a better choice in terms of CTR. Having information about info date vs. not having doesn't have a notable effect on CTR. E-mails written either solely in Finnish or in Finnish and English have the best click-through rates. And, finally, e-mails with customized content vs. not-customized have higher click-through rates. Though, the target group in these might be more accurately defined in the first place, which could be the reason for better click-through rates.

Based on these findings, revealing only little information in e-mails seems to improve click-through rates. Having only preliminary information about the program in e-mail a recipient is more probably going to click one of the links included in it to find out more about the marketed program. Especially price offer in e-mails seems to 'scare off' many of the potential customers.

5.5 Validity and reliability

Many mainstream statistical techniques are being too frequently used in a mechanical, 'push-button' type of way. By contrast, the philosophy of QCA is that the researcher should play a more active role, which includes an active interaction with the cases and also with the software tools (Rihoux & Lobe 2009, 238). The use of QCA should be far from 'push-button' type technique. QCA techniques demand that the researcher acts with transparency in several points of analysis like in calibrating the data. QCA has formal rules that are fixed and stable and, thus, offers replicability. By providing detailed explanations of different stages of analysis and relevant material like truth tables, coverage statistics, and consistency statistics I was able to increase the levels of replicability and transparency. Transparency is key to better validity and reliability in QCA.

All the open programs and forums marketed by the focal firm and that started between January 2011 and the middle of April 2012 are included in the study, which means that there is no arbitrary case selection. Older programs are not included because of the data unavailability. Conditions represent the marketing and sales activities of the focal firm. All the activities are included in the final analysis as conditions except brochure design and

SEM/SEO, which represent an integral and quite mechanical part of the marketing and sales activities. It is important to avoid over-interpretation of single conditions: the emphasis is on combinations of causal conditions in explaining the outcomes, and not on single conditions.

Previous literature is consistent in suggesting that the minimum outcome consistency criterion for case inclusion should be 0.8 (Vassinen 2012, 133). In this thesis, I was able to set the minimum outcome consistency level for case inclusion most of the times at 1.0 (see truth tables, Appendix A). Minimum criterion for *solution consistency* is 0.8, which should improve the reliability of the results. It should be noted, that the results do not necessarily prove a causal relationship. Various kind of information sources are used in this study, since the researcher should know the cases well enough in order to be able to apprehend the results.

6 Discussion

The main purpose of this study was to examine interacting performance effects of marketing and sales activities. The intent was to take part in the discussions relating to the marketing-sales interface as well as to marketing performance. The academic interest in both areas of literature has been growing in the recent years, which also motivated this study. A fresh approach, namely Fuzzy Set Qualitative Comparative Analysis, was successfully used as an approach and as a methodology in discovering configurational explanations behind performance outcomes. Aalto EE Open programs and Forums comprised an interesting case since the company uses a variety of different marketing and sales activities.

After I've presented conclusions, I will move on to managerial implications. Finally, I will present the limitations of this study as well as some possible avenues for further research.

6.1 Conclusions

The most important contribution of this study is that it disentangles the relationship between the performance outcomes and the configurations of marketing and sales activities at Aalto EE. The study demonstrates and reaffirms that FS/QCA is capable of explaining outcomes in marketing context (cf. Vassinen 2012). The interest in marketing accountability has increased in the recent years, since marketing remains still a 'black box' for many academics and practitioners. With FS/QCA it is possible to identify causal mechanisms: to understand configurations of causal conditions behind outcomes is to understand how things happen.

The main research question, outlined in the beginning of the study, was as follows: *How do the interacting effects of marketing and sales activities affect performance outcomes?* There are no simple answers to this as I demonstrated in the results section. When looking at all the programs at Aalto EE at once, *Sales effort* was a condition that was present (or absent) in many of the configurations. It seems that the sales effort done by a program manager or a partner has a great influence on the sales revenue outcome. The condition *Sales effort* did not include the efforts done by the separate sales team at Aalto EE. High sales effort combined

with low activity in social media led to high sales revenue in total of five cases. Furthermore, in as many as seven cases a low sales effort contributed to low sales revenue. Social media was absent in the configuration leading to high sales revenue. It was suggested by Aalto EE that when there are few sales social media could be used as a last resort to increase sales, but no substantive data was found to support this statement. Based on the analysis, it is clear that the efforts in social media are not bringing customers in, at least not in the short-term.

In order to make proper comparisons, cases must be enough alike. Hence, the cases were divided into two groups based on use of info sessions. Grouping the cases into ones with info sessions and to ones without info sessions was a natural choice, since only certain type of programs had info sessions. After the groups had been established, several interesting new observations were made. In relation to programs with info sessions it turned out that sales effort combined with a successful (i.e. popular) info session was a definite recipe to high sales revenue. In other words, all the cases experiencing this configuration had also high sales revenue. The lack of these conditions consistently led to low sales revenue.

A positive outcome in the programs without info sessions was preceded with a surprisingly high number of absent conditions. In this group of programs, which are mostly forums and programs with partner collaboration, the sales effort done by program manager and the potential partner was indeed the only present condition in the configuration. Seems so that the effort done by a program manager or a program partner suffices to cause high sales revenue. In the cases with negative outcome, either high budget or third party help preceded low sales revenue. None of the other marketing or sales activities were consistent in causing low sales revenue.

It turned out that various different configurations could lead to either high or low sales revenue, which is a sign of equifinality. The type of the program had a big influence on the configurations that would lead to either high or low sales revenue. In general, programs with info sessions usually required more marketing and sales activities in order to reach desired outcomes. When high sales effort consistently affected the outcome positively, third party help especially in programs without info sessions did not aid in achieving sales targets. Aalto EE should assess more closely the performance of third party help in sales and also, evaluate the need for it in the future.

In addition, a 'mini-study' was performed on sales e-mail campaigns. Giving only limited information in the e-mail itself was observed to be the best strategy to reach a high click-through rate, which measures the success of a campaign and is also an intermediate marketing outcome. Adding informative elements to e-mails consistently reduced click-through rates. When e-mail provides only little information and a recipient is interested about the marketed program and wants to learn more, easiest way to achieve this is to click some of the links. Program website should be carefully planned to stimulate the need for participation in order to maximize conversion rate.

6.2 Managerial implications

This study has several managerial implications. First, only some of the marketing and sales activities are effective in attaining customers, e.g. banner ads or social media did not contribute to high sales revenue as part of any configurations.

Second, program type has a big influence on the activities that are most effective and thus, Aalto EE should make the marketing plan according to the program type. Programs that have strong partners or highly sales-oriented program managers need only little marketing effort by Aalto EE. The budget can be set low. Programs that traditionally have info sessions need more attention from Aalto EE, since usually it takes various marketing and sales activities in these in order to reach high sales revenue. Still, the program manager's sales effort and the success of the info session are the most critical activities. Aalto EE should definitely develop managerial tools e.g. product-specific dashboards, with which the managers are able to monitor the various marketing and sales activities more systematically. The course of action needs to be taken while it is still possible to affect the sales of a program, not after the program start (or supposed program start, if the program is cancelled due to the lack of participants).

Third, special attention should be paid to following activities: social media, sales e-mails, and third party help. It seems that social media is not bringing in any customers, at least not in the examined time period. Still, there is a lot of activity in social media and some of this time

consumed in social media by marketing staff could perhaps be used more effectively. Sales e-mail campaigns are an important marketing medium at Aalto EE and, since altering the elements in e-mail campaigns has a clear effect on click-through rates, Aalto EE should monitor sales e-mails more closely. Third party help in sales has a varying effect on sales outcome; it depends on the situation and the program type. Aalto EE should analyze the performance of the current help and evaluate the future need for this. Fourth, FS/QCA could be implemented to other business areas at Aalto EE, as well; and this would increase the relevance of this study for the focal company

6.3 Limitations and future research directions

Some limitations exist in the present study. FS/QCA is a new methodology in marketing context and it needs further testing. Though, I was able to show how configurations lead to outcomes, I cannot be sure about the causality in this. Still, FS/QCA shows great potential in bringing new tools to marketing performance assessment. The empirical part consists only of a single company and a business area. This limits generalization; though, with caution, some of the results could be generalized to other companies in executive education business. Because of the confidentiality issues, not all of the raw data matrices are present in the study. The research process has been made as transparent as possible in order to ensure the replicability of the study.

Finally, there are several interesting avenues for further research. It is apparent that FS/QCA could be applied to other sales organizations. In addition, it would be highly interesting to see how FS/QCA would work in assessing marketing performance in other fields of business. Further research is also needed to refine FS/QCA as a methodology in approaching the marketing context. When the current study analyzed marketing and sales activities and marketing performance, FS/QCA could also be used to assess other activities and outcomes. FS/QCA has the potential to work as a tool for managers: it could be modified into a dynamic application that would enhance marketing accountability and lower reaction times.

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Appendix A – Truth tables

Truth table for all programs, positive outcome

budget	saleff	thirdp	info	uclicks	visits	banner	print	some	number	outpart	raw consist.	PRI consist.	product
0	1	0	0	0	0	0	0	0	2	1	1.000000	1.000000	1.000000
1	1	1	1	1	1	0	1	0	1	1	1.000000	1.000000	1.000000
1	1	0	1	1	1	0	0	0	1	1	1.000000	1.000000	1.000000
0	1	0	0	0	0	0	1	0	1	1	1.000000	1.000000	1.000000
0	1	1	0	1	0	1	0	1	1	0	0.277778	0.000000	0.000000
1	0	0	0	0	0	0	1	1	1	0	0.268657	0.000000	0.000000
1	1	1	0	1	1	0	0	1	1	0	0.146341	0.000000	0.000000
0	0	1	1	1	1	1	0	0	1	0	0.087719	0.000000	0.000000
1	0	1	0	0	0	1	1	1	1	0	0.014706	0.000000	0.000000
1	0	1	0	0	1	1	1	1	1	0	0.000000	0.000000	0.000000
0	0	0	0	1	0	1	0	1	1	0	0.000000	0.000000	0.000000

Truth table for all programs, negated outcome

budget	saleff	thirdp	info	uclicks	visits	banner	print	some	number	~outpart	raw consist.	PRI consist.	product
1	1	1	0	1	1	0	0	1	1	1	1.000000	1.000000	1.000000
0	0	0	0	1	0	1	0	1	1	1	1.000000	1.000000	1.000000
0	0	1	1	1	1	1	0	0	1	1	1.000000	1.000000	1.000000
1	0	0	0	0	0	0	1	1	1	1	1.000000	1.000000	1.000000
0	1	1	0	1	0	1	0	1	1	1	1.000000	1.000000	1.000000
1	0	1	0	0	1	1	1	1	1	1	1.000000	1.000000	1.000000
1	0	1	0	0	0	1	1	1	1	1	1.000000	1.000000	1.000000
0	1	0	0	0	0	0	1	0	1	0	0.444444	0.000000	0.000000
1	1	1	1	1	1	0	1	0	1	0	0.149254	0.000000	0.000000
1	1	0	1	1	1	0	0	0	1	0	0.074627	0.000000	0.000000
0	1	0	0	0	0	0	0	0	2	0	0.025907	0.000000	0.000000

(and without *Social media*)

budget	saleff	thirdp	info	uclicks	visits	banner	print	number	~outpart	raw consist.	PRI consist.	product
1	1	1	0	1	1	0	0	1	1	1.000000	1.000000	1.000000
0	0	0	0	1	0	1	0	1	1	1.000000	1.000000	1.000000
0	0	1	1	1	1	1	0	1	1	1.000000	1.000000	1.000000
1	0	1	0	0	0	1	1	1	1	1.000000	1.000000	1.000000
0	1	1	0	1	0	1	0	1	1	1.000000	1.000000	1.000000
1	0	1	0	1	1	0	0	1	1	1.000000	1.000000	1.000000
1	0	0	0	0	0	0	1	1	1	1.000000	1.000000	1.000000
1	0	1	0	0	1	1	1	1	1	1.000000	1.000000	1.000000
0	1	0	0	0	0	0	1	1	0	0.480519	0.000000	0.000000
0	1	1	1	1	1	1	0	1	0	0.417582	0.383721	0.160235
1	1	1	1	1	1	0	1	1	0	0.149254	0.000000	0.000000
1	1	0	1	1	1	0	0	1	0	0.074627	0.000000	0.000000
0	1	0	0	0	0	0	0	2	0	0.025907	0.000000	0.000000

Truth table for programs with info session, positive outcome

budget	saleff	thirdp	info	uclicks	visits	banner	print	some	number	outpart	raw consist.	PRI consist.	product
1	1	1	1	1	1	0	1	0	1	1	1.000000	1.000000	1.000000
1	1	0	1	1	1	0	0	0	1	1	1.000000	1.000000	1.000000
0	1	1	0	1	0	1	0	1	1	0	0.268657	0.000000	0.000000
1	0	0	0	0	0	0	1	1	1	0	0.268657	0.000000	0.000000
0	0	1	1	1	1	1	0	0	1	0	0.087719	0.000000	0.000000
1	0	1	0	0	1	1	1	1	1	0	0.000000	0.000000	0.000000
0	0	0	0	1	0	1	0	1	1	0	0.000000	0.000000	0.000000

Truth table for programs with info session, negated outcome

budget	saleff	thirdp	info	uclicks	visits	banner	print	some	number	~outpart	raw consist.	PRI consist.	product
0	0	0	0	1	0	1	0	1	1	1	1.000000	1.000000	1.000000
0	0	1	1	1	1	1	0	0	1	1	1.000000	1.000000	1.000000
0	1	1	0	1	0	1	0	1	1	1	1.000000	1.000000	1.000000
1	0	0	0	0	0	0	1	1	1	1	1.000000	1.000000	1.000000
1	0	1	0	0	1	1	1	1	1	1	1.000000	1.000000	1.000000
1	1	1	1	1	1	0	1	0	1	0	0.149254	0.000000	0.000000
1	1	0	1	1	1	0	0	0	1	0	0.074627	0.000000	0.000000

Truth table for programs without info session, positive outcome

budget	saleff	thirdp	uclicks	visits	banner	print	some	number	outpart	raw consist.	PRI consist.	product
0	1	0	0	0	0	0	0	2	1	1.000000	1.000000	1.000000
0	1	0	0	0	0	1	0	1	1	1.000000	1.000000	1.000000
1	0	1	0	0	1	1	1	1	0	0.014925	0.000000	0.000000
1	1	1	1	1	0	0	1	1	0	0.000000	0.000000	0.000000

Truth table for programs without info session, negated outcome

budget	saleff	thirdp	uclicks	visits	banner	print	some	number	~outpart	raw consist.	PRI consist.	product
1	1	1	1	1	0	0	1	1	1	1.000000	1.000000	1.000000
1	0	1	0	0	1	1	1	1	1	1.000000	1.000000	1.000000
0	1	0	0	0	0	1	0	1	0	0.402985	0.000000	0.000000
0	1	0	0	0	0	0	0	2	0	0.025907	0.000000	0.000000

Appendix B – Truth table analyses

These truth table analyses have been printed out from the fsQCA 2.0 software. Here are listed all the truth table analyses that offer multiple configuration alternatives since the coverage and consistency numbers of unique combinations of conditions are not shown in the results section. The analyses are done with all of the nine conditions, if not stated otherwise.

Consistency (cf. truth table analysis prints below) means the degree to which membership in each solution term is a subset of the outcome. *Raw coverage* is a measure for the proportion of the memberships in the outcome explained by each term of the solution. *Unique coverage*, on the other hand, means the proportion of memberships in the outcome explained solely by each individual solution term (memberships that are not covered by other solution terms) (Ragin 2006, 86–87.)

All programs, positive outcome (*High sales revenue*)

-- COMPLEX SOLUTION --
frequency cutoff: 1.0
consistency cutoff: 1.0

	raw coverage	unique coverage	consistency
~budget*saleff*~thirdp*~info*~uclicks*~visits*~banner*~some +	0,434426	0,434426	1.0
budget*saleff*~thirdp*info*uclicks*visits*~banner*~print* +	0,109836	0,109836	1.0
budget*saleff*thirdp*info*uclicks*visits*~banner*print*~some	0,109836	0,109836	1.0

All programs, negated outcome (~*High sales revenue*)

-- PARSIMONIOUS SOLUTION --
frequency cutoff: 1.0
consistency cutoff: 1.0

	raw coverage	unique coverage	consistency
~saleff +	0.616162	0.414141	0.914543
thirdp*~print	0.466667	0.264646	0.770000

-- COMPLEX SOLUTION --
frequency cutoff: 1.0
consistency cutoff: 1.0

	raw coverage	unique coverage	consistency
budget*~saleff*thirdp*~info*~uclicks*banner*print*some +	0.135354	0.135354	1.0
~budget*~saleff*~thirdp*~info*uclicks*~visits*banner*~print*some +	0.067677	0.067677	1.0
budget*~saleff*~thirdp*~info*~uclicks*~visits*~banner*print*some +	0.067677	0.067677	1.0
~budget*~saleff*thirdp*info*uclicks*visits*banner*~print*~some +	0.057576	0.052525	1.0
~budget*saleff*thirdp*~info*uclicks*~visits*banner*~print*some +	0.072727	0.067677	1.0
budget*saleff*thirdp*~info*uclicks*visits*~banner*~print*some	0.124242	0.124242	1.0

(and without *Social media*)

-- PARSIMONIOUS SOLUTION --
frequency cutoff: 1.0
consistency cutoff: 1.0

	raw coverage	unique coverage	consistency
~saleff +	0.616162	0.336364	0.914543
thirdp*~info	0.559596	0.279798	0.980531

Programs with info session, negated outcome (*~High sales revenue*)

-- PARSIMONIOUS SOLUTION --
frequency cutoff: 1.0
consistency cutoff: 1.0

	raw coverage	unique coverage	consistency
~info +	0.815431	0.193646	0.950617
~saleff	0.730711	0.108926	0.904494

Programs without info session, negated outcome (*~High sales revenue*), condition *Info* dropped

-- PARSIMONIOUS SOLUTION --
frequency cutoff: 1.0
consistency cutoff: 1.0

	raw coverage	unique coverage	consistency
budget +	0.613982	0.036474	1.000000
thirdp	0.902736	0.325228	0.990000